



High Quality Service through Continuous Improvement

2015 3rd Quarter Performance Report

TriMet Board Briefing December 9, 2015

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-steps 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 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, Maintenance of Way, and Fare Equipment Maintenance all exceeded preventive maintenance objectives for the 2015 3rd Quarter as set by the Federal Transit Administration. Rail Equipment Maintenance (REM) fell two percentage points below the objective for the Quarter. However, the year-to-date REM preventive maintenance performance continues to exceed the objective. The slight decline in REM was due in part to conflicting maintenance activities and training requirements attributable to in-servicing the new Type 5 light rail vehicles in preparation for the start-up of the Orange line in September and also due to unplanned maintenance requirements generated by the light rail vehicle water intrusion event on October 31.*
- *Fixed route bus improved in miles traveled between service related repairs over the 2014 3rd Quarter, posting a significant gain of approximately 40%. This gain reflects the improving reliability of the new bus fleets. MAX light rail declined 4.6% from the 2014 3rd Quarter mean distance between failures. This slight decline reflects the usual and customary expected reliability issues of the new light rail vehicles, which are improving as the new vehicles accumulate more revenue mileage and as the maintenance team identifies and corrects problem areas.*
- *Overall Maintenance attendance remains steady overall but was slightly down from the 2014 3rd Quarter by 0.5%.*

2. Service Delivery

Goal: Ensure efficient service delivery by creating staffing levels and reporting structure that increase the ability to respond quickly to service needs and customers. Improve route design and service delivery through ongoing line reviews.

Key Performance Indicators: On time performance, operator attendance, and boarding rides per revenue hour.

- *Fixed route bus on time performance was up over the 2014 3rd Quarter by 1.1%. MAX on time performance declined by 6.7% from the 2014 3rd Quarter. This decrease in MAX on time performance is mostly attributable to many new light rail operators and rail controllers who continue to learn and refine their skills while operating in real time revenue service. Also contributing to the decline in MAX on time performance was the Orange line start-up, which generally requires a smoothing out of the new schedule over a period of time. That schedule will be adjusted in the December service change, and should result in improved Orange/Yellow line performance. Additionally and as highlighted earlier, the light rail vehicle water intrusion event in late October contributed to the drop off in MAX on time performance. WES Commuter Rail dropped from 98.1% on time performance from the 2014 3rd Quarter to 91.1% in the 2015 3rd Quarter. This decline is mostly attributable to ongoing testing of the new positive train control system and right-of-way maintenance, each of which intermittently impacts the movement of trains.*
- *Transportation employee attendance held steady at 91.1% in the 2015 3rd Quarter, matching the same level reported in the 2014 3rd Quarter.*
- *System-wide boarding rides per revenue hour decreased by 3.2 boarding rides from the 2014 3rd Quarter. This reflects slight declines in ridership in the Quarter and the impact of low fuel prices, which generally increase motorists' car miles driven.*

3. Operator Support

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

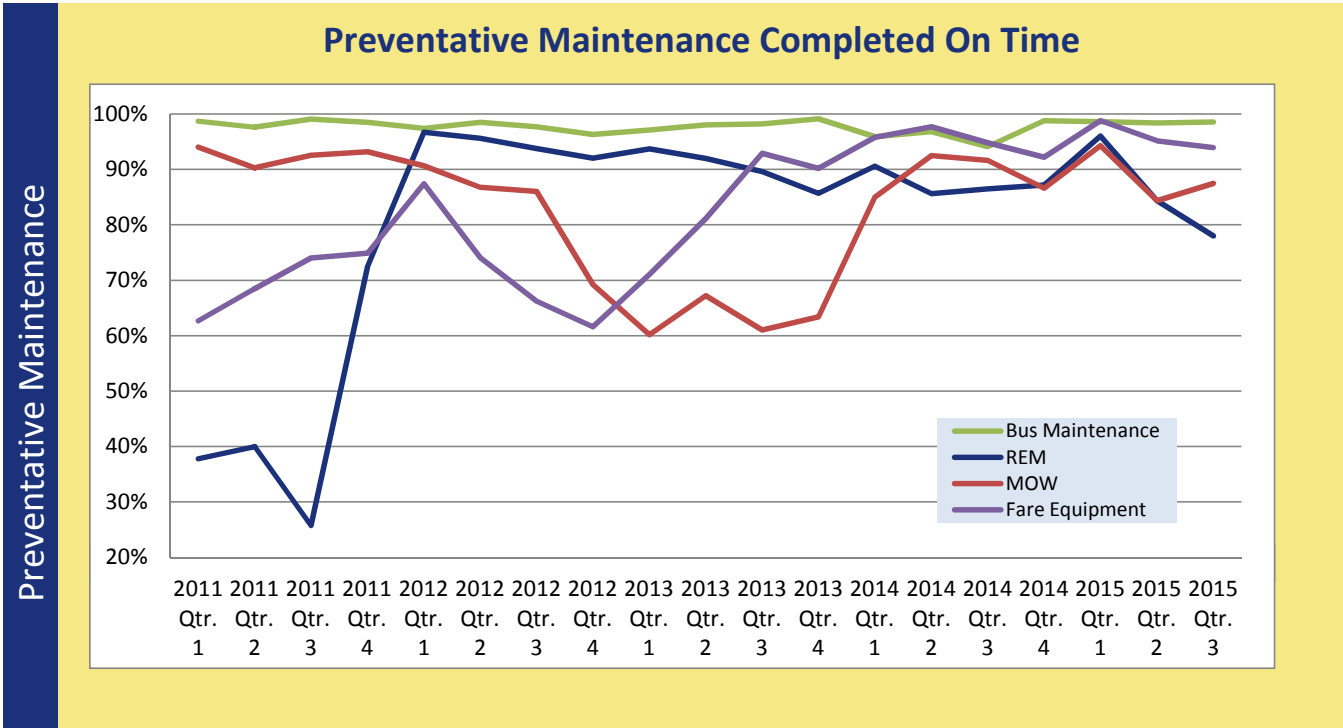
Key Performance Indicators: annual operator recertification training rate, collisions, complaints and commendations.

- *Bus and MAX light rail operator annual training and recertification for Fiscal Year 2016 commenced in October for bus operators and in November for light rail employees. The recertification training is on target for completion as scheduled.*

- *Bus collisions per 100,000 miles increased slightly by 0.09 collisions in the 2015 3rd Quarter over the 2014 3rd Quarter. MAX light rail collisions per 100,000 miles traveled also increased slightly by 0.06 collisions from the 2014 3rd Quarter. In each instance, the contributing factor remains the high number of new operators. As the new operators gain experience, improvement in this area is anticipated.*
- *Bus operator complaints per 100,000 boarding rides increased from 18.5 in the 2014 3rd Quarter to 19.4 in the 2015 3rd Quarter. MAX operator complaints per 100,000 boarding rides increased by 0.20 complaints, going from 5.5 complaints per 100,000 boarding rides in the 2014 3rd Quarter to 5.7 in the 2015 3rd Quarter. This increase was mostly in the broad category called "Service Delivery" and reflects the large number of new light rail operators as well as the drop in MAX on time performance referenced above in the first bullet under item 2, Service Delivery.*
- *Commendations received for fixed route bus per 100,000 boarding rides increased by 26.9%, going from 3.1 commendations per 100,000 boarding rides in the 2014 3rd Quarter to 4.0 commendations in the 2015 3rd Quarter. MAX commendations per million boarding rides in the 2015 3rd Quarter held steady against the 2014 3rd Quarter.*

