High Quality Service through Continuous Improvement
2018 1st Quarter Performance Report
TriMet Board Meeting, June 27, 2018

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 employee attendance.

    - *Preventive maintenance compliance for all disciplines exceeded 95% this quarter, a marked improvement over the past year during which Bus Maintenance and Rail Equipment Maintenance (REM) compliance hovered near the Federal Transit Administration's preventive maintenance target of 80% at their low points. REM saw the greatest improvement in the past quarter, increasing by about 9 percentage points to 96.0%. Bus Maintenance and Maintenance of Way (MOW) performance improved slightly over the past quarter, while Fare Equipment remained near 100% of PM work completed on time.*

    - *MAX light rail MDBF (Mean Distance Between Failures) performance has demonstrated a strong quarter of performance increasing by 62.3% over the previous year and up 35.1% from the past quarter as well. While the older Type 1 vehicles continue to have the lowest MDBF, all Types have improved in the past year with Types 2 and 5 showing the greatest improvement.*

    - *Fixed route bus MDBF has increased by 63.9% over the previous year, to 15,449 miles, and increased 7.3% over the past quarter. Retirement of older, less-reliable buses has been a factor.*

    - *Maintenance attendance has remained steady at about 93% compared to 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 (OTP), operator attendance, and boarding rides per revenue hour.

   - *At 87.4% bus service OTP has improved by 6.2 percentage points over the previous year, and increased over the last quarter. This is a result of many continuing OTP initiatives and strategies.*

   - *MAX service OTP increased by 5.0 percentage points over the past year to 90.1% in Qtr 1 2018. The next round of identified OTP opportunities is continuing across the organization.*

   - *WES OTP decreased 4.1 percentage points from 96.0% (Qtr 1 2017) to 91.9% (Qtr 1 2018). Rail construction-related speed restrictions in February were significant contributing factors. This is expected to improve in the quarters going forward.*

   - *Transportation employee attendance has remained steady over the past year, near 89%, but declined 1 percentage point compared to the last quarter.*

   - *Boarding rides per revenue hour overall declined by 4.1% compared to Qtr 1 2017.*

     - *Bus boardings per revenue hour are down 3.7%, and MAX boardings per revenue hour are down by 3.5%. Total boarding rides decreased by 2.5% compared to the same quarter last year, when numerous protests boosted ridership. Another contributing factor was increased service, particularly for bus, which increased revenue hours over the past year.*

     - *WES boarding rides per revenue hour were down 11.1% from the past year. The loss of jobs in the corridor, as a number of large employers have been laying off staff or closing over the past year, has resulted in ridership declines. For example, Convergys has closed their call center adjacent to the Wilsonville WES Station. At its peak over 800 were employed at that location. Renewed marketing efforts are underway and will be monitored for effectiveness over time.*

3. **Operator Support**

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

   Key Performance Indicators: Collisions, complaints, commendations, and rail rule violations.

   - *Total bus collisions are down by 26.2% compared to last year and down from the previous quarter. Fewer snow and ice days in Qtr 1 2018 compared to Qtr 1 2017 played a role. Collisions are also down from two years ago indicating a sustained downward trend. All categories saw a decrease in the number of incidents over the past year except for the "Collision Other" category, which had 1 more incident this quarter compared to last year. This category contains collisions with railroad gate arms, animals, rolling carts, and other items.*

   - *MAX collisions have declined by 22% from the prior year but are up 31% from the prior quarter. Collisions with vehicles decreased by half compared to the previous year. As with bus, fewer snow and ice days contributed to the result. There was 1 more bike/pedestrian incident and 2 more "Collision Other" incidents this quarter, compared to Qtr 1 2017. "Collision Other" includes animals,*

yard derailments, and other infrequent items. The overall number of MAX collisions is small, so a small increase or decrease can appear as a large percentage change.

