



## High Quality Service through Continuous Improvement

### **2016 1st Quarter Performance Report**

TriMet Board Meeting May 25, 2016

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, small-step improvements rather than implementing one huge improvement. It is simply a way of looking at how we can do our work better.

Key performance indicators are performance measurements that identify the level of continual 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 Maintenance of Way all exceeded preventive maintenance objectives for the 2016 1st Quarter as set by the Federal Transit Administration. Rail Equipment Maintenance (REM) has increased notably from 4<sup>th</sup> Quarter 2015 as a result of the flooding issue and maintenance challenges to make the needed fleet changes and maintain regular inspection. The 1<sup>st</sup> Quarter 2016 results show TriMet is above the target of 80% to 85.6%. Bus maintenance remains strong in the last two quarters at 98.2%. MOW has exceeded 90% and is substantially above the 80% FTA requirement for preventative maintenance.*
- *Fare equipment achieved its highest reliability score since regular reporting began at 99.8%.*
- *Fixed route bus remained steady in miles traveled between service related repairs with a small decline from the 2015 4th Quarter. When compared to the quarterly year over year, performance has improved by 5.6% with an overall favorable rating since 2014.*
- *MAX light rail core MDBF (Mean Distance Between Failure) performance is returning to more normal levels since last year's storm damage as well. The new Type-5 vehicles arriving, going into service and warranty issue tracking has now been implemented. . We now are starting to catch up with the Types 1-4 performance.*
- *Maintenance attendance overall continues to improve slightly over the past three quarters at .8% over the past 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.

- *All modes (MAX, bus, WES) have shown positive on time performance increases over the 2015 4<sup>th</sup> Quarter.*
- *The largest area of on-time performance improvement has been on MAX. Specifically, it has increased from 75% in December to 83.7% (over the last 31 days rolling average) an 8.7% increase.*
- *Bus average age has decreased to just over nine years with schedule changes also contributing to improved performance since 2015 4<sup>th</sup> Quarter of 80.4%.*
- *WES OTP Performance has improved since last quarter by 2.9% due to various incidents that occurred in the 4<sup>th</sup> Quarter of 2015. Overall reliability is strong and essentially flat over previous year's performance.*
- *Transportation employee attendance is flat year over year at 91.1%.*
- *Boarding Rides per revenue hour show overall system reliability is down by 6% year over year. The largest decrease is on the bus system largely attributed to two key issues: A) the opening of the MAX Orange Line B) fuel prices. WES decrease was primarily caused by the effect of gasoline prices on ridership. Light rail ridership has increased from the prior quarter, however, rail riders per revenue hour have decreased. This is attributed to the new Orange Line still going through its growth period as it helps shape regional growth and new customer travel patterns.*

## 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 light rail operator annual training and recertification for Fiscal Year 2016 is now complete and ahead of schedule.*
- *Bus collisions are up notably over the previous year by over 86.1%. Specifically, as a result of poor weather and snow in January. Number of collisions in January 2015 was 32 as compared to January 2016 of 89. As a result of increases this past quarter and general increases overall, a review of bus hiring and training and safety incident causes are now being undertaken.*
- *MAX light rail collisions per 100,000 miles traveled increased from 9 to 18 over 1st Quarter 2015. This increase is primarily attributable to motor vehicle collisions with the trains where the automobile driver is at fault. We have identified five key intersections where safety enhancements are being implemented. We will continue to monitor train/vehicle collisions closely and develop further system changes as needed.*

*The “Collision Other” category has been reduced notably since the reporting time attributed to less yard derailments and debris in the guideway.*

- Bus operator complaints were the key component of the increase this past quarter going from 4.0 to 4.5 per 100,000 boarding rides. Safety related rates increased from 3.0 to 3.2 per 100,000 boarding rides. Further focus has been implemented in this area. MAX operator complaints per 100,000 boardings have decreased from the 4th Quarter 2015 and is mainly attributed to the improved on-time performance despite it showing an increase year over year of 10.3%. This area is expected to continue to improve going forward as there is a correlation between operator complaints and on-time performance.*
- Commendations received for fixed route bus per 100,000 boarding rides are trending upwards by over 40% year over year. When comparing to 2014 there has been a 45% increase. Rail commendations have increased 16.5% year over year and a slight improvement over the previous Quarter.*





