



2017 1st Quarter Report

Quarterly Performance Report



## High Quality Service through Continuous Improvement

### **2017 1st Quarter Performance Report**

TriMet Board Meeting, May 24, 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 1st Quarter target set by the Federal Transit Administration of 80%. However, bus maintenance of 80.1% fell well below both prior quarter and prior year results. Rail Equipment Maintenance (REM) was 90.8% for the quarter and showed strong performance over the previous year period of 85.6%. However, it was down notably from the prior quarter of 94.4%. Positive strides have been made in maintenance performance over time including some recent process changes which will result in future reporting benefits. However, maintenance overall was significantly impacted by the record poor winter weather. It is also important to note that despite the challenging impacts of the weather on the fleet and staff, all safety critical preventative maintenance requirements were met. Maintenance of Way (MOW) results increased by just over 2.5% compared to the previous year and down by .8% from the prior quarter. Last two quarters performance of TVM reliability has been at 100%. Overall excellent performance continues.*
- *Fixed route bus MDBF (Mean Distance Between Failure) is showing a significant decrease of 15.7%. This is due to the significant weather and its impact on vehicles with broken chains, accidents, and the need to run a far older part of our fleet just to meet the daily service requirements. A unique challenge was the duration of all the inclement weather and our staff's ability to work under these challenging conditions. Our staff performed heroically.*

- *MAX light rail MDBF (Mean Distance Between Failure) performance has demonstrated a strong quarter of performance and has increased by 21.8% over the previous year and 9.4% over the previous Quarter. This area overall has shown improvement however there is room for substantially more to ensure a high On Time Performance. New partnerships and approaches are being considered to help increase effectiveness over the longer term. An example of this is a recent six sigma approach to our mid-life vehicle rebuilds. 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 over the previous quarter at 92.9%.*

## **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 quarter, however, bus decreased by .6% over the previous year. WES OTP has rebounded back from the previous quarter to 96% but down by 1% from the previous year.*
- *Bus OTP has developed an improvement plan to build on a reasonably well performing OTP. The serious weather challenges the organization faced were successfully handled by our highly committed staff. This current quarter weather results also mask many great initiatives to help improve the bus OTP. For example, excluding the significant weather event days the bus OTP would be at 83.9% for the same period or over a 2% net increase. Future OTP is expected to notably rise further in the next quarter. These plans are 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 2<sup>nd</sup> Quarter of this fiscal year.*
- *MAX service OTP increased from 81.6% from Q1, 2016 to 83.3%. Without the critical weather events OTP would be at 86.9% over the same period of time.*
- *WES OTP Performance has increase from 92.9% in the past quarter to 96% or an increase of 3.7%. This is back to the historic performance range that is more normal of greater than 95%.*
- *Transportation employee attendance has shown a decline over the past qtr of 1.4%. The long duration of the some weather patterns, extra hours worked and some employees not able to report to work has had an impact on the past two quarters. Overall, we should all be proud of the resiliency and commitment of our staff who served the public when most other services were not open.*
- *Boarding Rides per revenue hour overall increased from the last quarter 2.2%, however declined by 3.6% compared to this past year. The research on this issue is almost complete on potential opportunities and causes to better understand this overall trend. Overall, bus boardings are up 3.8% and down by 4.5% over last year. Max service is down .8% over last year but up 1% over the past quarter.*
- *WES boarding rides per revenue hour are flat when comparing year over year of the same quarter, and up 2.2% from the previous quarter.*

### 3. Operator Support

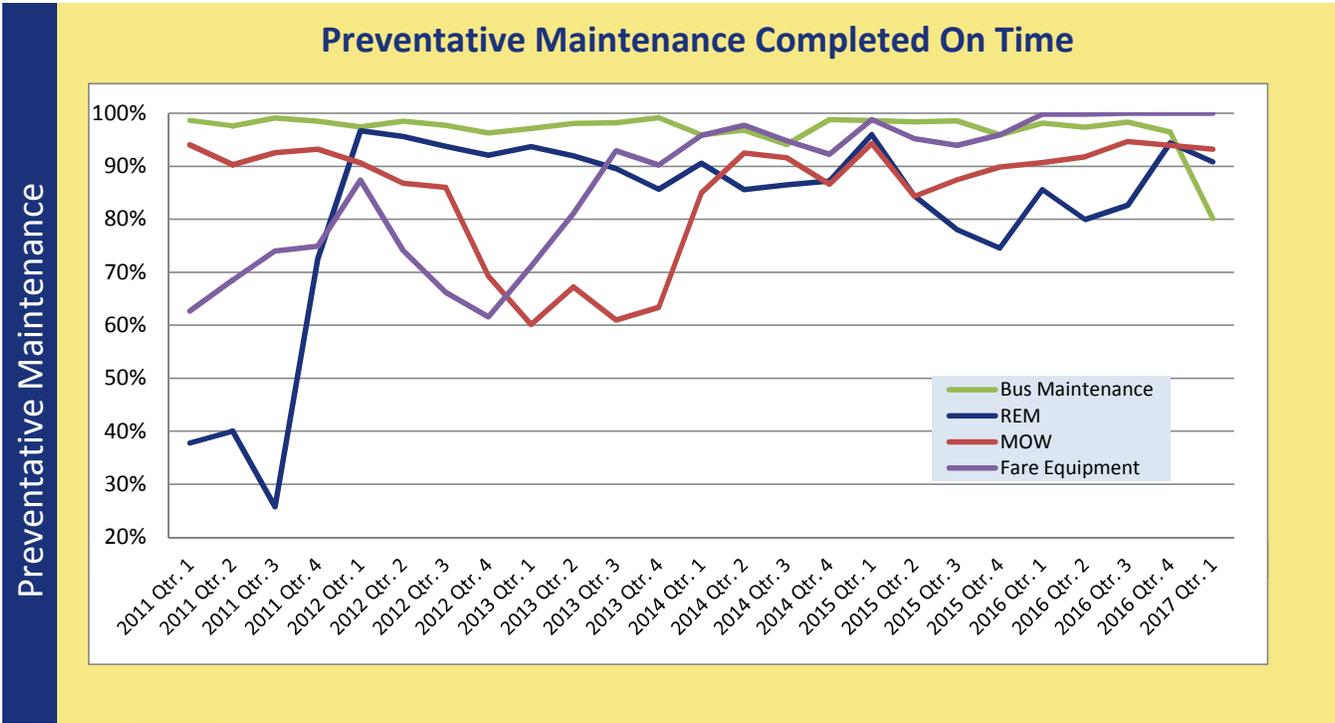
Goal: Improve safety and customer service through customized training programs for operators and supervisors.