Preventative Maintenance Completed On Time

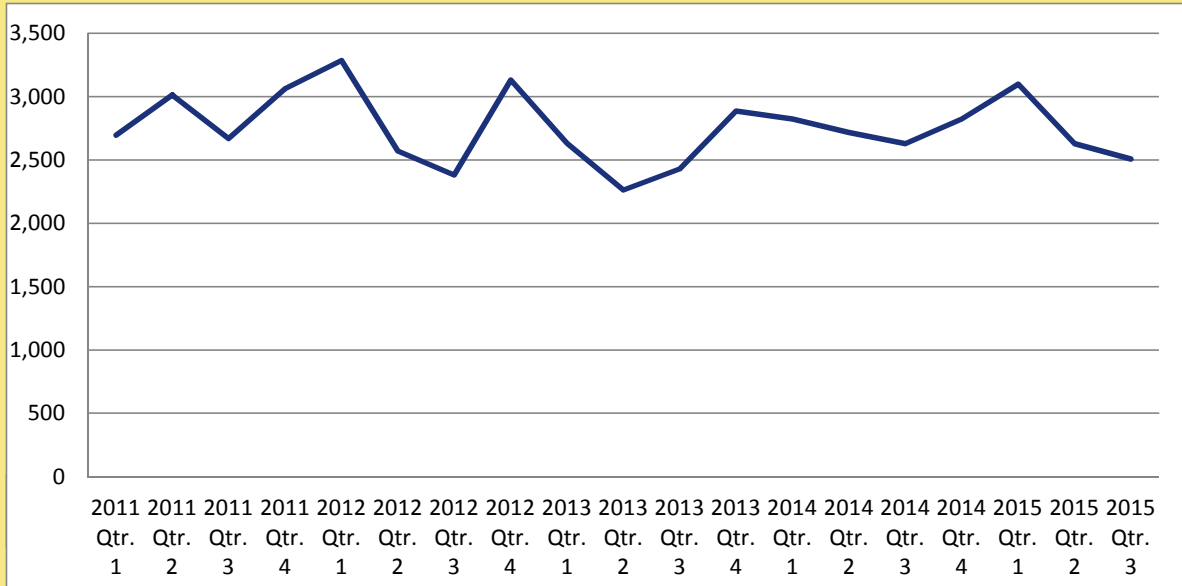
	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Pt. Change</u>
Bus Maintenance	98.5%	98.4%	94.1%	4.4%
REM	78.0%	84.4%	86.5%	-8.5%
MOW	87.5%	84.3%	91.6%	-4.1%
Fare Equipment	93.9%	95.2%	94.8%	-0.9%



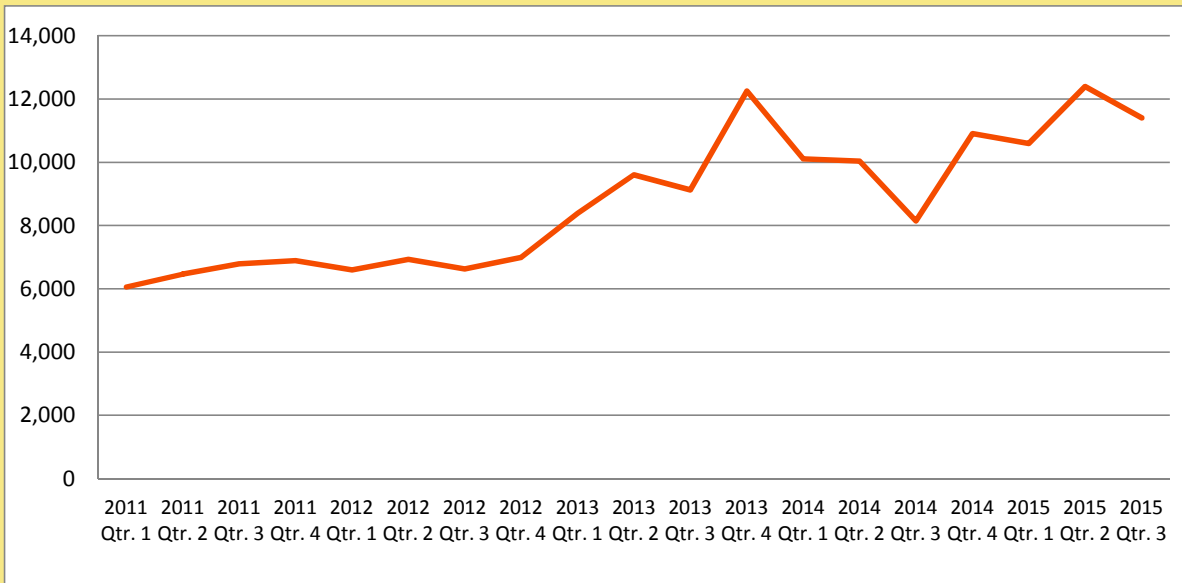
Mean Distance Between Failures (MDBF)

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014 Percent Change</u>
MAX Light Rail	2,507	3,098	2,627	-4.6%
Fixed Route Bus	11,399	10,590	8,150	39.9%

MAX Light Rail Car Miles / Service Related Repairs



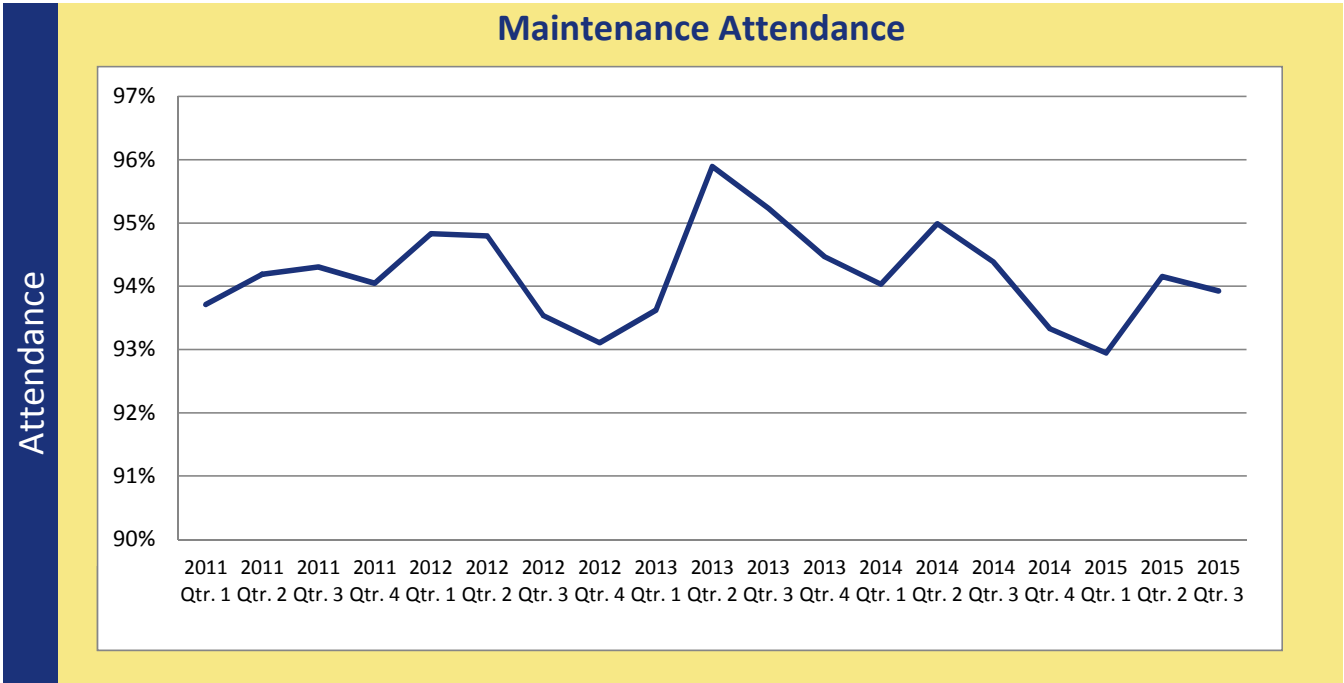
Fixed Route Bus Miles Between Mechanical Failures - Lost Service