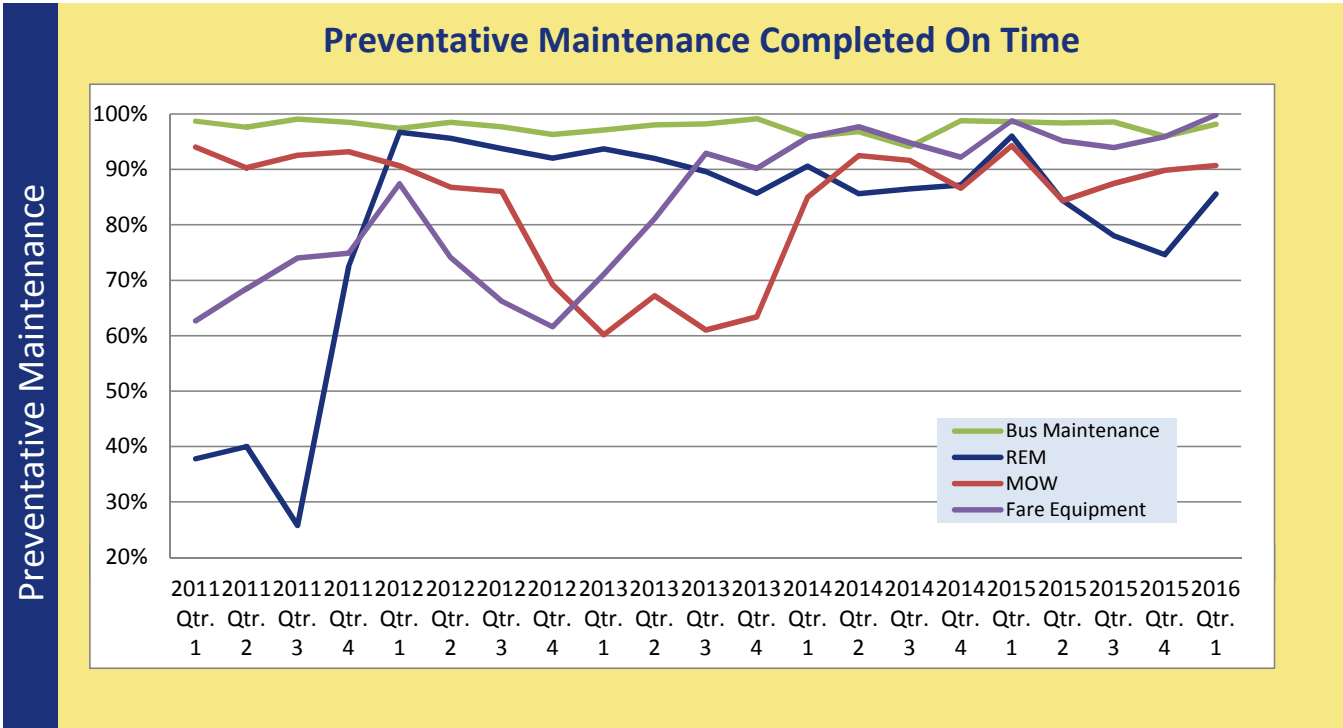
2016 1st Quarter Report

## Quarterly Performance Report



### Preventative Maintenance Completed On Time

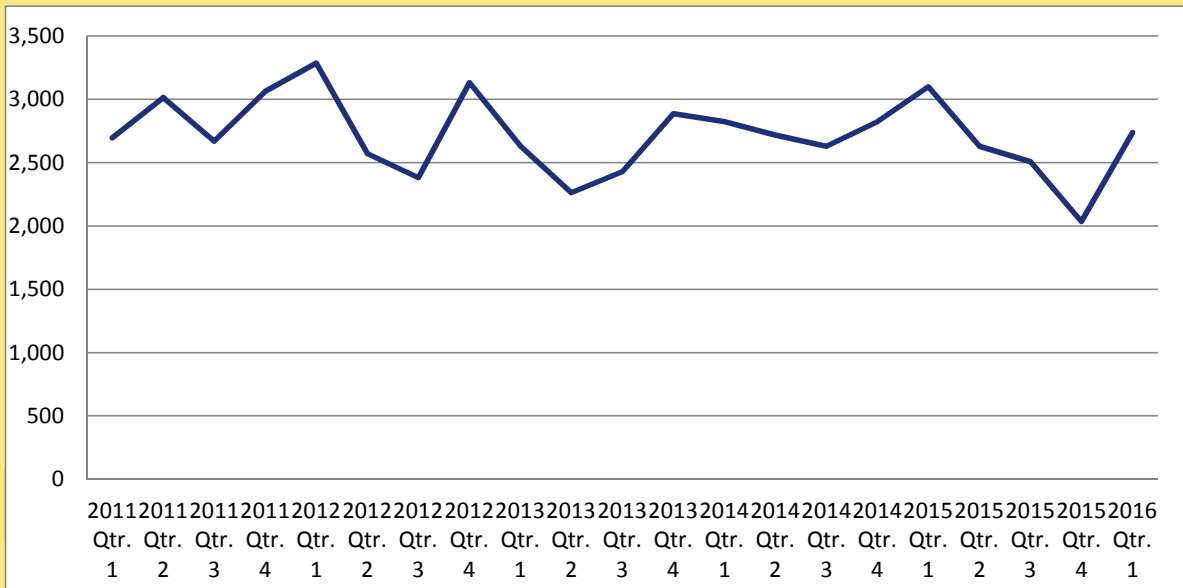
	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
<b>Bus Maintenance</b>	98.2%	95.9%	98.6%	-0.4%
<b>REM</b>	85.6%	74.6%	96.0%	-10.4%
<b>MOW</b>	90.7%	89.8%	94.3%	-3.6%
<b>Fare Equipment</b>	99.8%	95.9%	98.8%	1.0%



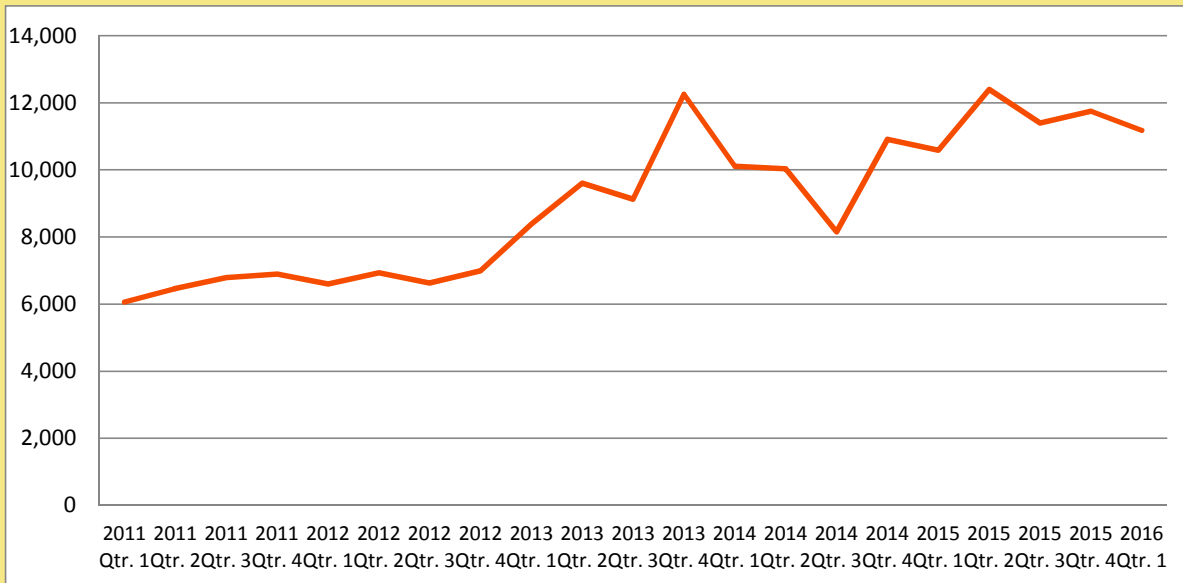
### Mean Distance Between Failures (MDBF)

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015 Percent Change</u>
<b>MAX Light Rail</b>	2,736	2,036	3,098	-11.7%
<b>Fixed Route Bus</b>	11,179	11,746	10,590	5.6%