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

- *Bus and MAX operator annual training and recertification for this fiscal year has been progressing well ahead of schedule for both bus and rail and is expected to be complete for the next quarter reporting.*
- *Total bus collisions are up significantly by 23.9% over the previous year as a result of the difficult and unprecedented weather the region has experienced over the month of December, January and February. These results are also significantly lower on the Bike/pedestrian incidents, as a result of less active travelers during this same period. With the improved weather and driving conditions, we are already seeing a return to a more normal operating environment and the results are commensurate. Despite these service challenges, our operator commendations continue to be strong overall. MAX collisions with vehicles are up by 50% over the previous year with some of these results related to the dangerous weather related driving conditions for motor vehicles. That result is up by 46%. Additional work is underway on top of the five key intersections already identified to look at other mitigating signage and other types of cost effective remedies to improve this result. There is now a further review underway to identify additional locations and circumstances where collisions can be mitigated. Bus operator complaints are up by 5.1% over the previous year and down by 6% from the prior quarter.*
- *Fixed Route Bus "Service Delivery" has an increase of 3.4% 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 12.5% and essentially flat from the prior year. Considering the significant weather challenges, this result is a very positive one knowing the conditions both our customers and front line staff faced.*
- *Bus operator commendations are up slightly over the prior quarter and year by 4.9%. the early feedback from the new operator announcement program has been positive with more work to done in the training of operators.*

### Preventative Maintenance Completed On Time

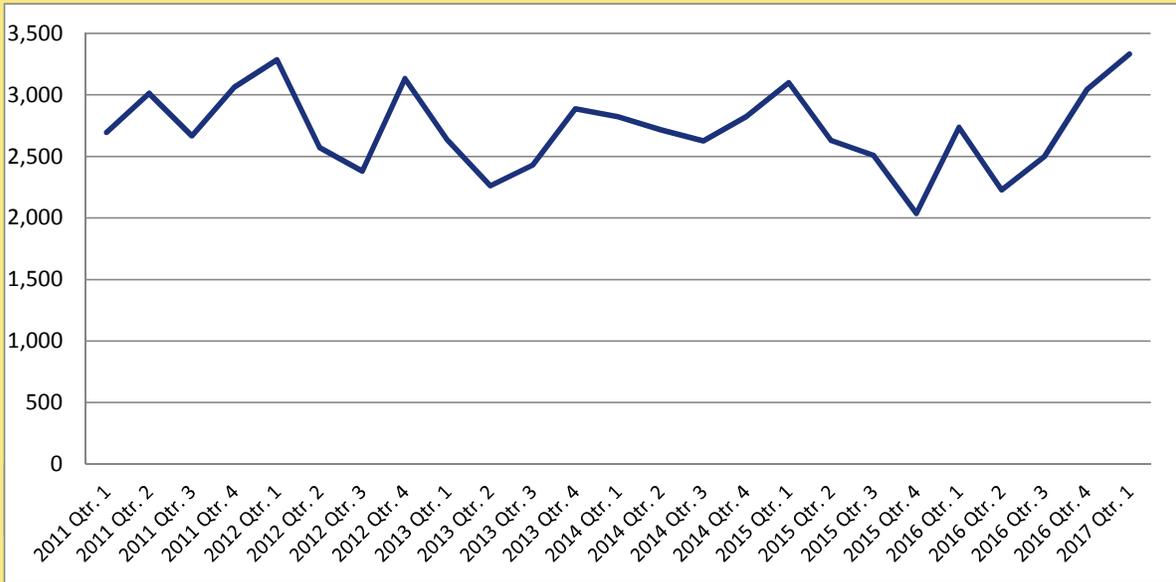
	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
<b>Bus Maintenance</b>	80.1%	96.5%	98.2%	-18.0%
<b>REM</b>	90.8%	94.4%	85.6%	5.2%
<b>MOW</b>	93.2%	94.0%	90.7%	2.5%
<b>Fare Equipment</b>	100.0%	100.0%	99.8%	0.2%



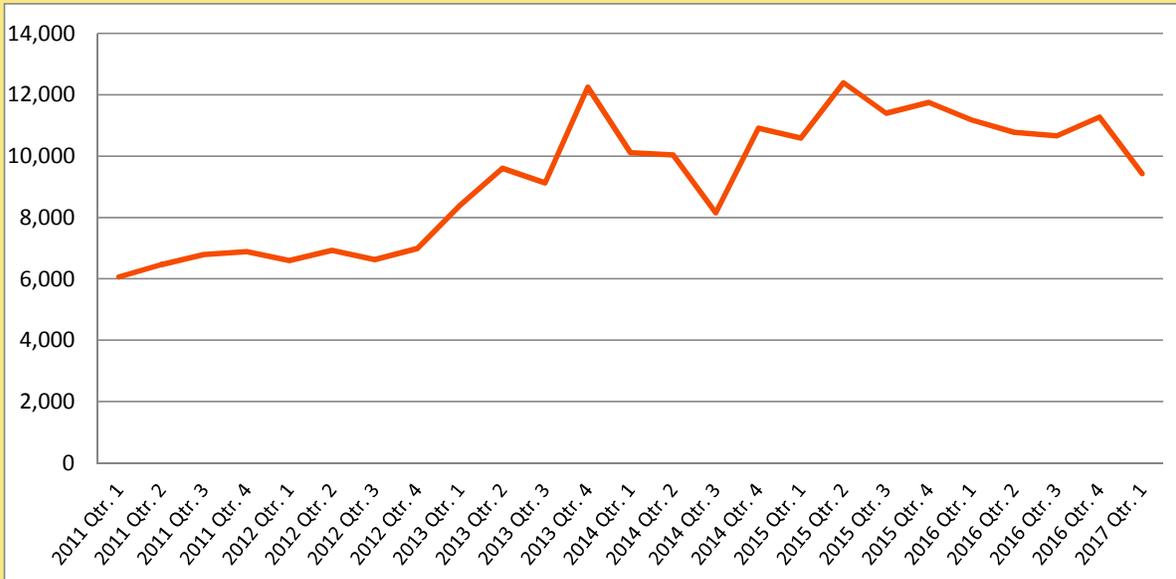
### Mean Distance Between Failures (MDBF)

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016 Percent Change</u>
<b>MAX Light Rail</b>	3,332	3,045	2,736	21.8%
<b>Fixed Route Bus</b>	9,426	11,273	11,179	-15.7%