- *Total fixed route bus complaints per 100,000 boarding rides are down 20.8% compared to the past year and down compared to last quarter as well. Per 100,000 boarding rides, this quarter saw 4.5 fewer Service Delivery complaints, a similar number of Public Relations complaints, and 0.6 more Safety Related complaints compared to one year ago.*

- *Total MAX complaints per 100,000 boarding rides are down more than 50% compared to the previous year. Per 100,000 boarding rides, this quarter saw 2.8 fewer Service Delivery complaints, a similar number of Public Relations complaints, and 0.2 more Safety Related complaints compared to one year ago. Most Safety Related complaints were regarding other riders. The overall occurrence per 100,000 boardings is very low indicating strong performance in this area.*

- *Bus operator commendations per 100,000 boardings were down from the prior year and down to a lesser degree from the previous quarter. MAX commendations per million boardings were down compared to the prior year but up slightly from the past quarter. Commendations tend to rise during inclement weather due to the exceptional service operators provide in difficult conditions. There were far more weather-related commendations in 2017 Qtr 1 due to more snow and ice than we had in 2018 Qtr 1.*

- *MAX rule violations per million miles increased by 24% compared to last year, but decreased by 6% from the previous quarter. Transportation is working to continue this recent downward trend through improved training and communications. Training and supervisor support will focus on less-experienced rail operators and key locations on the rail network that have been identified as having higher incidents of rule violations.*

  - *Rail Operator training was enhanced by establishing route familiarization modules in the classroom, more operating time on the rail network, and route specific certification. Rail Training Supervisors perform frequent observation rides during the probation period. During a Rail Operator's first two years of service, observation rides are performed each quarter to provide ongoing support and reduce the likelihood of experiencing a rule violation.*

  - *Rail Controllers are making targeted safety announcements to Rail Operators during high risk periods.*

  - *Rail Supervisors are making safety contacts with Rail Operators at high risk locations (e.g., Gateway, Jackson). Rail Supervisors also monitor compliance with speed limits.*

  - *The Transportation Division has implemented a Competency Management System (CMS). The CMS is a program to control and reduce risk. The CMS ensures employees who work in safety sensitive positions are competent to undertake their work. CMS assessments enhance safety by serving as a pro-active method for ongoing feedback between managers and employees. The assessments allow managers the opportunity to provide timely feedback on job behaviors including at-risk behavior and/or competency issues.*
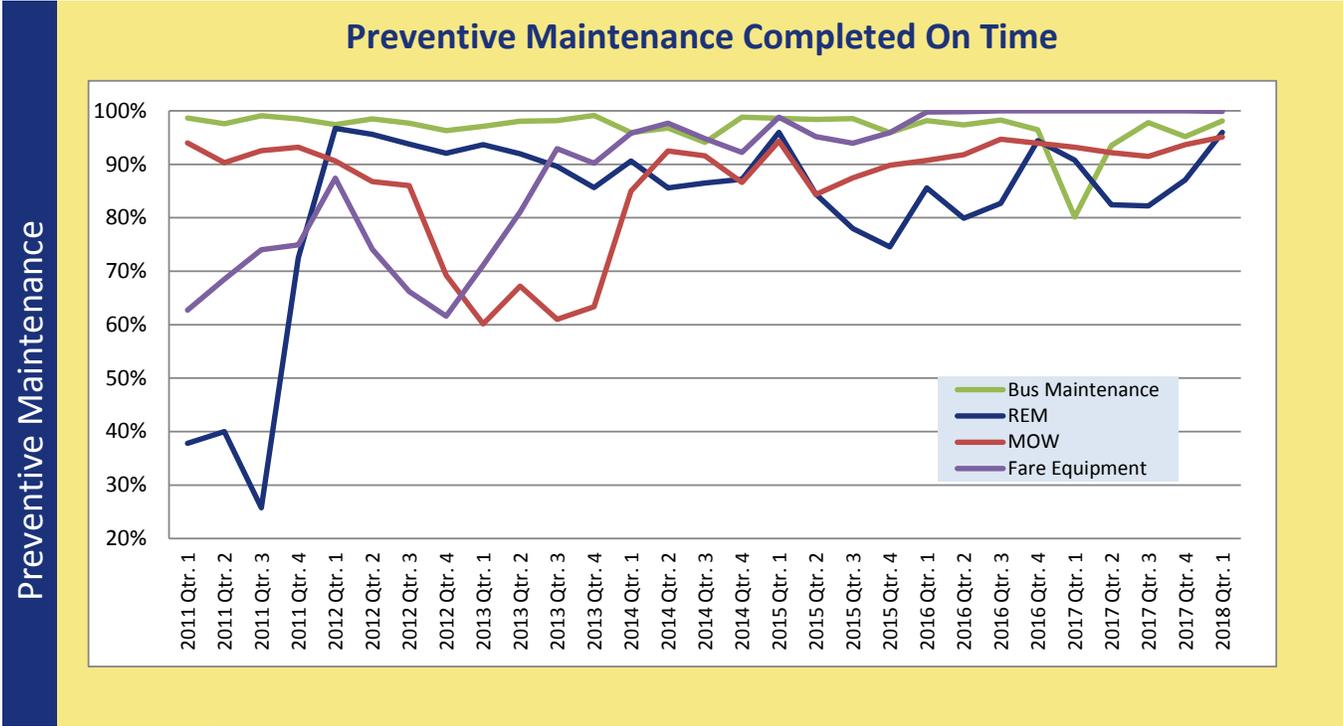
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2018 1st Quarter Report