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



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

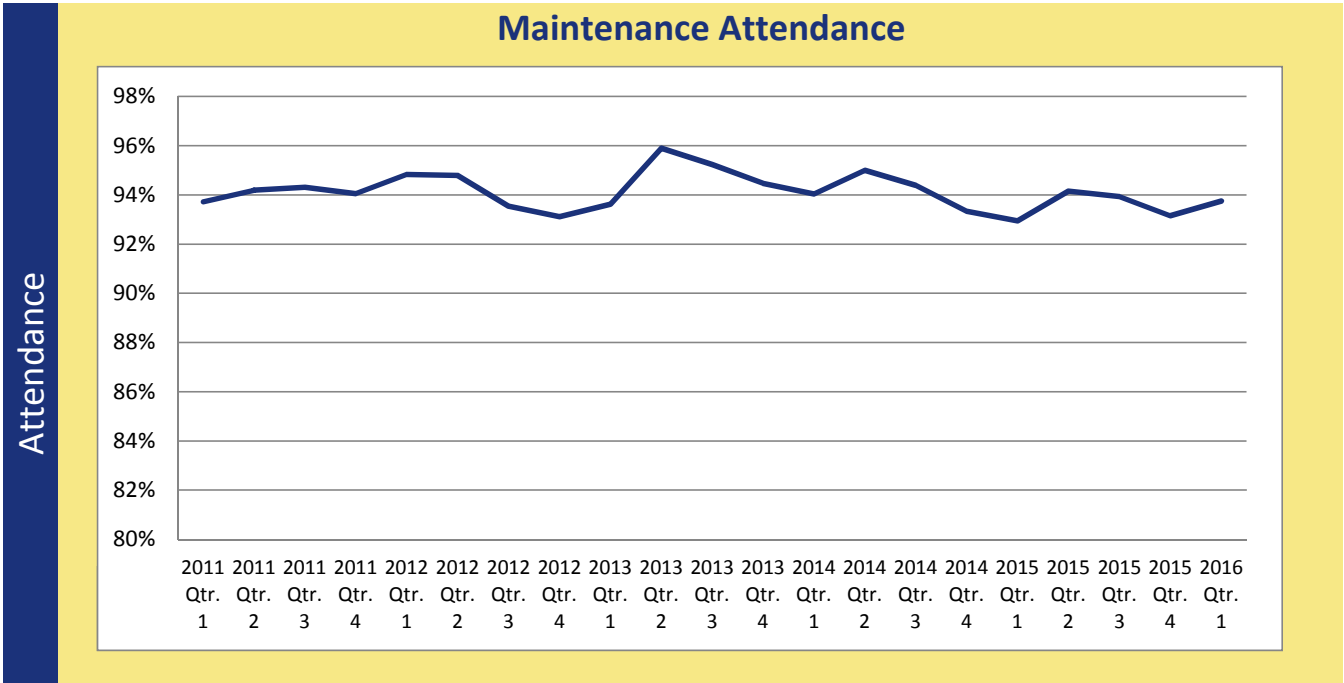


Mean Distance Between Failures (MDBF)



### Maintenance Employee Attendance

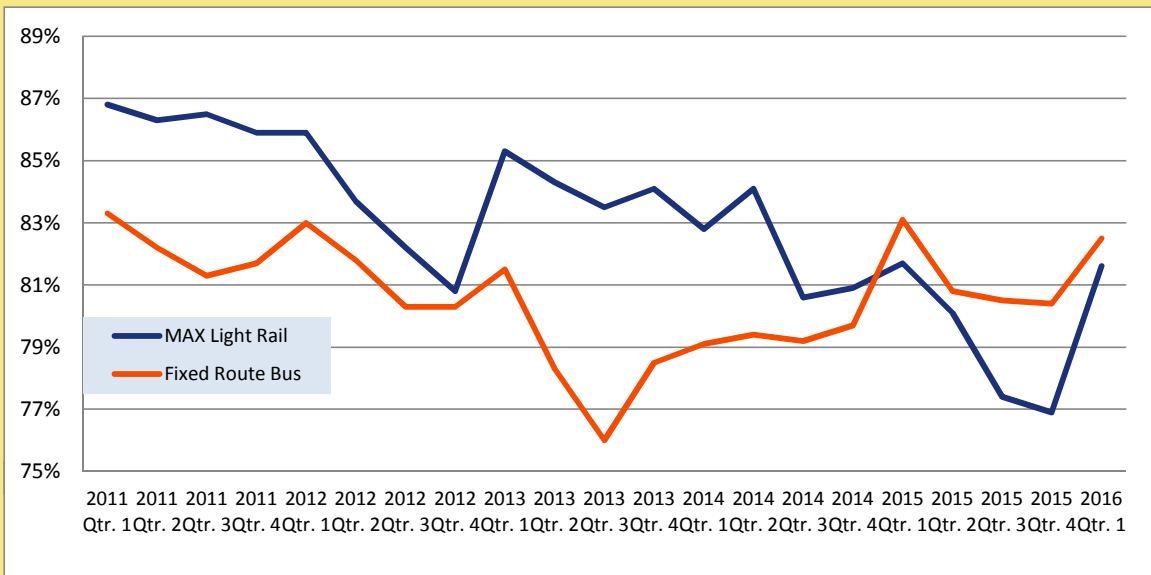
	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
<b>Maintenance</b>	93.7%	93.2%	92.9%	0.8%



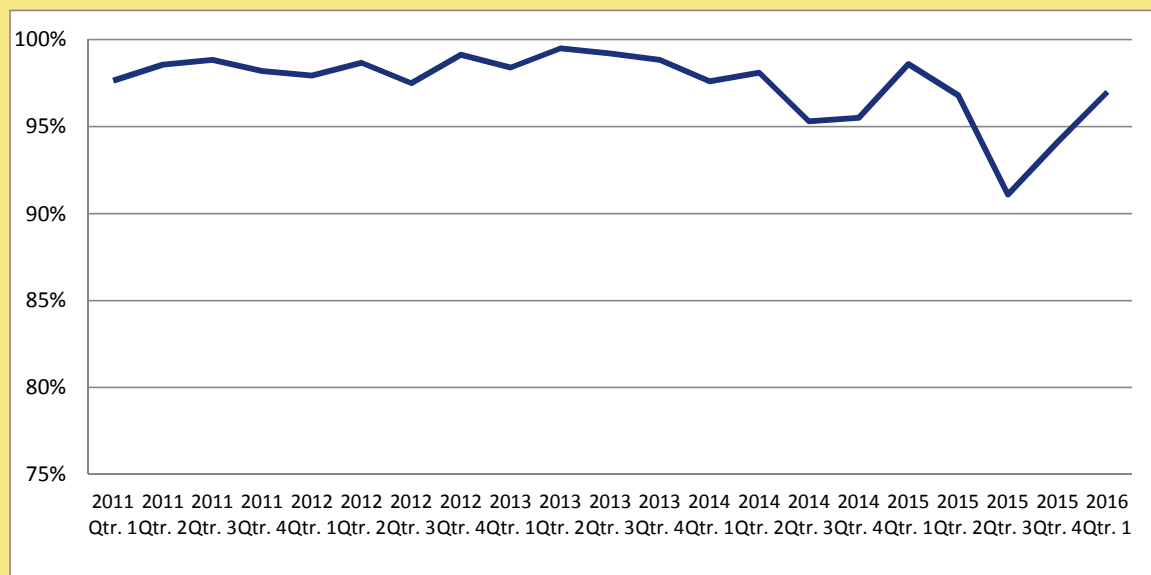
## On Time Performance

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
<b>Fixed Route Bus</b>	82.5%	80.4%	83.1%	-0.6%
<b>MAX Light Rail</b>	81.6%	76.9%	81.7%	-0.1%
<b>WES Commuter Rail</b>	97.0%	94.1%	98.6%	-1.6%