#### MAX Light Rail Car Miles / Service Related Repairs



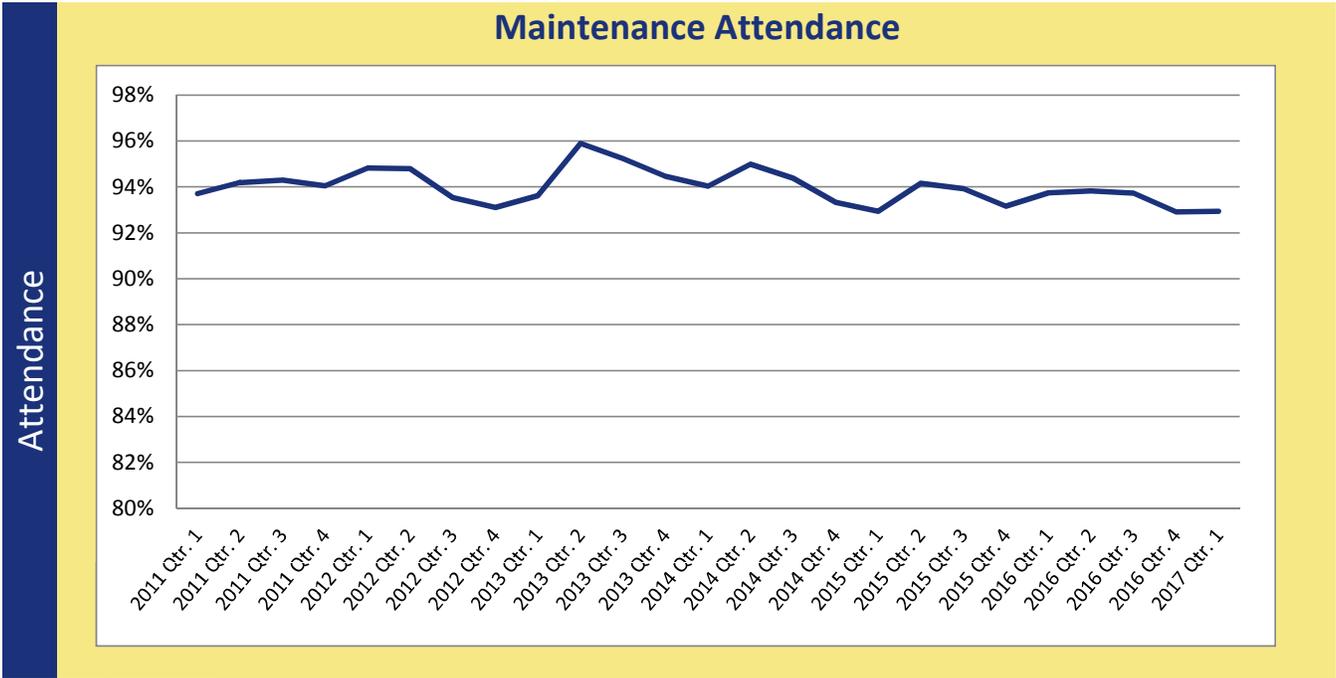
#### Fixed Route Bus Miles Between Mechanical Failures - Lost Service



Mean Distance Between Failures (MDBF)

### Maintenance Employee Attendance

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
<b>Maintenance</b>	92.9%	92.9%	93.7%	-0.8%



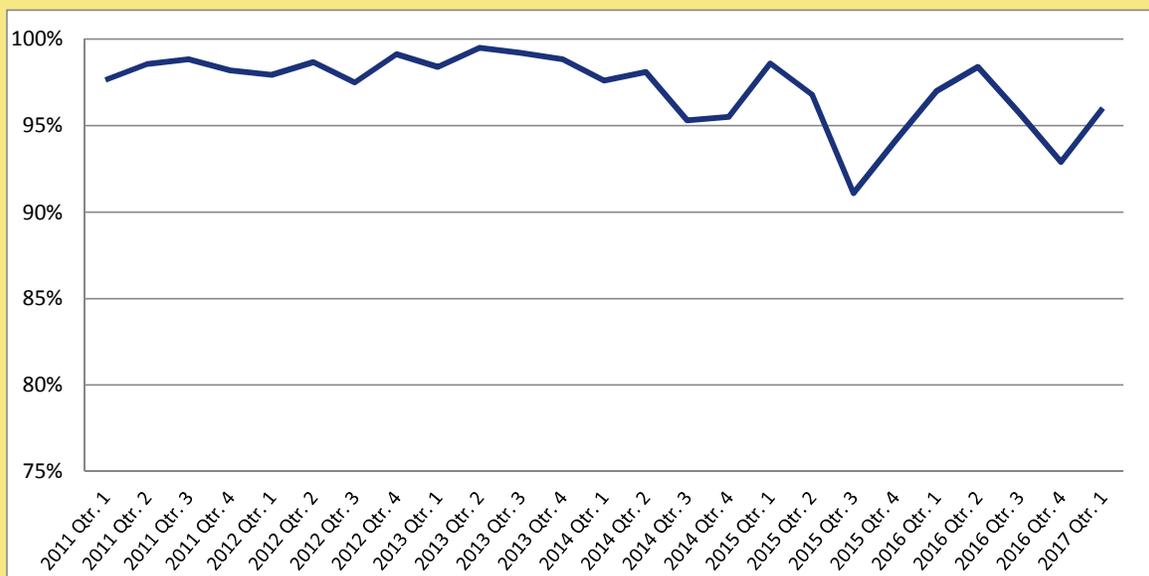
## On Time Performance

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
<b>Fixed Route Bus</b>	81.9%	80.8%	82.5%	-0.6%
<b>MAX Light Rail</b>	83.3%	82.9%	81.6%	1.7%
<b>WES Commuter Rail</b>	96.0%	92.9%	97.0%	-1.0%