Mean Distance Between Failures (MDBF)

Maintenance Employee Attendance

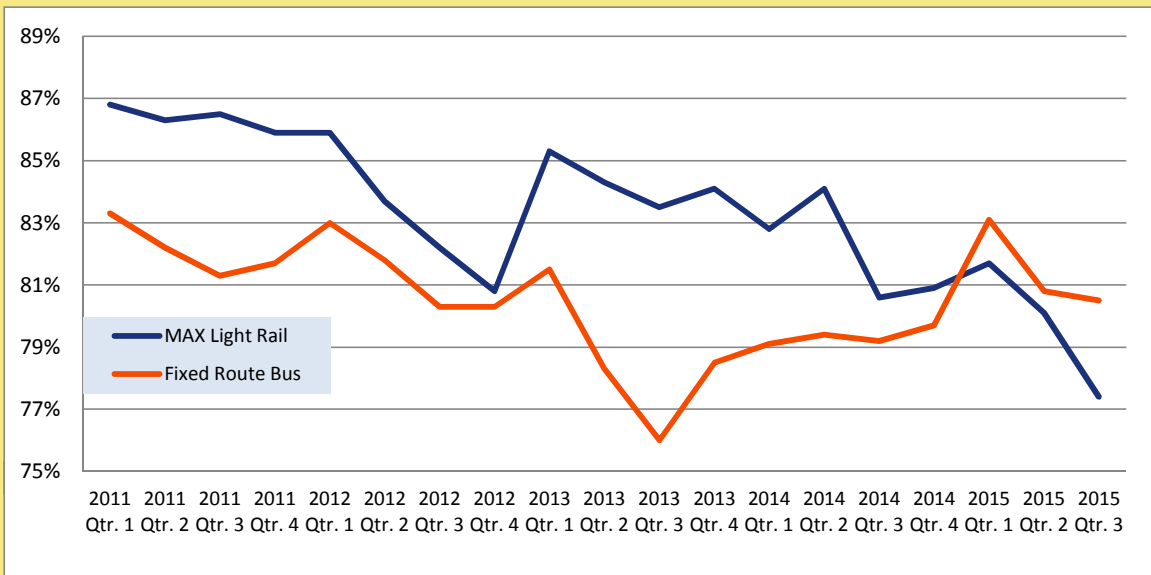
	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Pt. Change</u>
Maintenance	93.9%	94.2%	94.4%	-0.5%



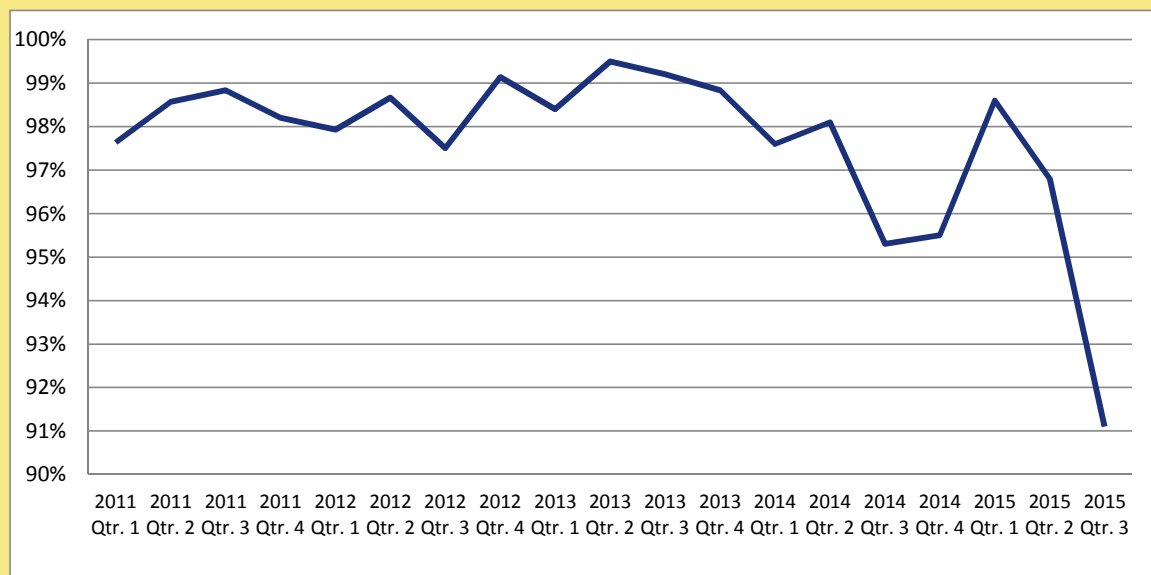
On Time Performance

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Pt. Change</u>
Fixed Route Bus	80.5%	80.8%	79.4%	1.1%
MAX Light Rail	77.4%	80.1%	84.1%	-6.7%
WES Commuter Rail	91.1%	96.8%	98.1%	-7.0%