### Bus and MAX Light Rail OTP



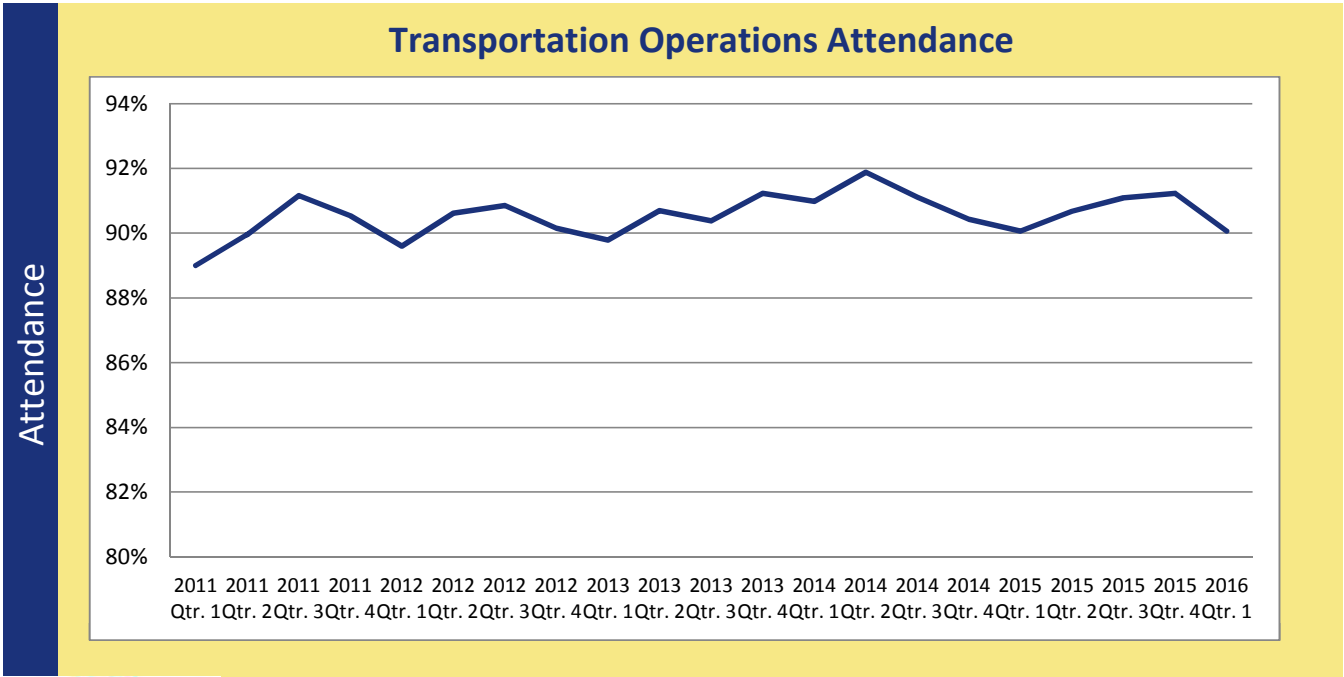
### WES Commuter Rail OTP



On Time Performance

## Transportation Operations Employee Attendance

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015</u> <u>Percent Pt. Change</u>
TransOps	90.1%	91.2%	90.1%	0.0%

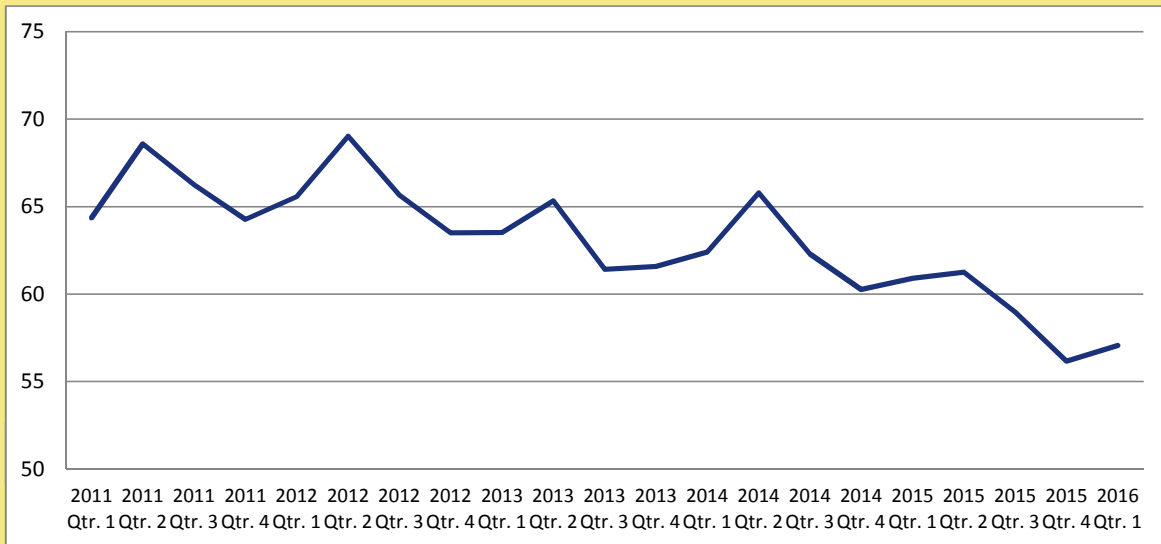


### Boarding Rides Per Revenue Hour

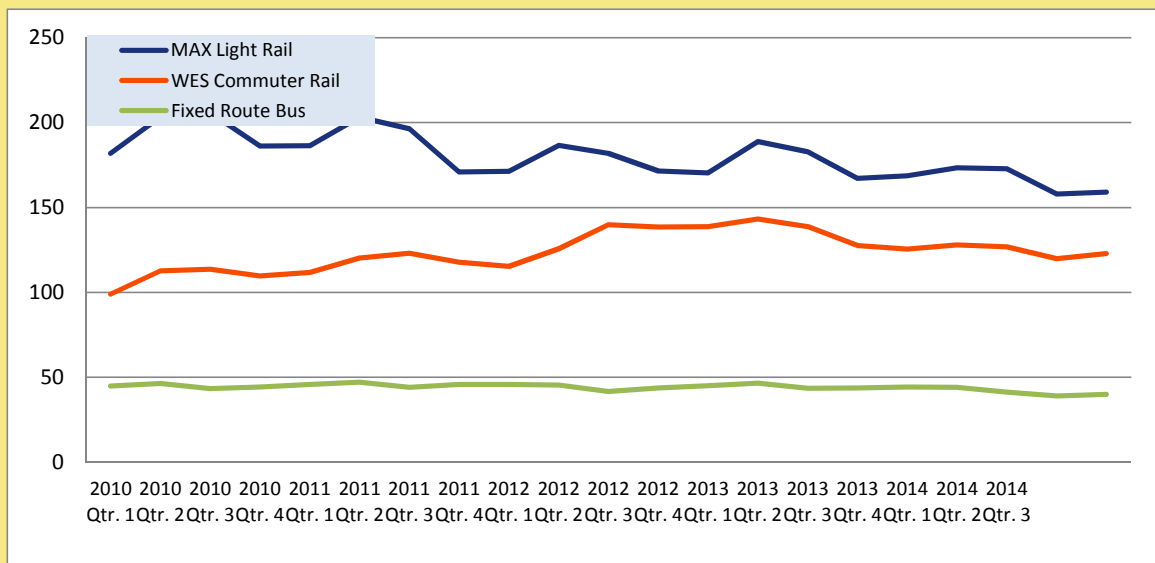
	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015</u> <u>Percent Change</u>
<b>Total</b>	57.1	56.2	60.9	-6.3%
<b>Fixed Route Bus</b>	39.9	39.1	44.2	-9.8%
<b>MAX Light Rail</b>	159.0	157.9	168.7	-5.7%
<b>WES Commuter Rail</b>	122.9	119.8	125.5	-2.1%