### Bus and MAX Light Rail OTP



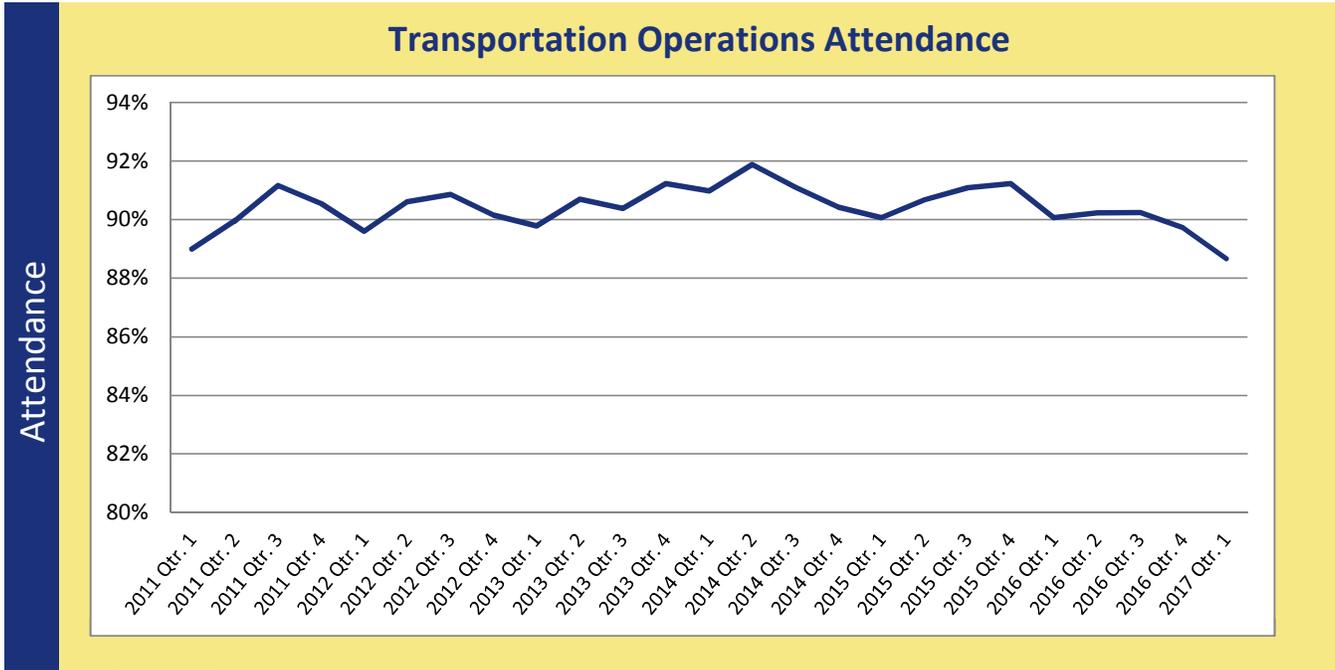
### WES Commuter Rail OTP



On Time Performance

## Transportation Operations Employee Attendance

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Pt. Change</u>
TransOps	88.7%	89.7%	90.1%	-1.4%

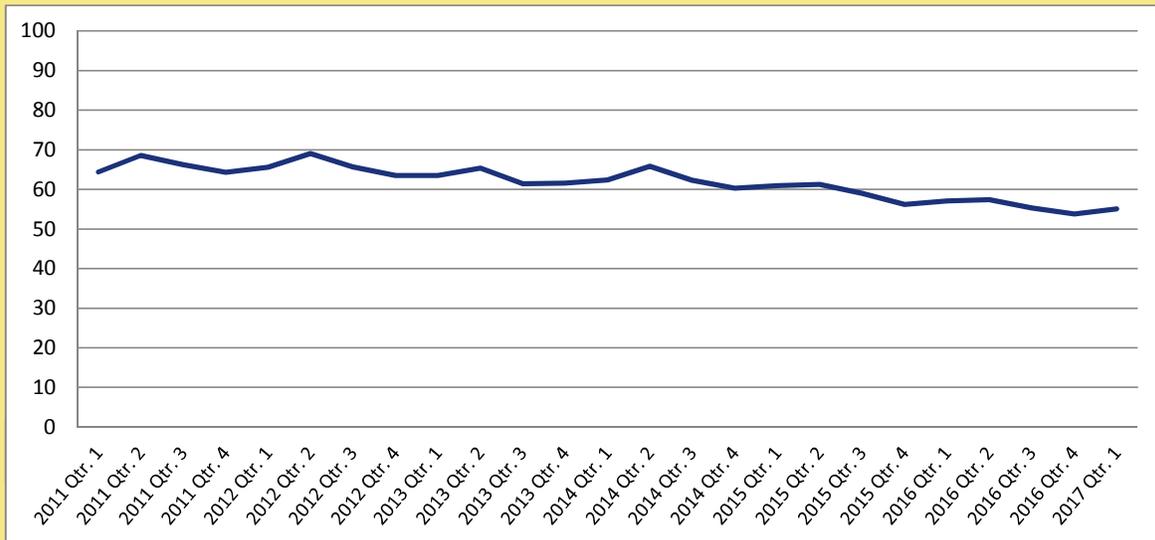


### Boarding Rides Per Revenue Hour

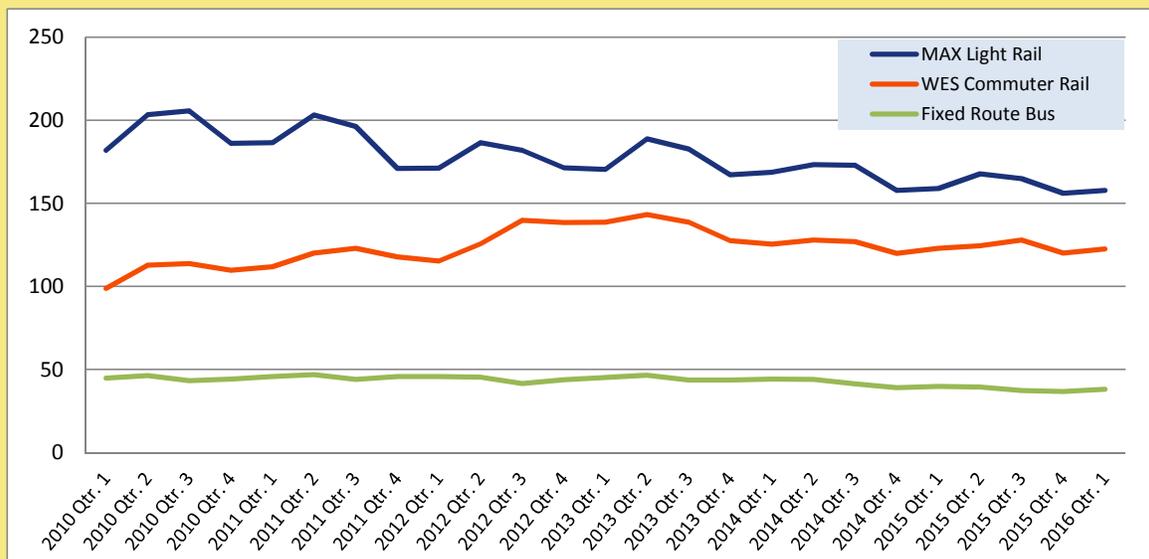
	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Change</u>
<b>Total</b>	55.0	53.8	57.1	-3.6%
<b>Fixed Route Bus</b>	38.1	36.7	39.9	-4.5%
<b>MAX Light Rail</b>	157.7	156.1	159.0	-0.8%
<b>WES Commuter Rail</b>	122.6	120.1	122.9	-0.2%