Quarterly Performance Report

Preventive Maintenance Completed On Time

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Pt. Change
Bus Maintenance	98.1%	95.2%	80.1%	18.0
REM	96.0%	87.1%	90.8%	5.2
MOW	95.1%	93.7%	93.2%	1.9
Fare Equipment	99.9%	100.0%	100.0%	-0.1

Preventive Maintenance Completed On Time

Mean Distance Between Failures (MDBF)

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Change
MAX Light Rail	13,129	9,720	8,091	62.3%
Fixed Route Bus	15,449	14,401	9,426	63.9%

MAX Light Rail MDBF - Lost service
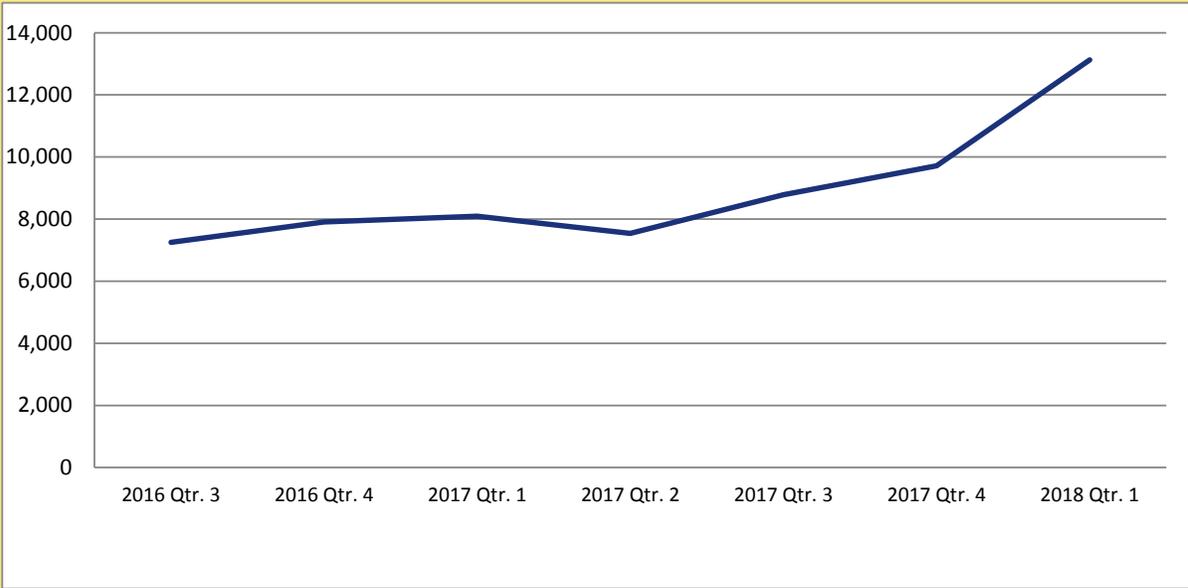
Fixed Route Bus MDBF - Lost Service
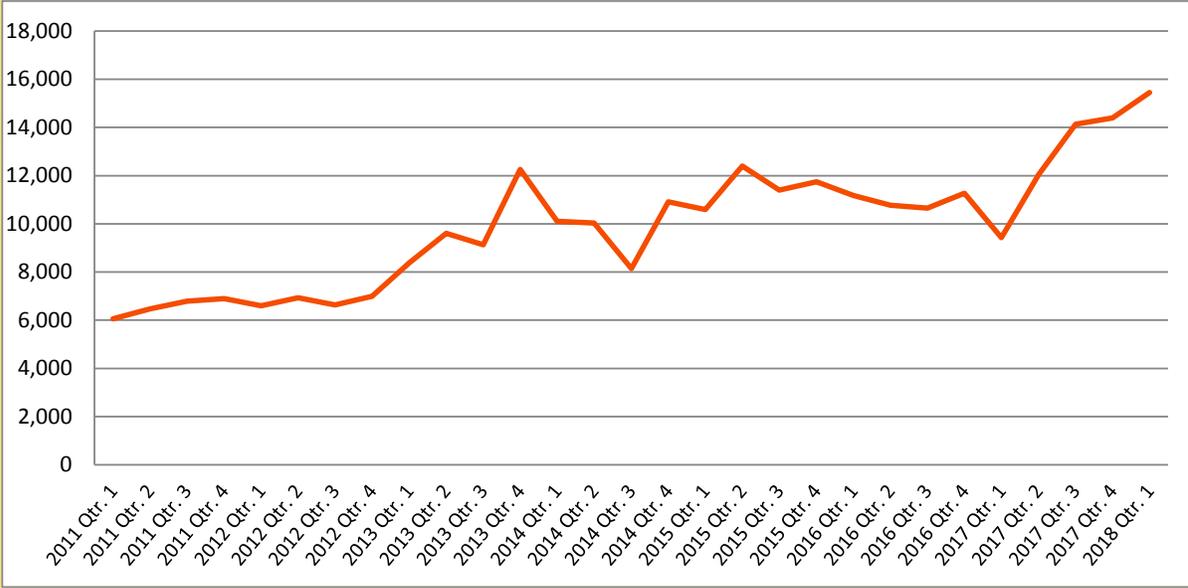
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Maintenance Employee Attendance