TriMet Boarding Rides Per Revenue Hour

#### Total Fixed Route Rides Per Revenue Hour



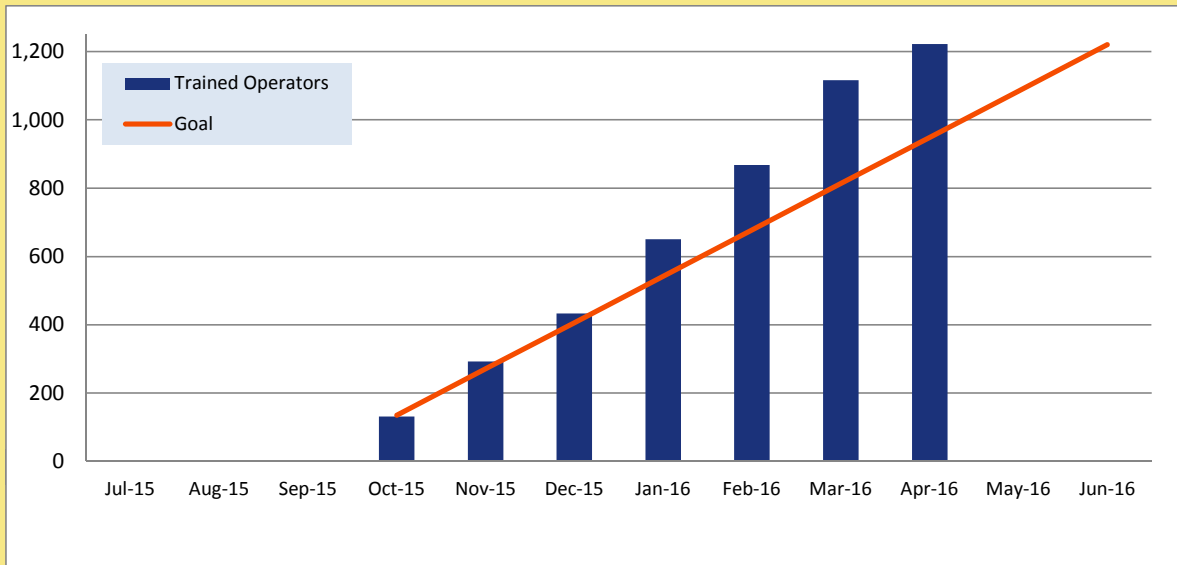
#### Rides Per Revenue Hour By Mode



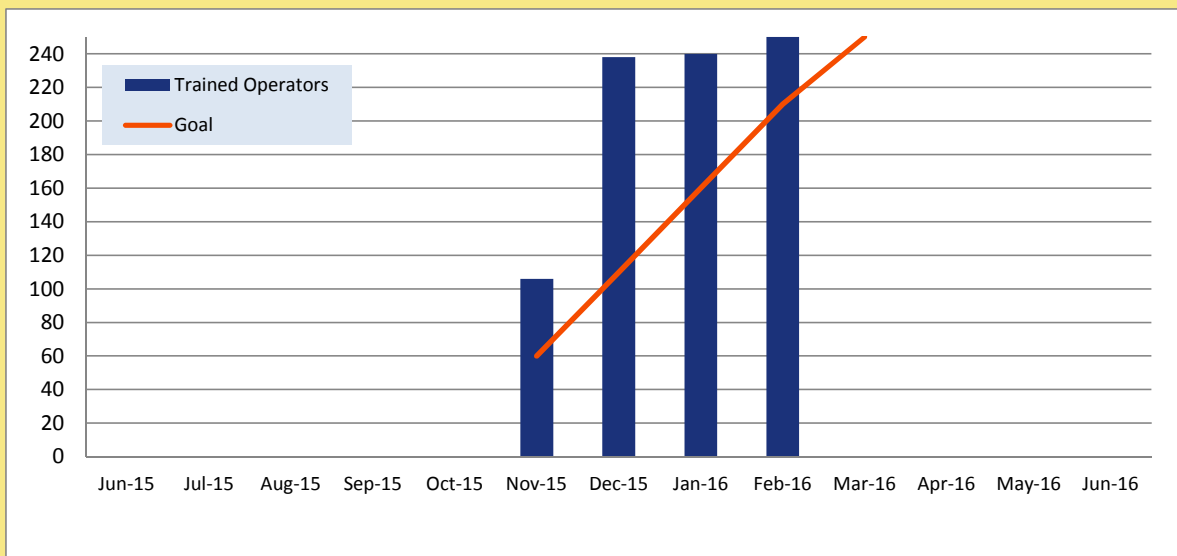
### Annual Operator Recertification Training

	<u>Feb-15</u>	<u>Mar-16</u>	<u>Apr-16</u>	<u>Fiscal Year</u>
<b>Bus Trained</b>	868	1,116	1,222	1,222
<b>Cumulative Goal</b>	678	813	949	1,222
<b>MAX Trained</b>	250	250	250	250
<b>Cumulative Goal</b>	210	250	250	250