TriMet Boarding Rides Per Revenue Hour

#### Total Fixed Route Rides Per Revenue Hour



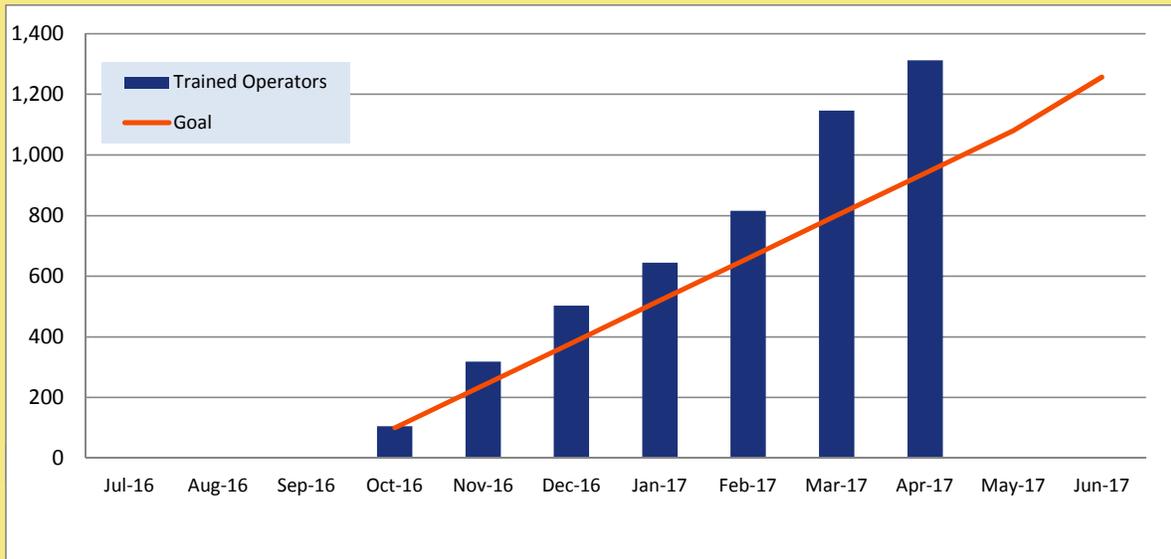
#### Rides Per Revenue Hour By Mode



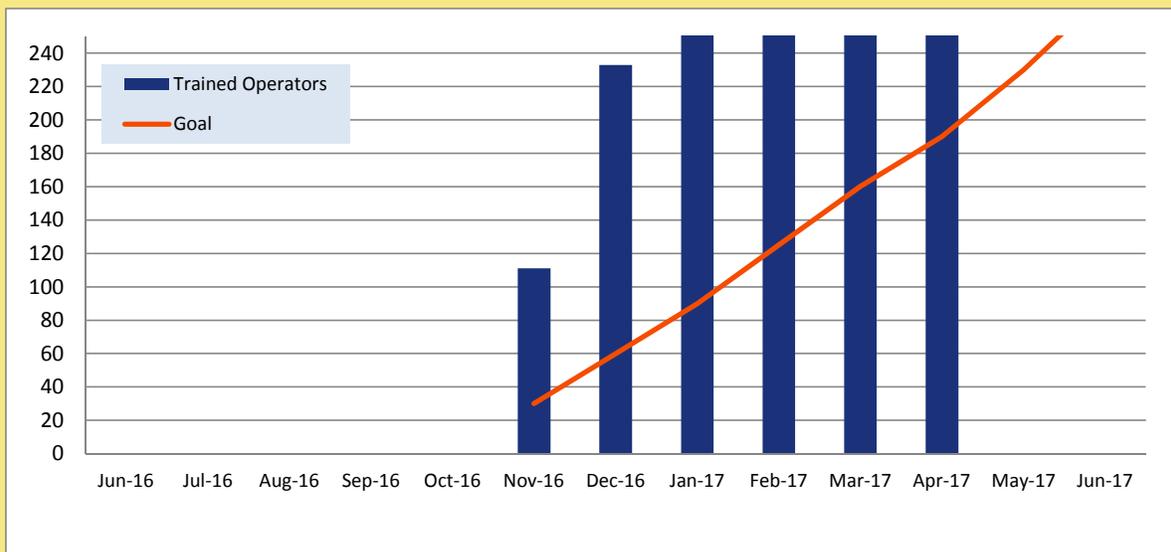
## Annual Operator Recertification Training