	2018 Qtr. 1	**2017 Qtr. 4**	**2017 Qtr. 1**	**2018 - 2017** **Percent Pt. Change**
Maintenance	92.5%	93.1%	92.9%	-0.4

Maintenance Attendance
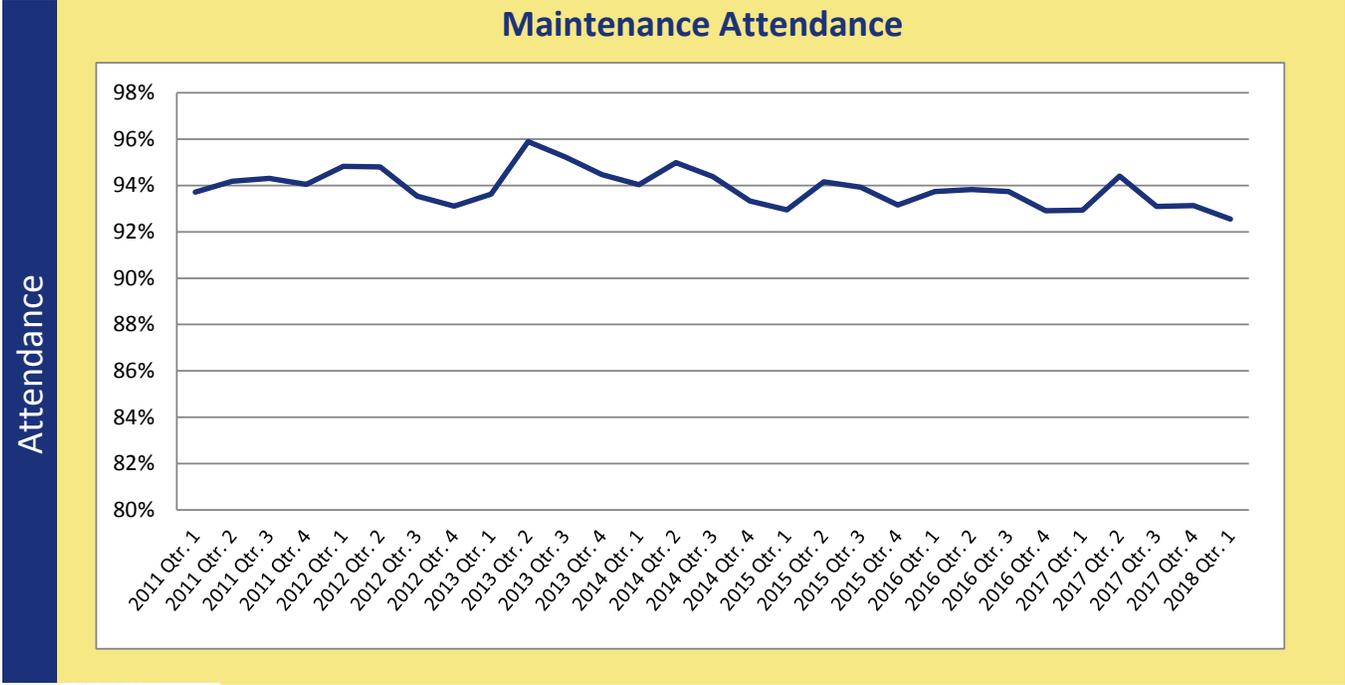
On Time Performance