**Bus Operator Annual Recertification - Actual to Goal**



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

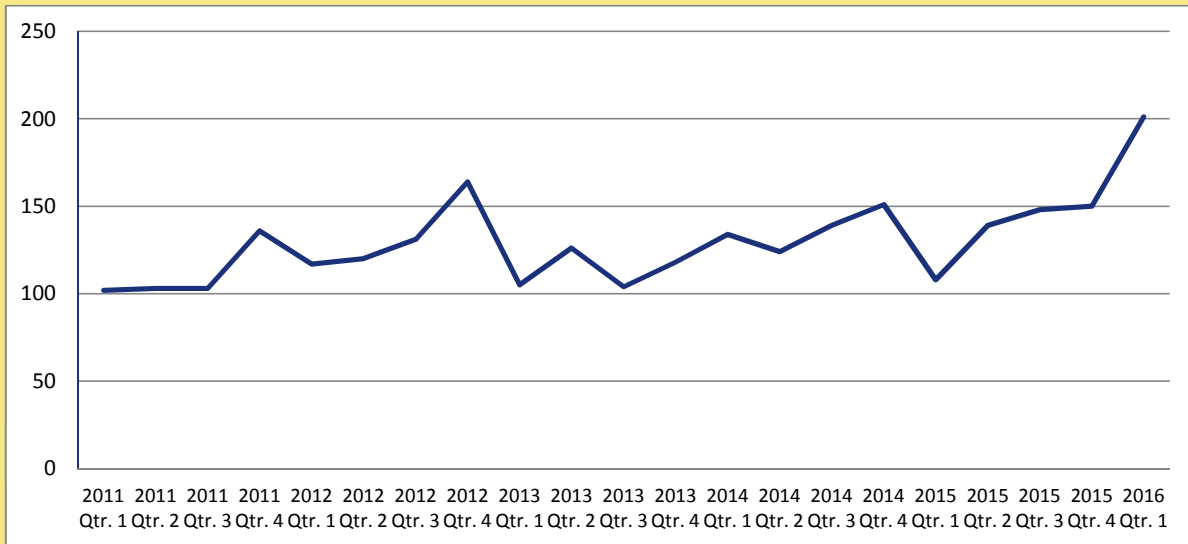


Operator Recertification Training

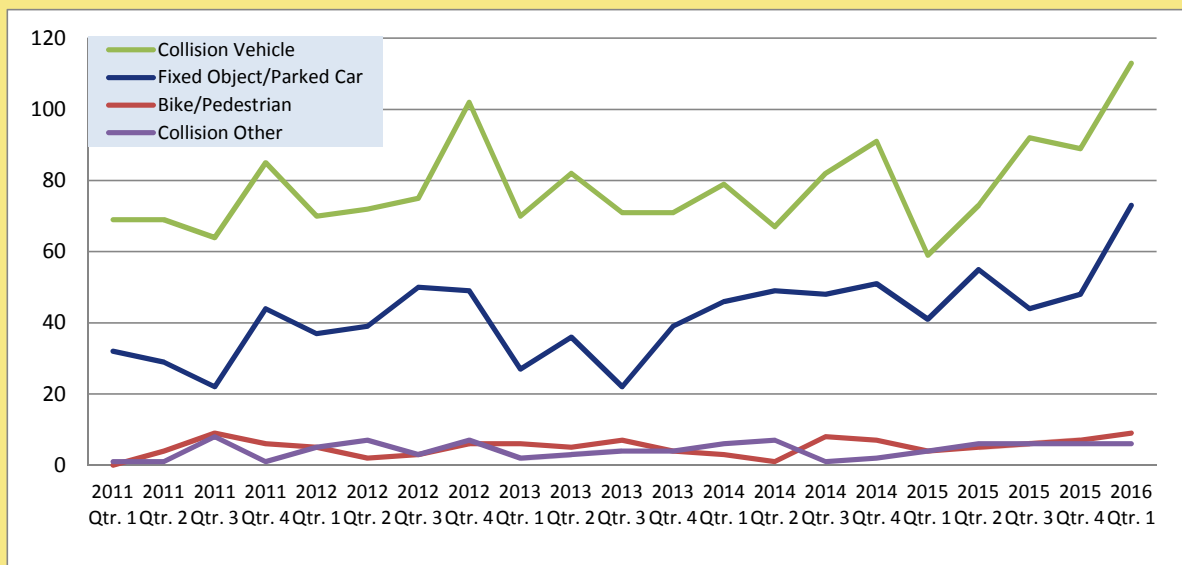
### Fixed Route Bus Collisions

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015</u> <u>Percent Change</u>
<b>Total</b>	201	150	108	86.1%
<b>Collision Vehicle</b>	113	89	59	91.5%
<b>Fixed Object/Parked Car</b>	73	48	41	78.0%
<b>Bike/Pedestrian</b>	9	7	4	125.0%
<b>Collision Other</b>	6	6	4	50.0%

#### Total Bus Collisions



#### Bus Collision Types

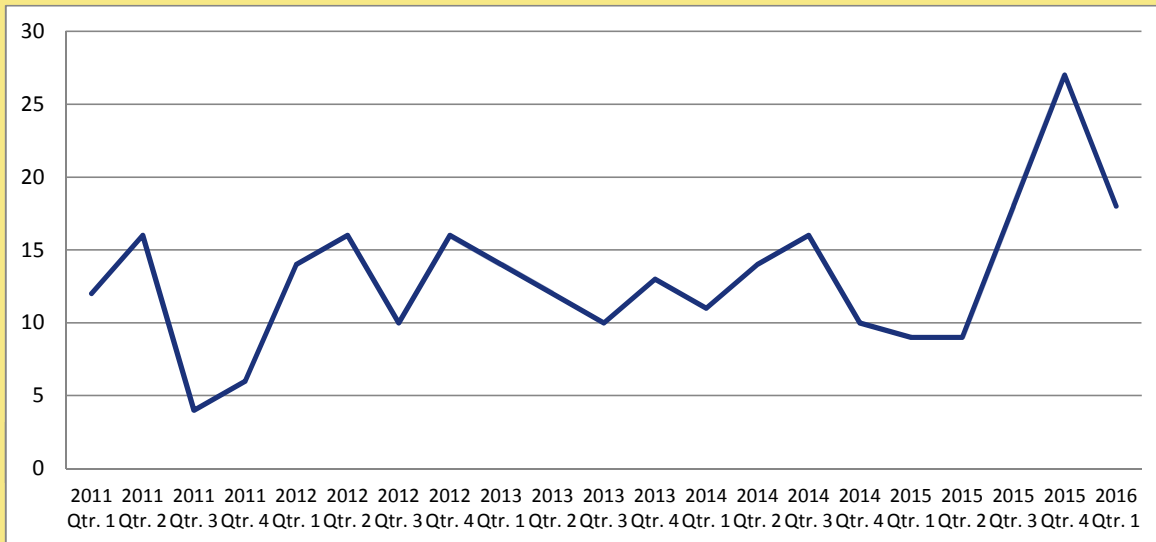


Fixed Route Bus

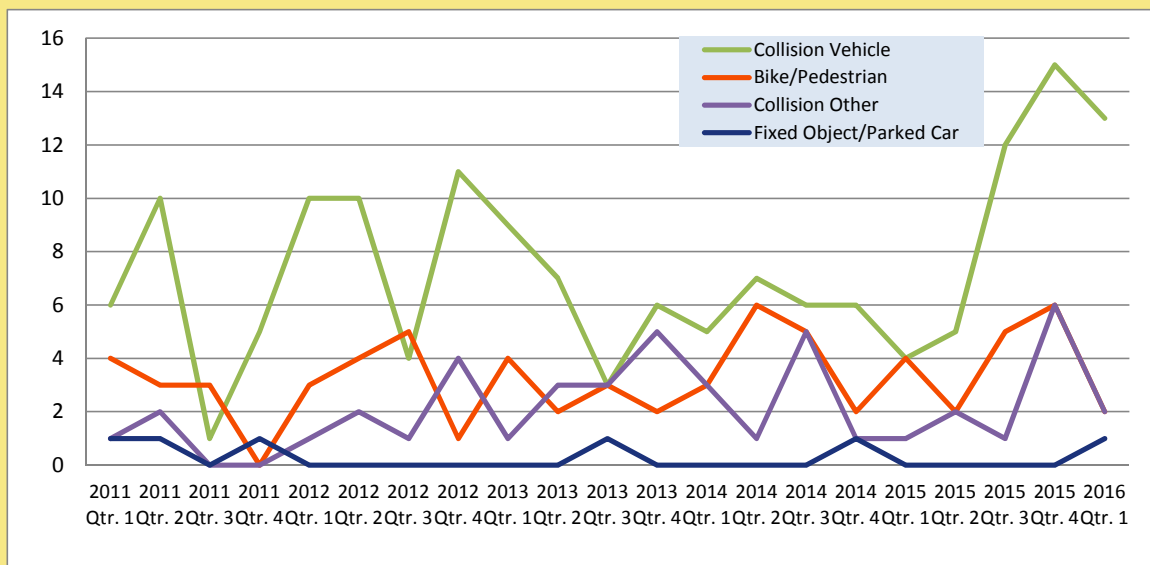
### MAX Light Rail Collisions Per 100,000 Miles

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015 Percent Change</u>
<b>Total</b>	18	27	9	100%
<b>Collision Vehicle</b>	13	15	4	225%
<b>Fixed Object/Parked Car</b>	1	-	-	0%
<b>Bike/Pedestrian</b>	2	6	4	-50%
<b>Collision Other</b>	2	6	1	100%