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

### Bus Operator Annual Recertification - Actual to Goal



### MAX Light Rail Annual Recertification - Actual to Goal

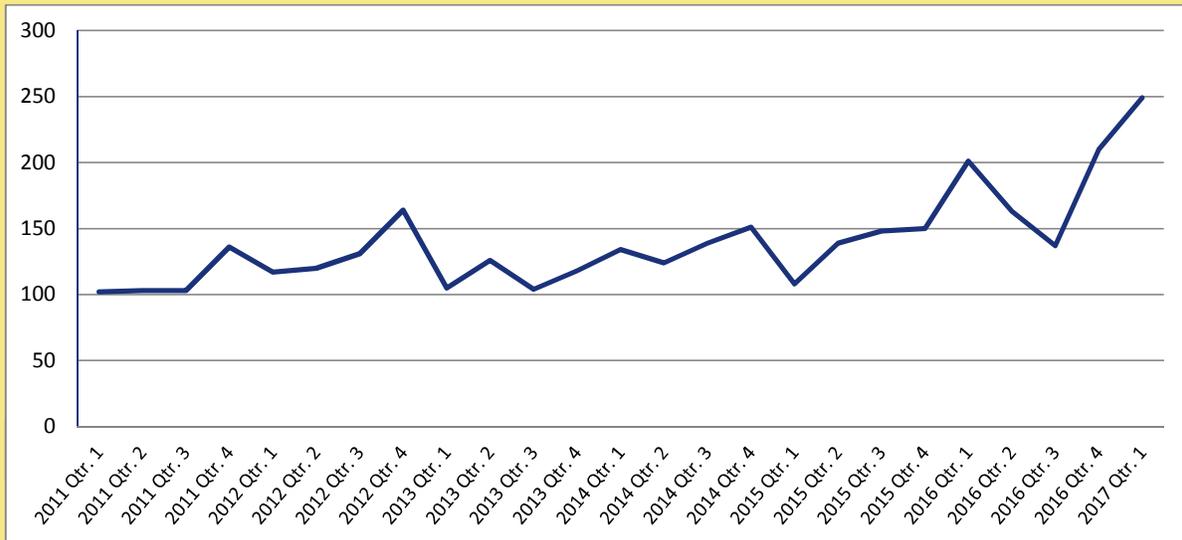


Operator Recertification Training

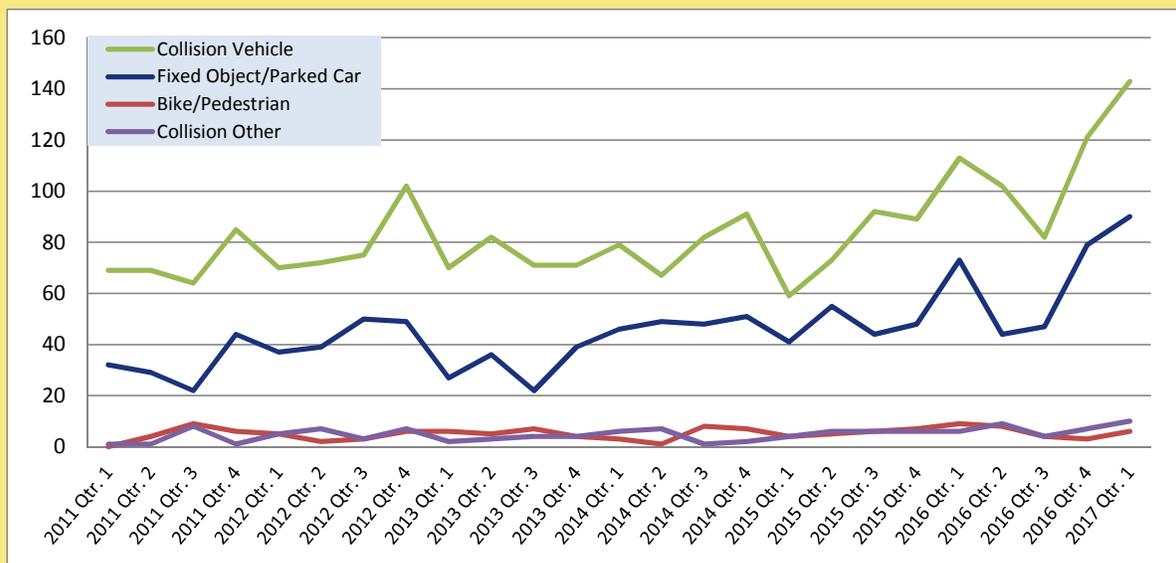
### Fixed Route Bus Collisions

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Change</u>
<b>Total</b>	249	210	201	23.9%
<b>Collision Vehicle</b>	143	121	113	26.5%
<b>Fixed Object/Parked Car</b>	90	79	73	23.3%
<b>Bike/Pedestrian</b>	6	3	9	-33.3%
<b>Collision Other</b>	10	7	6	66.7%

#### Total Bus Collisions



#### Bus Collision Types

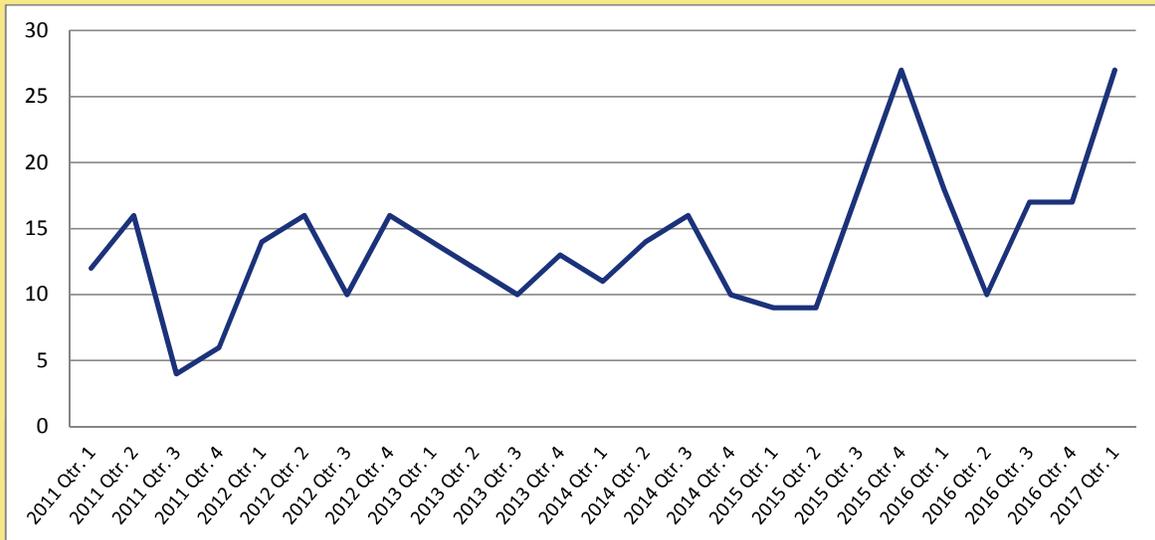


Fixed Route Bus

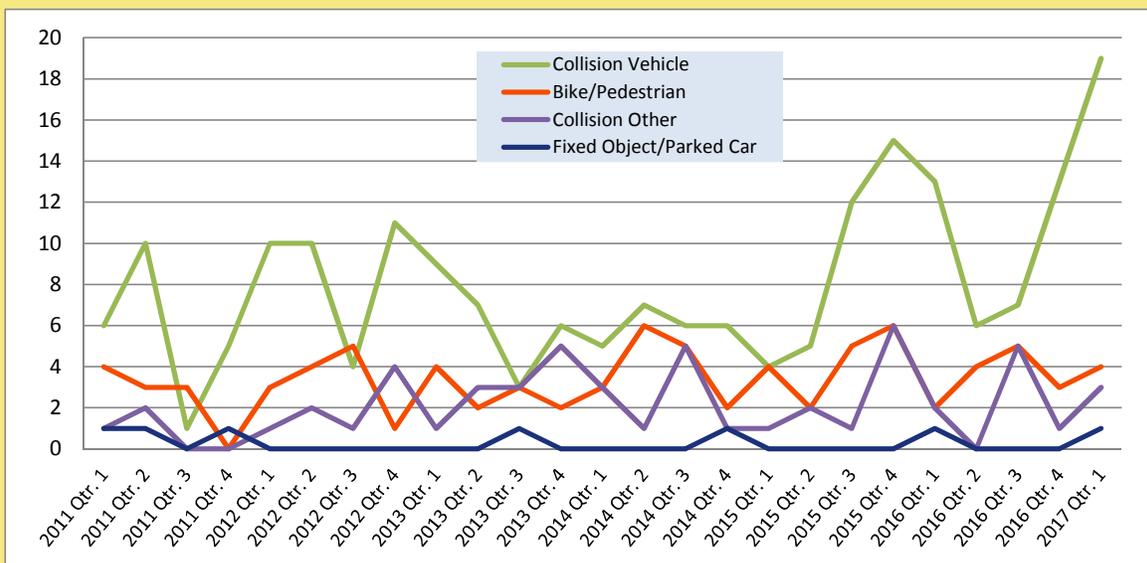
### MAX Light Rail Collisions Per 100,000 Miles

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Change</u>
<b>Total</b>	27	17	18	50%
<b>Collision Vehicle</b>	19	13	13	46%
<b>Fixed Object/Parked Car</b>	1	-	1	0%
<b>Bike/Pedestrian</b>	4	3	2	100%
<b>Collision Other</b>	3	1	2	50%