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Pt. Change
Fixed Route Bus	87.4%	86.2%	81.2%	6.2
MAX Light Rail	90.1%	89.2%	85.1%	5.0
WES Commuter Rail	91.9%	96.0%	96.0%	-4.1

On Time Performance

Bus and MAX Light Rail OTP
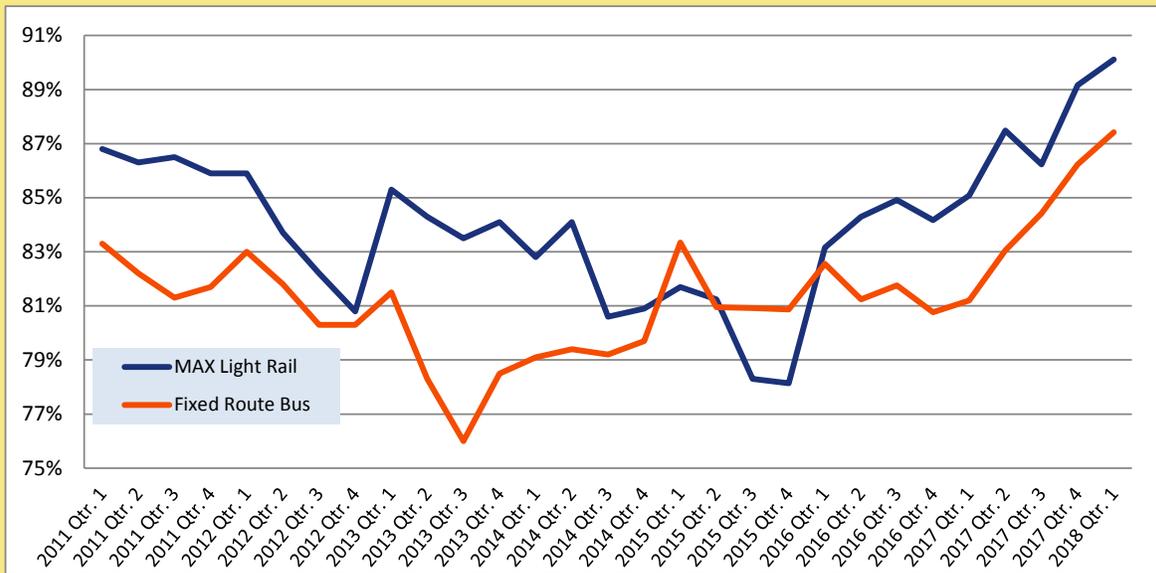
WES Commuter Rail OTP
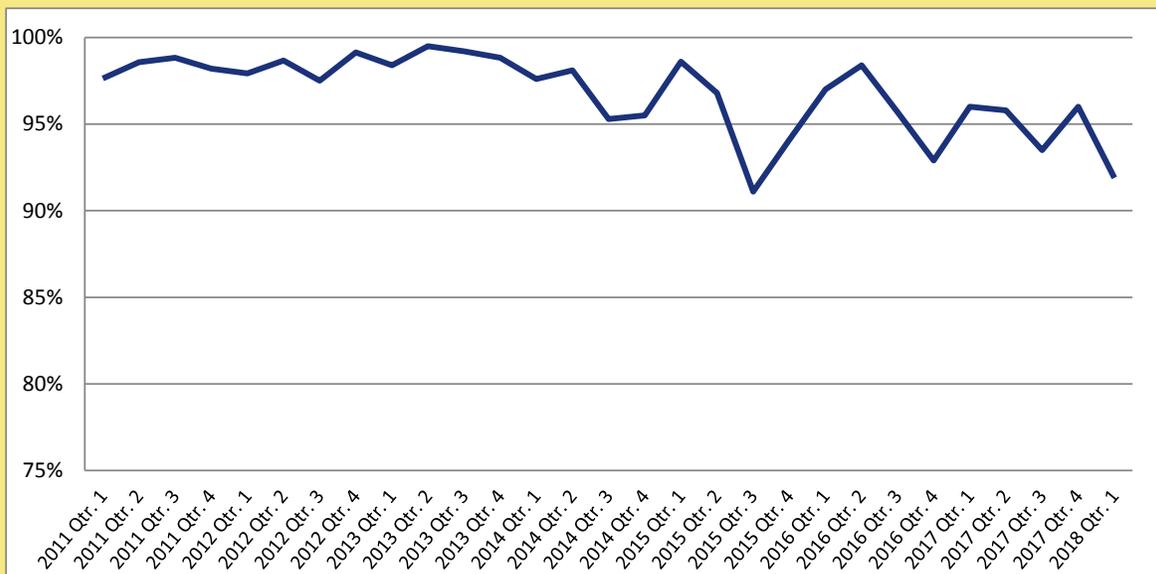
Transportation Operations Employee Attendance