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



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

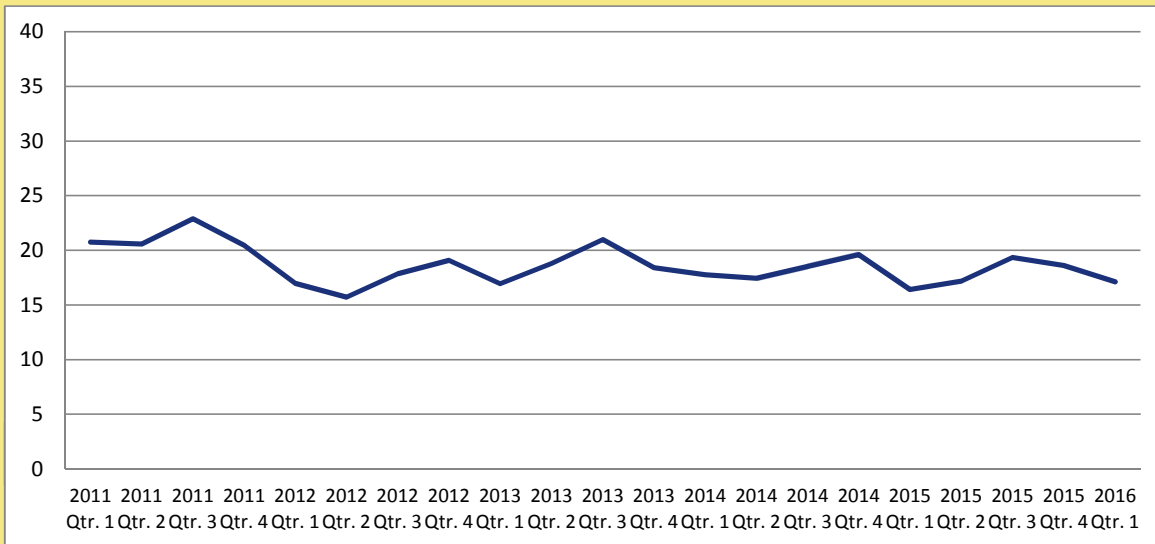


MAX Light Rail

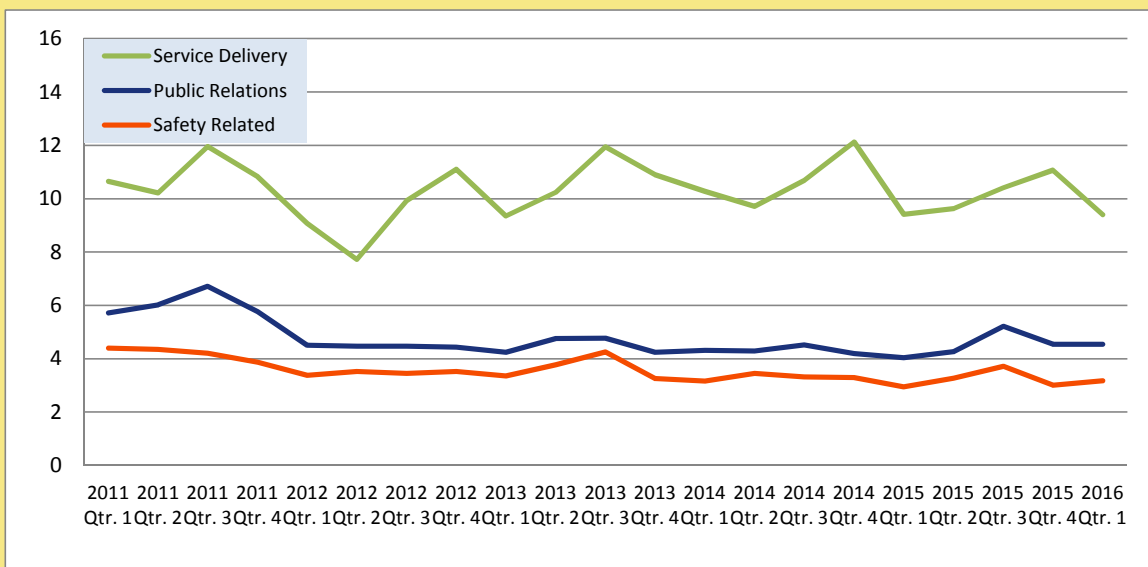
### Fixed Route Bus Complaints Per 100,000 Boarding Rides

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015 Percent Change</u>
<b>Total</b>	17.1	18.6	16.4	4.4%
<b>Service Delivery</b>	9.4	11.1	9.4	-0.2%
<b>Public Relations</b>	4.5	4.5	4.0	12.6%
<b>Safety Related</b>	3.2	3.0	3.0	7.6%