### MAX Light Rail Collisions Per 100,000 Miles



### MAX Collision Types Per 100,000 Boarding Rides

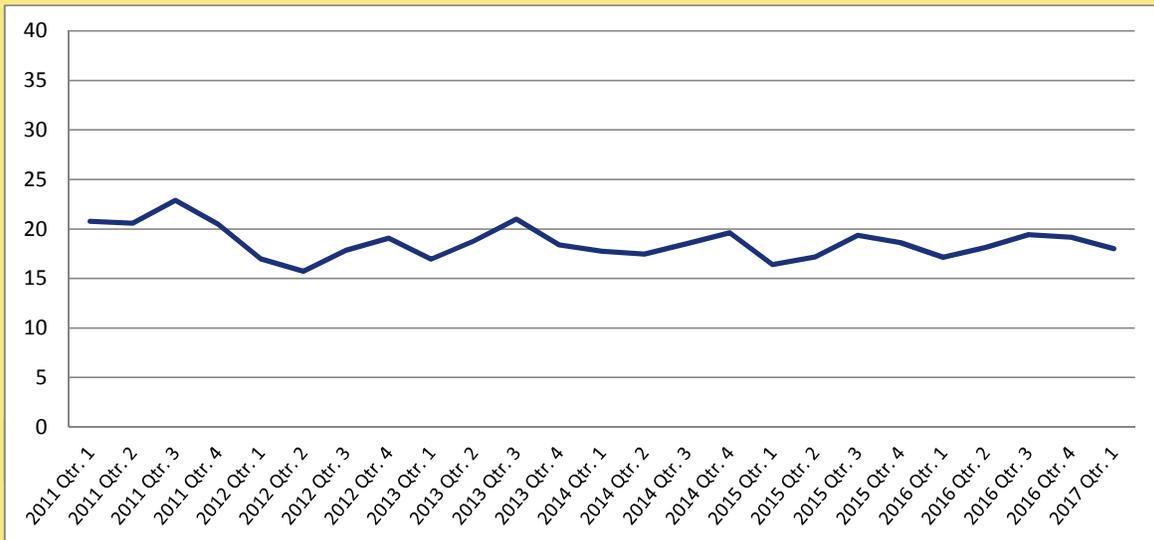


MAX Light Rail

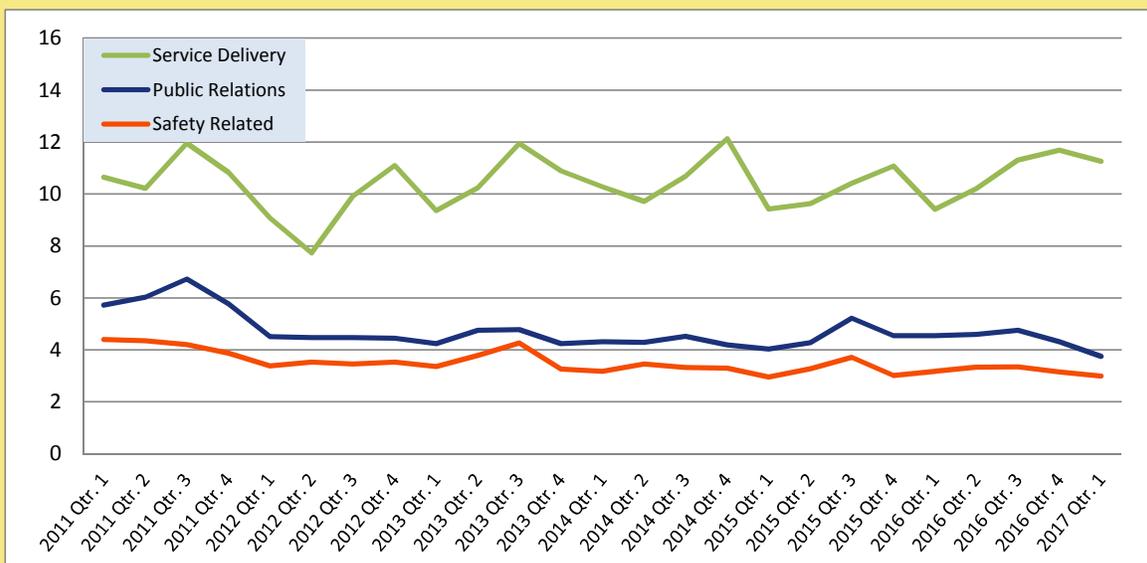
### Fixed Route Bus Complaints Per 100,000 Boarding Rides

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016 Percent Change</u>
<b>Total</b>	18.0	19.2	17.1	5.1%
<b>Service Delivery</b>	11.3	11.7	9.4	19.7%
<b>Public Relations</b>	3.8	4.3	4.5	-17.4%
<b>Safety Related</b>	3.0	3.2	3.2	-5.8%