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Pt. Change
TransOps	89.1%	90.1%	88.7%	0.4

Transportation Operations Attendance
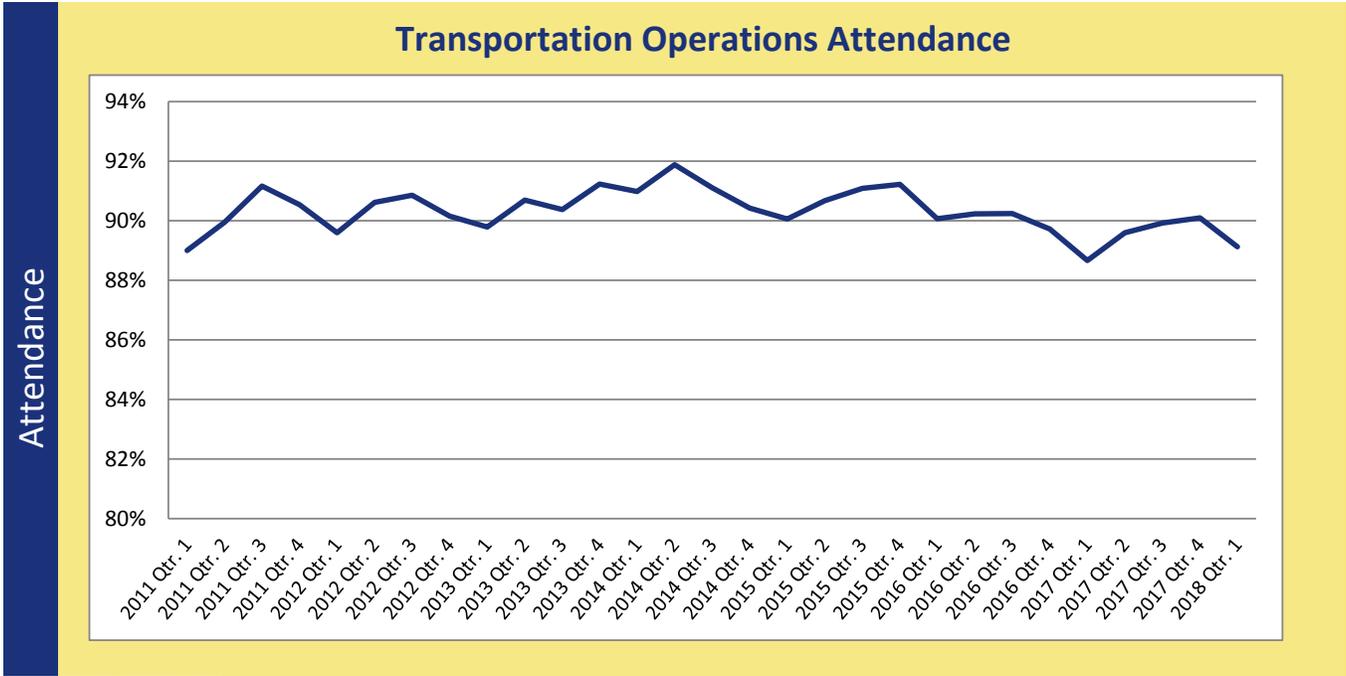
Boarding Rides Per Revenue Hour