Bus and MAX Light Rail OTP



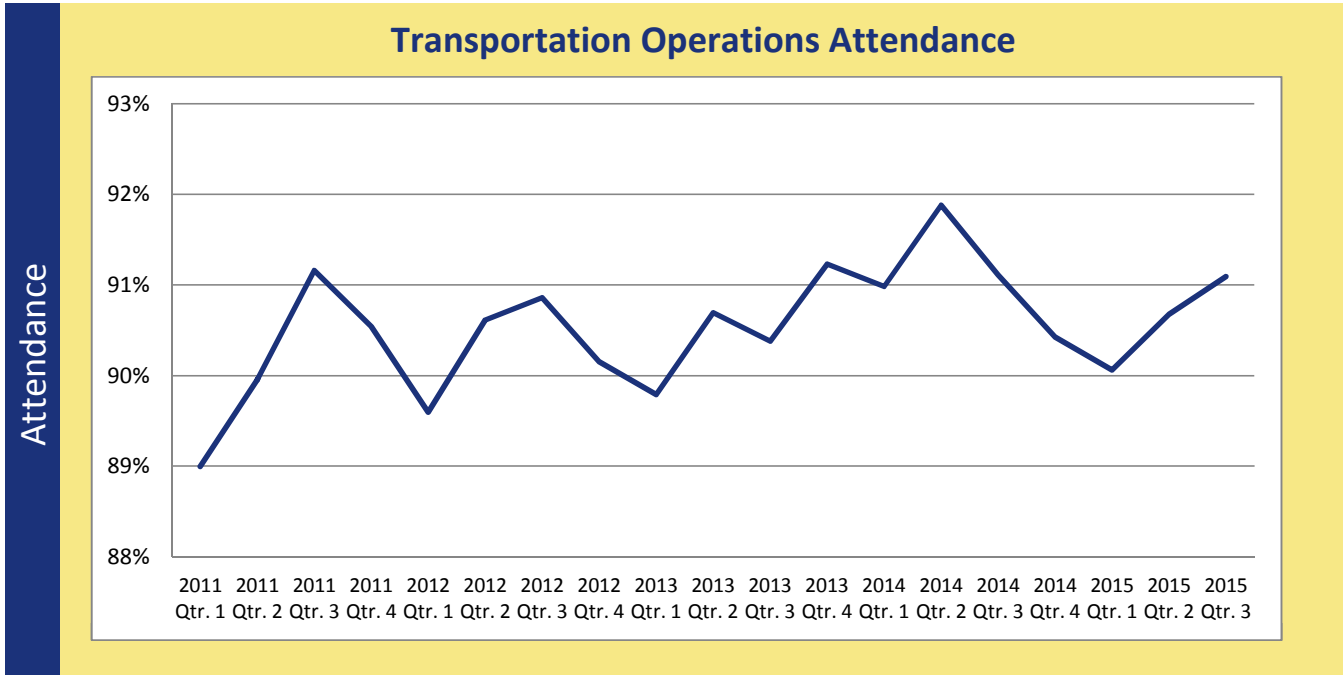
WES Commuter Rail OTP



On Time Performance

Transportation Operations Employee Attendance

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Pt. Change</u>
TransOps	91.1%	90.7%	91.1%	0.0%

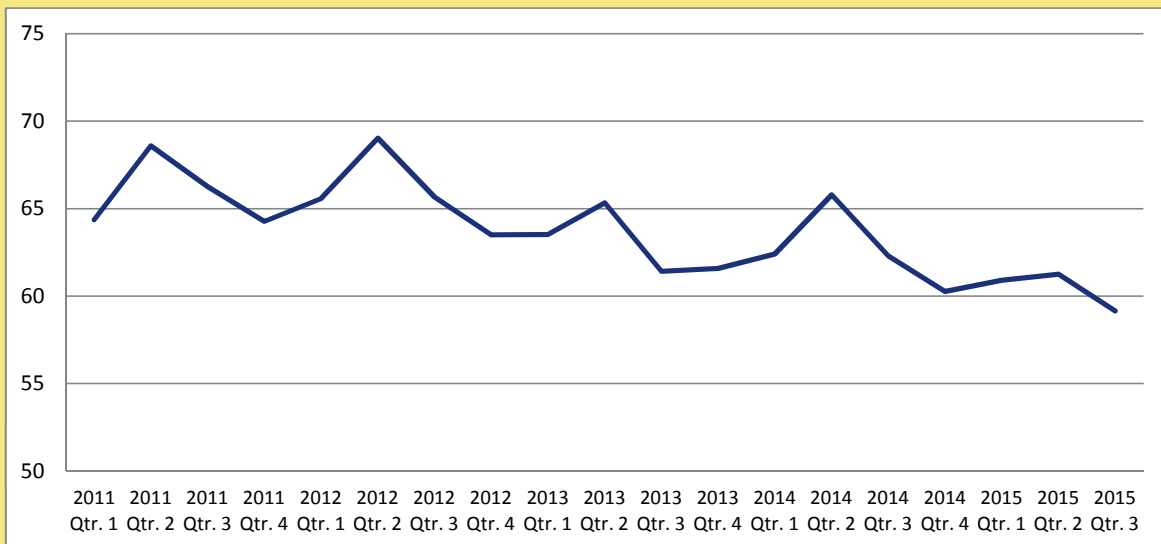


Boarding Rides Per Revenue Hour

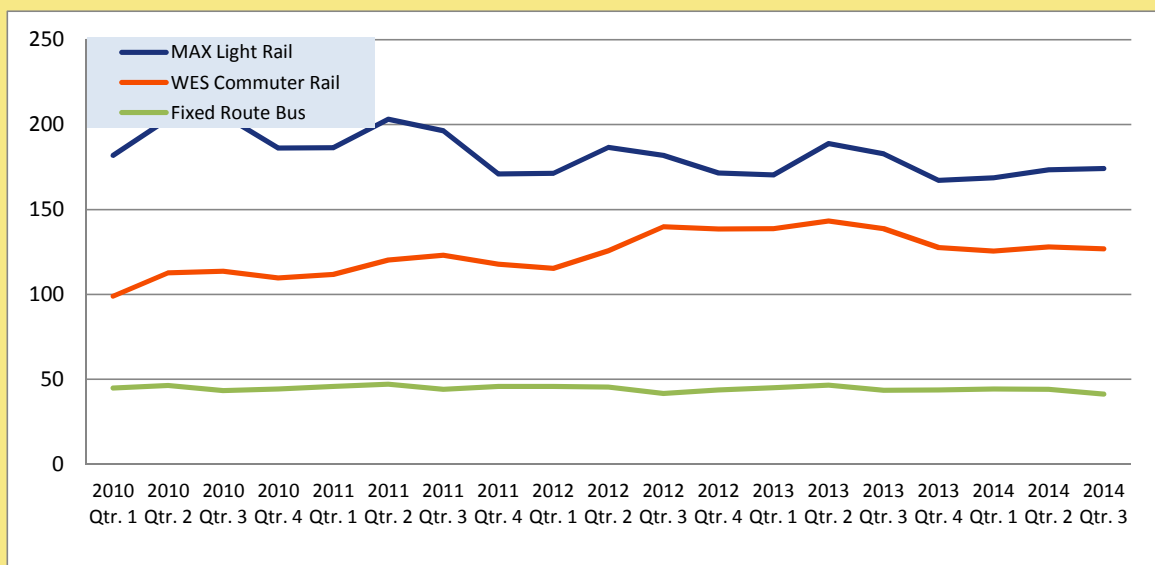
	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Change</u>
Total	59.1	61.3	62.3	-5.1%
Fixed Route Bus	41.3	44.0	43.6	-5.2%
MAX Light Rail	174.2	173.4	182.7	-4.7%
WES Commuter Rail	126.9	127.9	138.7	-8.5%