#### Total Operator Complaints Per 100,000 Boarding Rides



#### Type of Operator Complaints Per 100,000 Boarding Rides

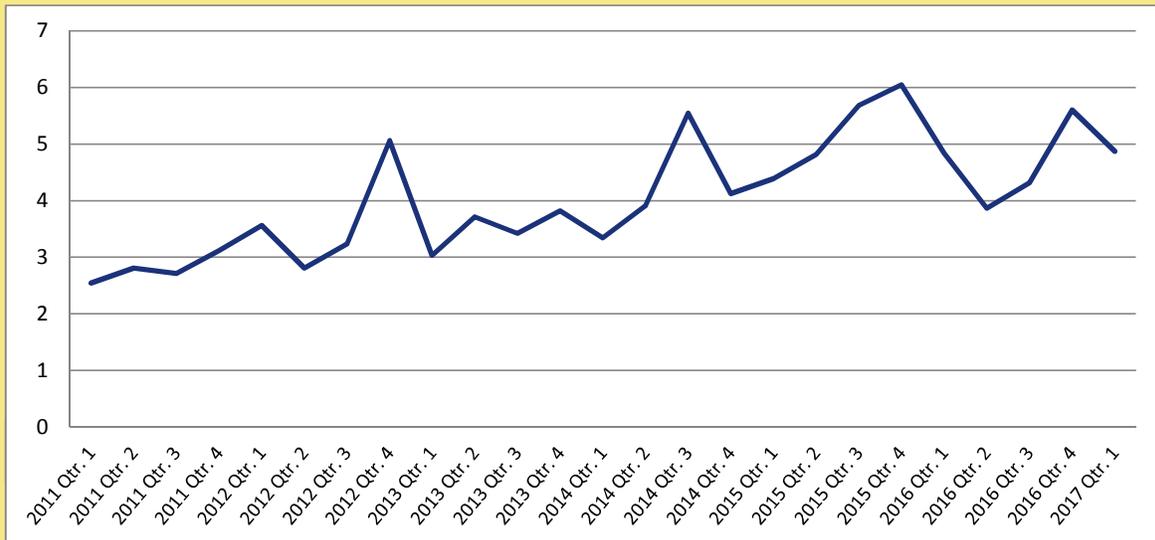


Fixed Route Bus

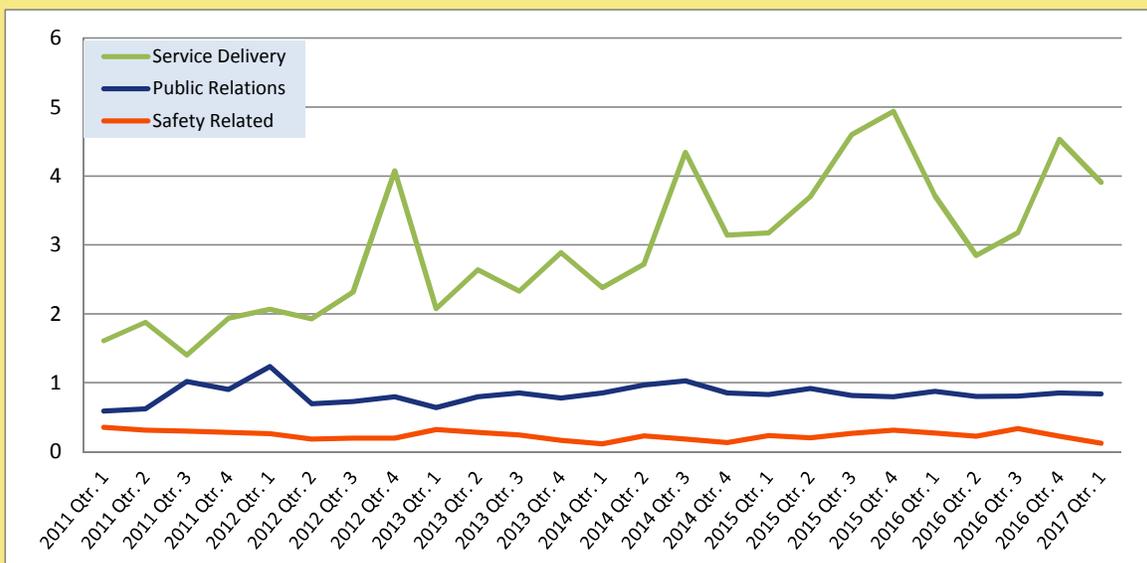
### MAX Light Rail Complaints Per 100,000 Boarding Rides

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016</u> <u>Percent Change</u>
<b>Total</b>	4.9	5.6	4.8	0.6%
<b>Service Delivery</b>	3.9	4.5	3.7	5.3%
<b>Public Relations</b>	0.8	0.9	0.9	-4.1%
<b>Safety Related</b>	0.1	0.2	0.3	0.0%

#### Total Operator Complaints Per 100,000 Boarding Rides



#### Type of Operator Complaints Per 100,000 Boarding Rides

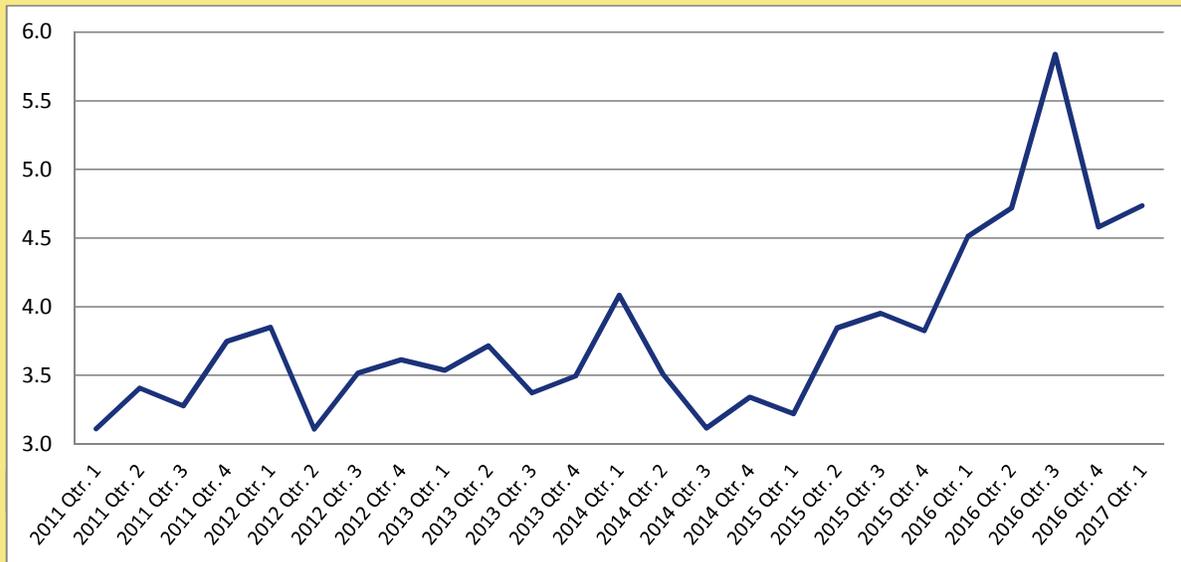


MAX Light Rail

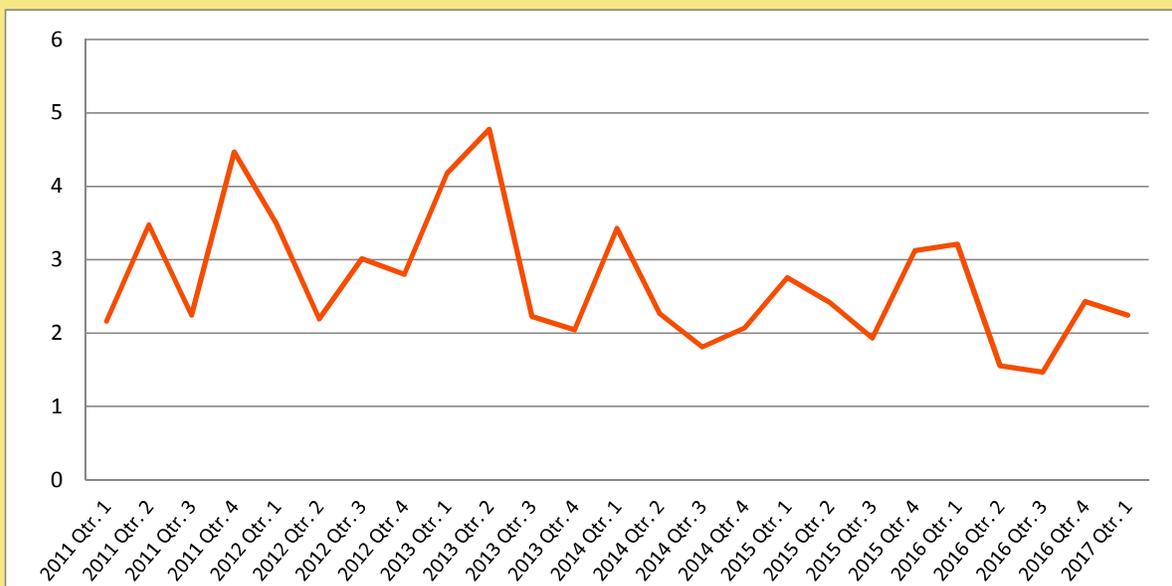
## Fixed Route Bus and MAX Light Rail Commendations

	<u>2017 Qtr. 1</u>	<u>2016 Qtr. 4</u>	<u>2016 Qtr. 1</u>	<u>2017 - 2016 Percent Change</u>
<b>Fixed Route Bus</b> Per 100,000 Boardings	4.7	4.6	4.5	4.9%
<b>MAX Light Rail</b> Per Million Boardings	2.2	2.4	3.2	-30.1%

### Total Bus Operator Commendations Per 100,000 Boarding Rides



### Total MAX Light Rail Commendations Per Million Boarding Rides



TriMet Bus and MAX Commendations