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



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



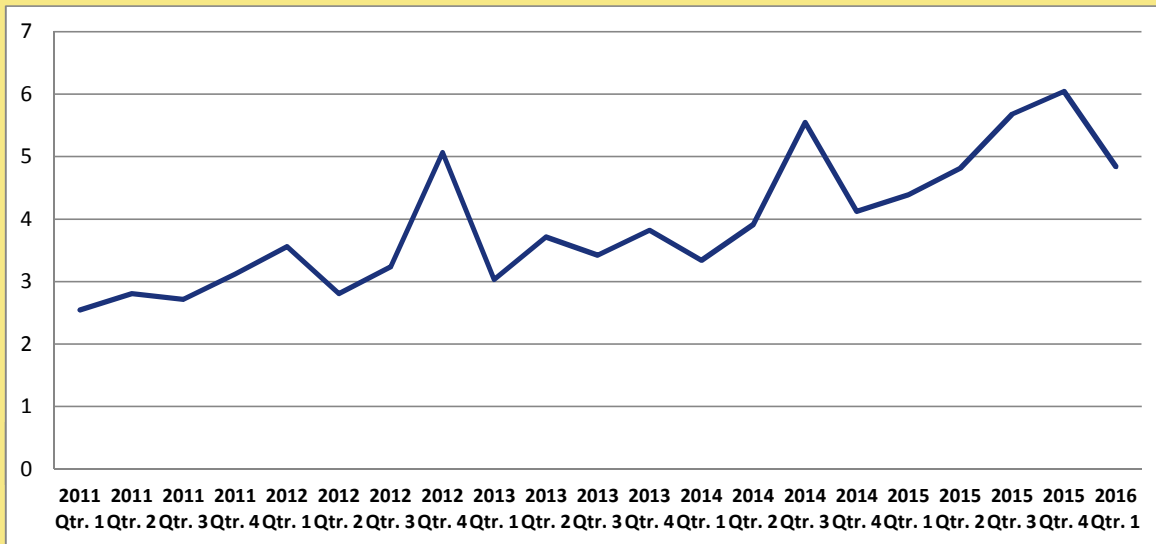
Fixed Route Bus



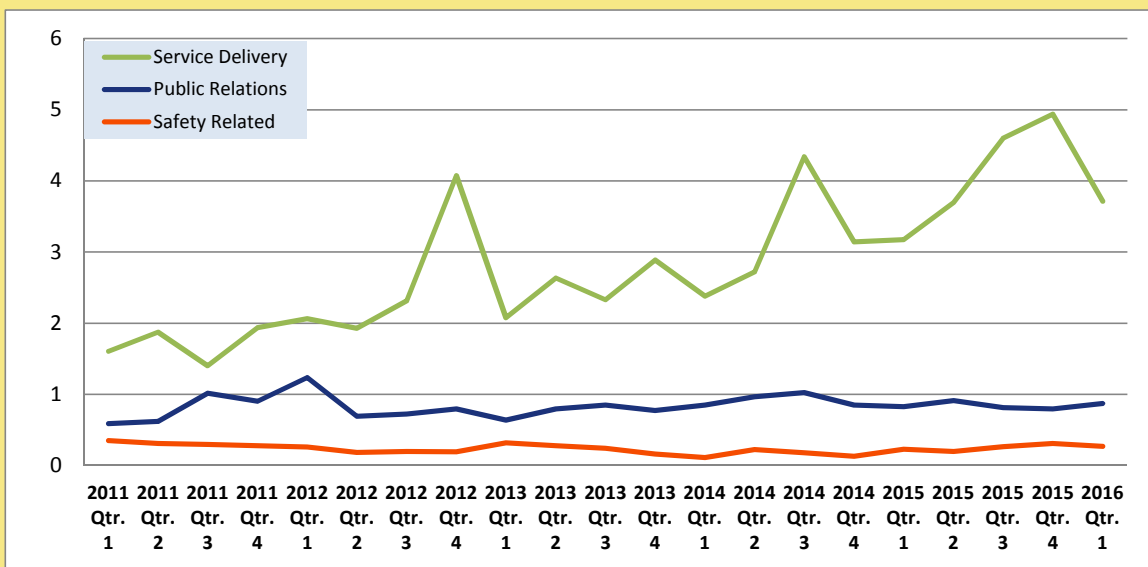
### MAX Light Rail Complaints Per 100,000 Boarding Rides

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015 Percent Change</u>
<b>Total</b>	4.8	6.0	4.4	10.3%
<b>Service Delivery</b>	3.7	4.9	3.2	17.0%
<b>Public Relations</b>	0.9	0.8	0.8	5.6%
<b>Safety Related</b>	0.3	0.3	0.2	17.1%

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



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

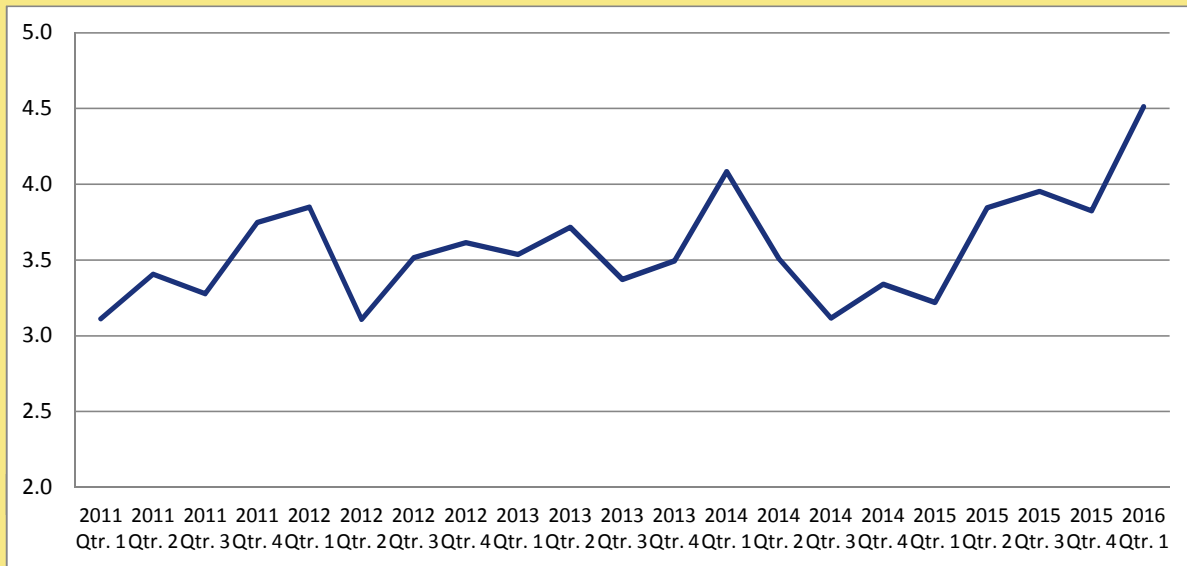


MAX Light Rail

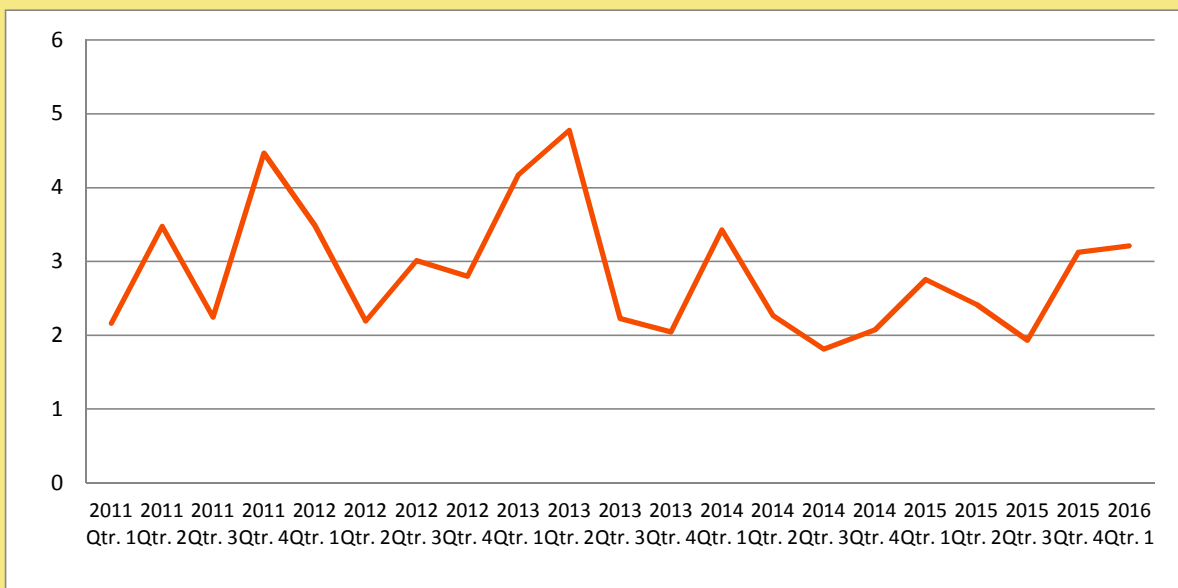
### Fixed Route Bus and MAX Light Rail Commendations

	<u>2016 Qtr. 1</u>	<u>2015 Qtr. 4</u>	<u>2015 Qtr. 1</u>	<u>2016 - 2015 Percent Change</u>
<b>Fixed Route Bus</b> Per 100,000 Boardings	4.5	3.8	3.2	40.2%
<b>MAX Light Rail</b> Per Million Boardings	3.2	3.1	2.8	16.5%

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



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



TriMet Bus and MAX Commendations