TriMet Boarding Rides Per Revenue Hour

Total Fixed Route Rides Per Revenue Hour



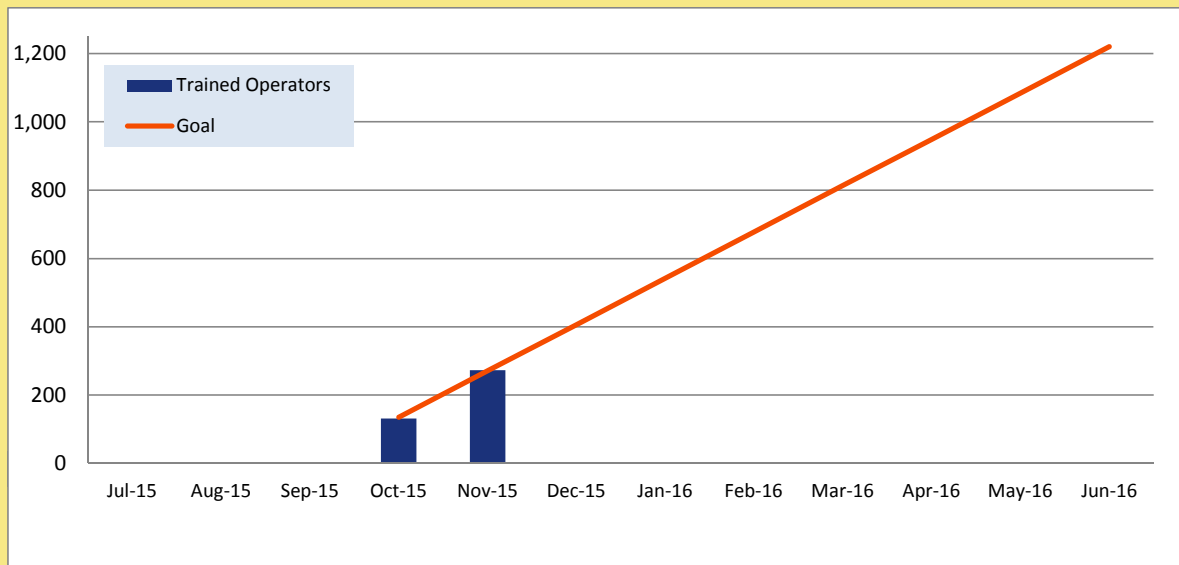
Rides Per Revenue Hour By Mode



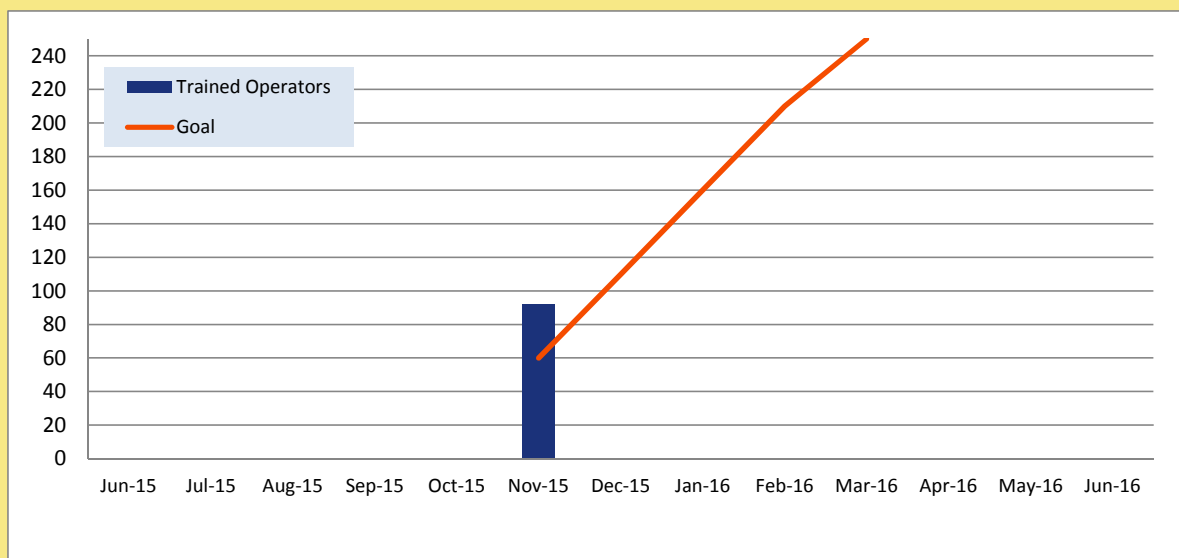
Annual Operator Recertification Training

	<u>Sep-15</u>	<u>Oct-15</u>	<u>Nov-15</u>	<u>Fiscal Year</u>
Bus Trained	-	132	273	
Cumulative Goal	-	136	271	1,220
MAX Trained	-	-	92	
Cumulative Goal	-	-	60	250

Bus Operator Annual Recertification - Actual to Goal



MAX Light Rail Annual Recertification - Actual to Goal

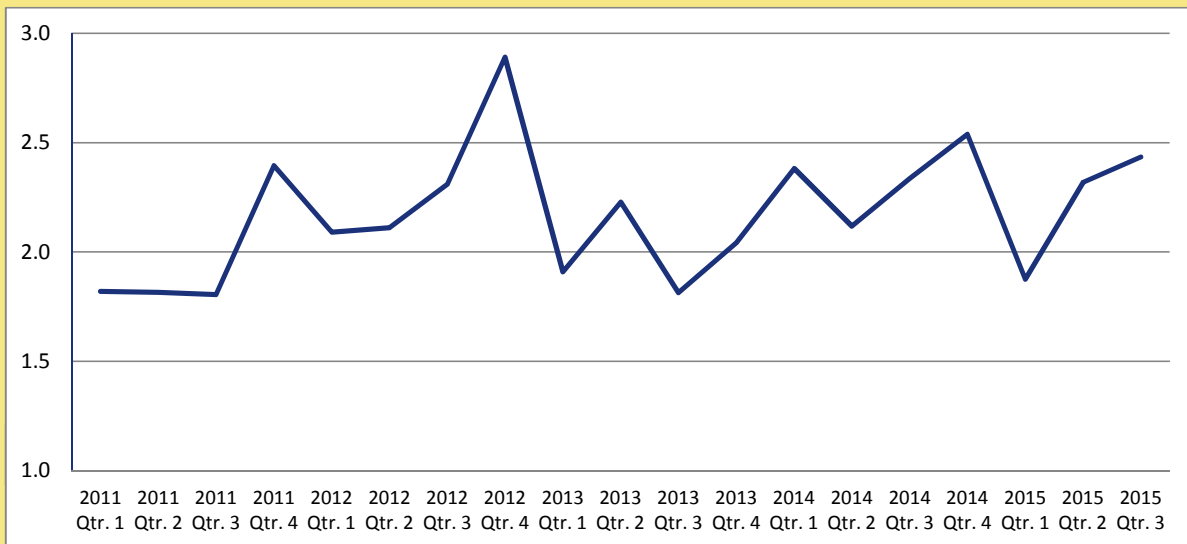


Operator Recertification Training

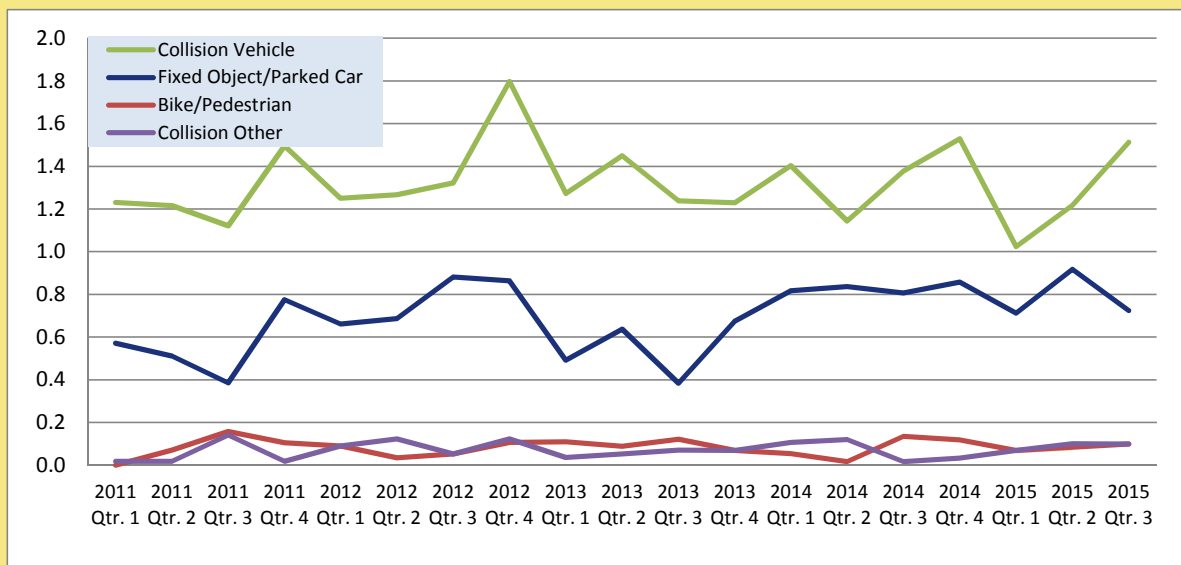
Fixed Route Bus Collisions Per 100,000 Miles

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Change</u>
Total	2.43	2.32	2.34	4.2%
Collision Vehicle	1.51	1.22	1.38	9.8%
Fixed Object/Parked Car	0.72	0.92	0.81	-10.3%
Bike/Pedestrian	0.10	0.08	0.13	-26.6%
Collision Other	0.10	0.10	0.02	487.0%

Total Bus Collisions Per 100,000 Miles



Bus Collision Types Per 100,000 Boarding Rides

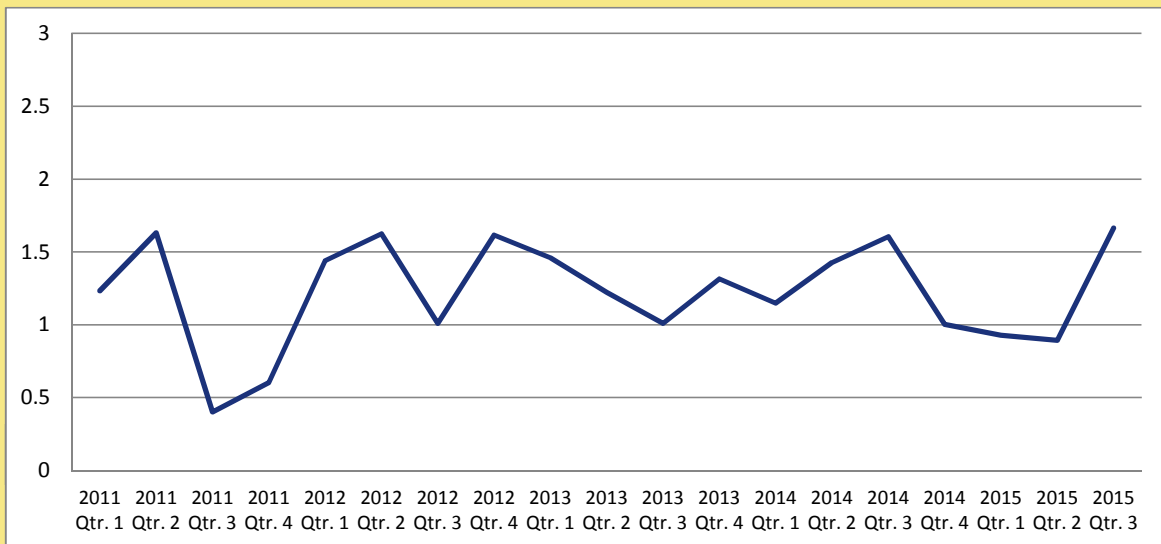


Fixed Route Bus

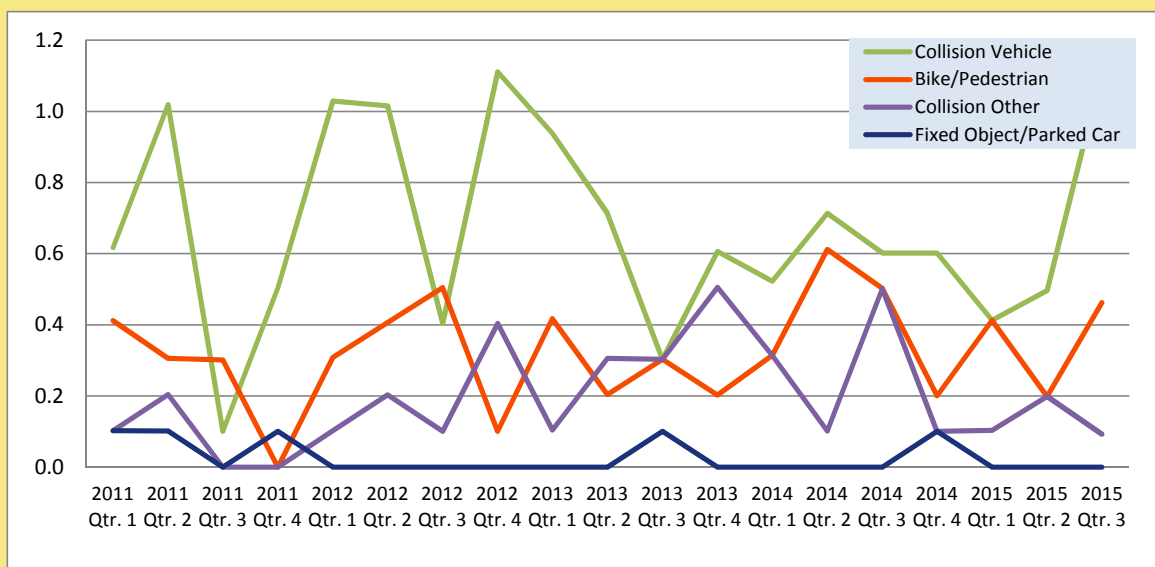
MAX Light Rail Collisions Per 100,000 Miles

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Change</u>
Total	1.67	0.89	1.61	3.7%
Collision Vehicle	1.11	0.50	0.60	84.4%
Fixed Object/Parked Car	-	-	-	0.0%
Bike/Pedestrian	0.46	0.20	0.50	-7.8%
Collision Other	0.09	0.20	0.50	-81.6%

MAX Light Rail Collisions Per 100,000 Miles



MAX Collision Types Per 100,000 Boarding Rides

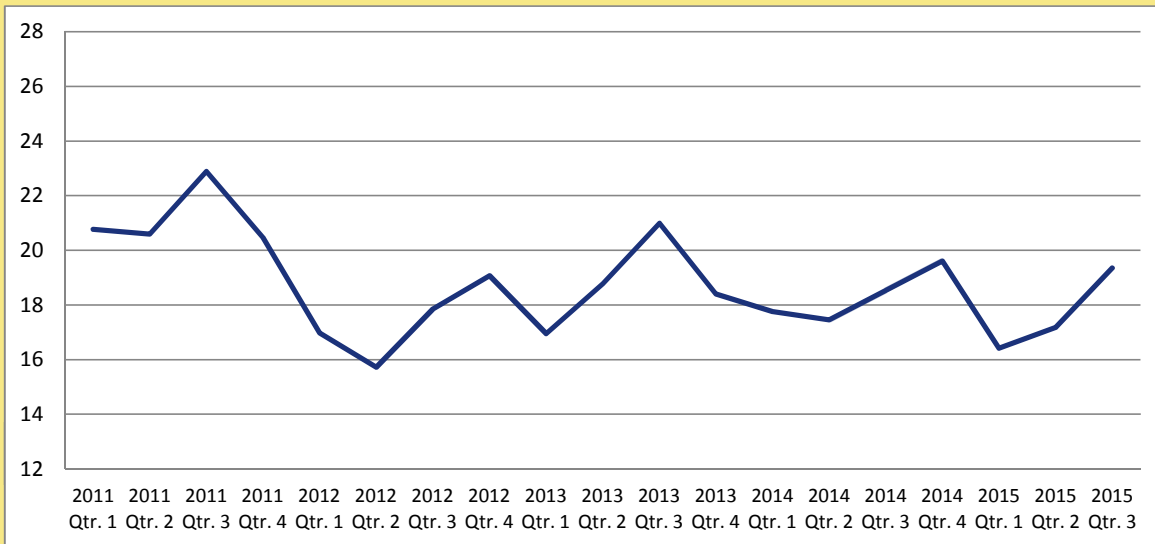


MAX Light Rail

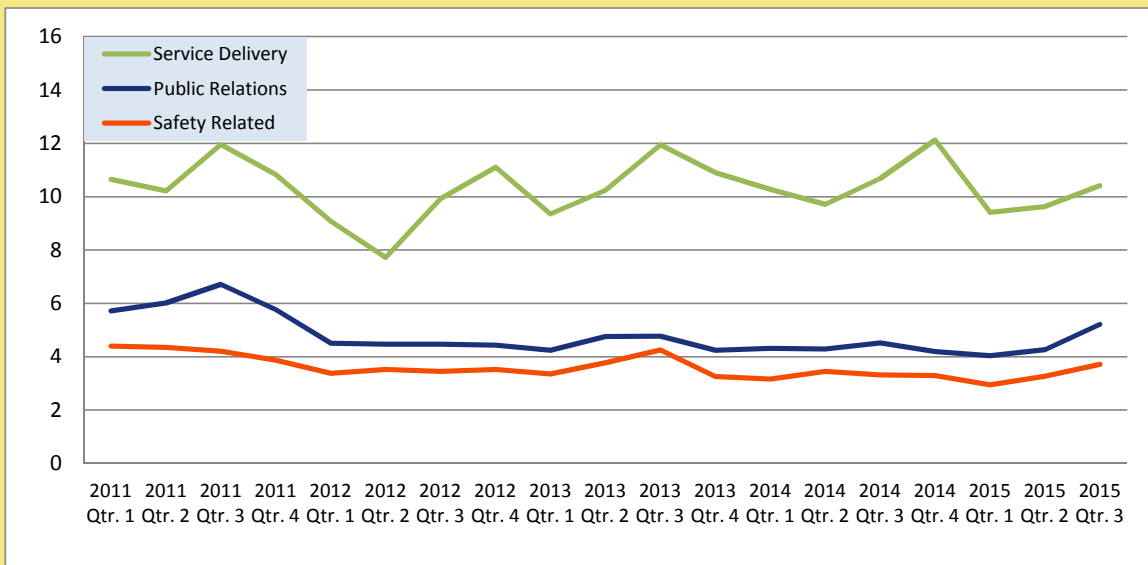
Fixed Route Bus Complaints Per 100,000 Boarding Rides

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Change</u>
Total	19.4	17.2	18.5	4.5%
Service Delivery	10.4	9.6	10.7	-2.5%
Public Relations	5.2	4.3	4.5	15.4%
Safety Related	3.7	3.3	3.3	11.9%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

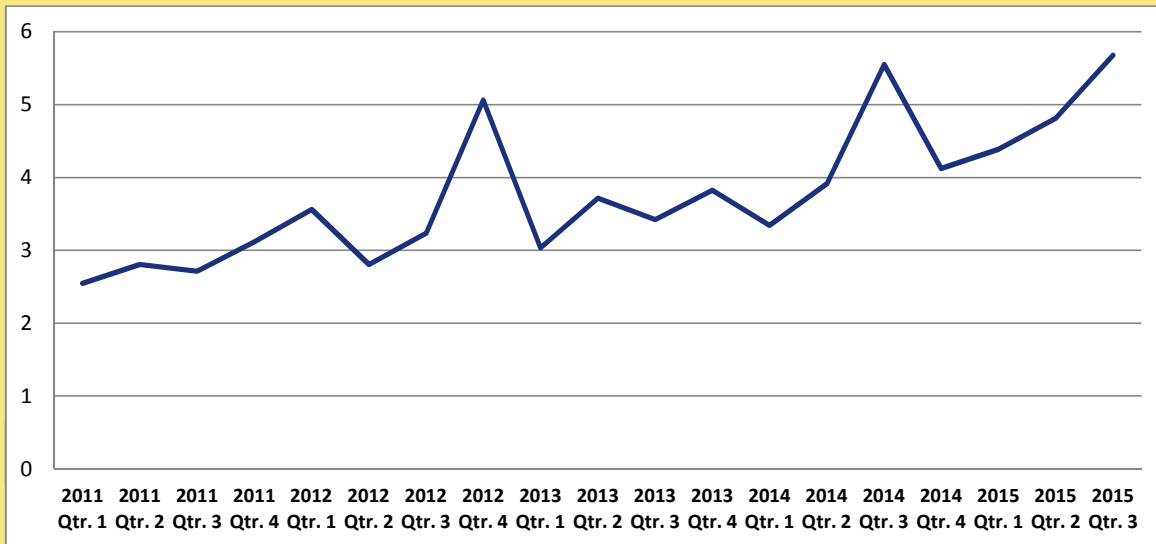


Fixed Route Bus

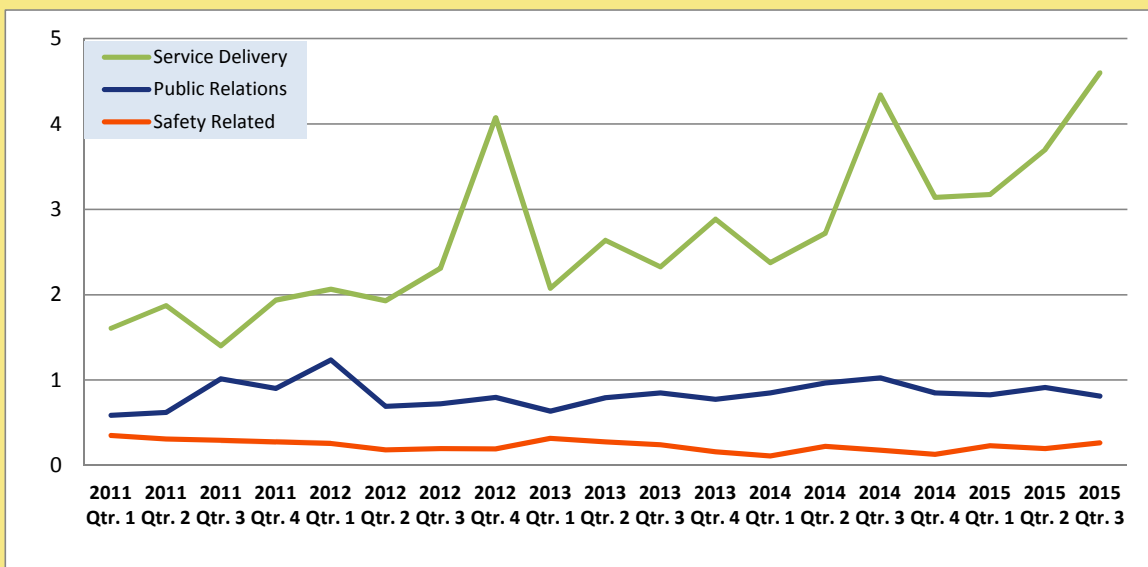
MAX Light Rail Complaints Per 100,000 Boarding Rides

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014</u> <u>Percent Change</u>
Total	5.7	4.8	5.5	2.4%
Service Delivery	4.6	3.7	4.3	6.0%
Public Relations	0.8	0.9	1.0	-20.7%
Safety Related	0.3	0.2	0.2	46.0%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

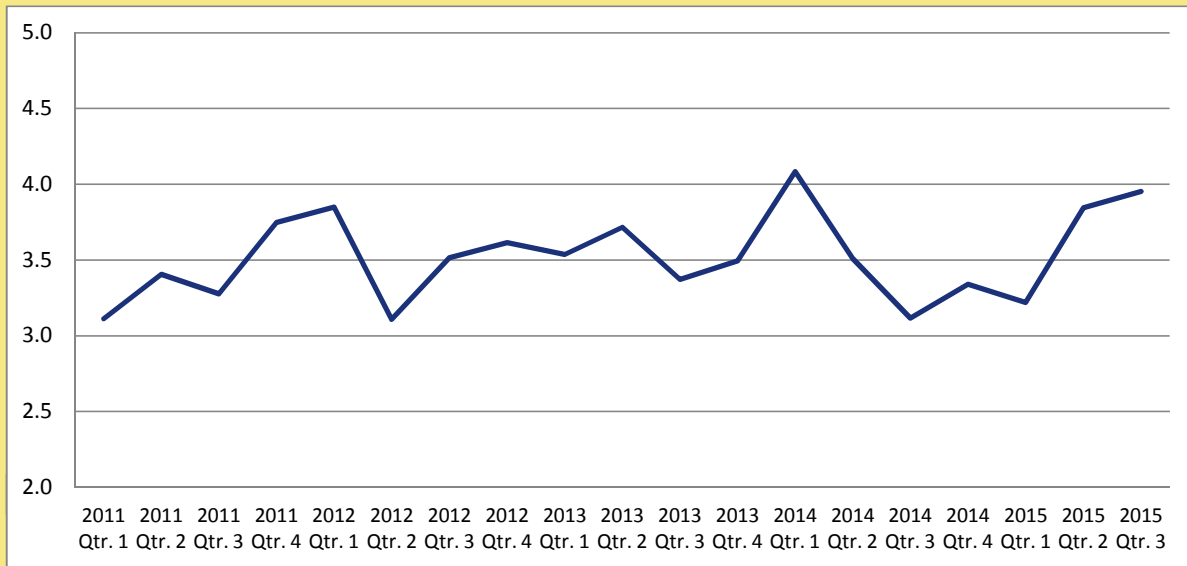


MAX Light Rail

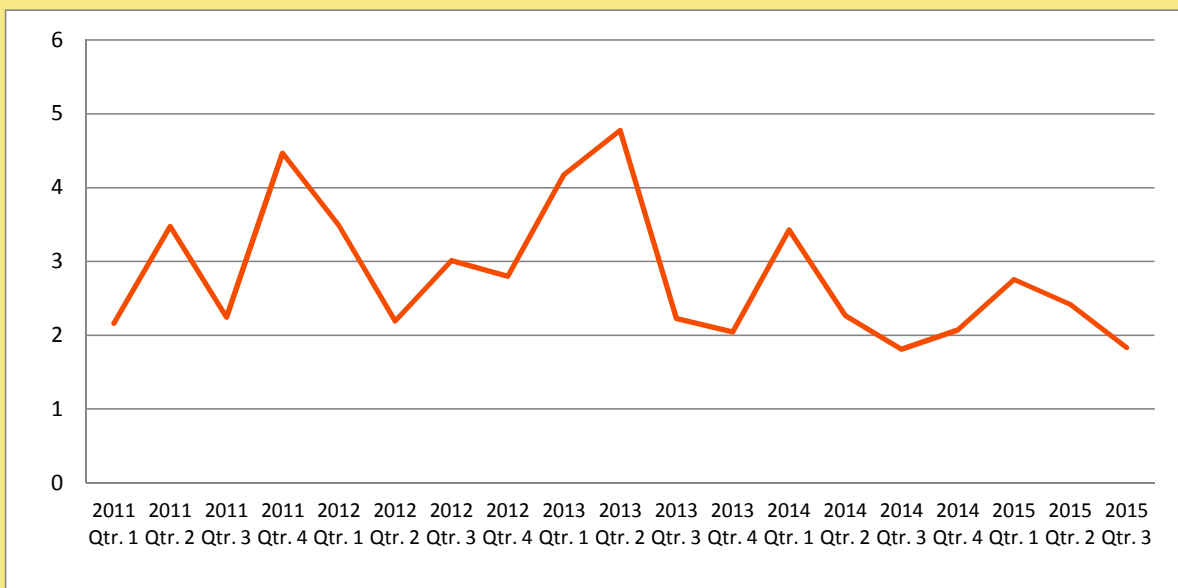
Fixed Route Bus and MAX Light Rail Commendations

	<u>2015 Qtr. 3</u>	<u>2015 Qtr. 2</u>	<u>2014 Qtr. 3</u>	<u>2015 - 2014 Percent Change</u>
Fixed Route Bus Per 100,000 Boardings	4.0	3.8	3.1	26.9%
MAX Light Rail Per Million Boardings	1.8	2.4	1.8	1.1%

Total Bus Operator Commendations Per 100,000 Boarding Rides



Total MAX Light Rail Commendations Per Million Boarding Rides



TriMet Bus and MAX Commendations