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Change
Total	52.8	52.2	55.0	-4.1%
Fixed Route Bus	36.7	35.9	38.1	-3.7%
MAX Light Rail	152.2	151.5	157.7	-3.5%
WES Commuter Rail	109.0	115.0	122.6	-11.1%

TriMet Boarding Rides Per Revenue Hour

Total Fixed Route Rides Per Revenue Hour

Rides Per Revenue Hour By Mode

Fixed Route Bus Collisions

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Change
Total	290	313	393	-26.2%
Collision Vehicle	93	98	143	-35.0%
Fixed Object/Parked Car	63	57	90	-30.0%
Bike/Pedestrian	3	4	6	-50.0%
Collision Other	11	14	10	10.0%
Mirror	120	140	144	-16.7%

Fixed Route Bus

Total Bus Collisions
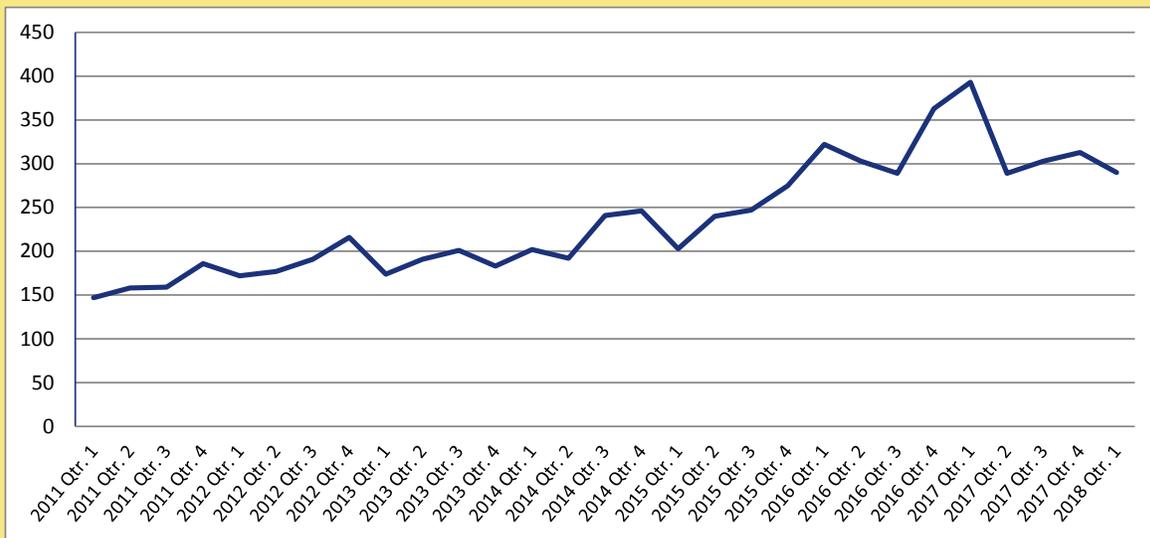
Bus Collision Types

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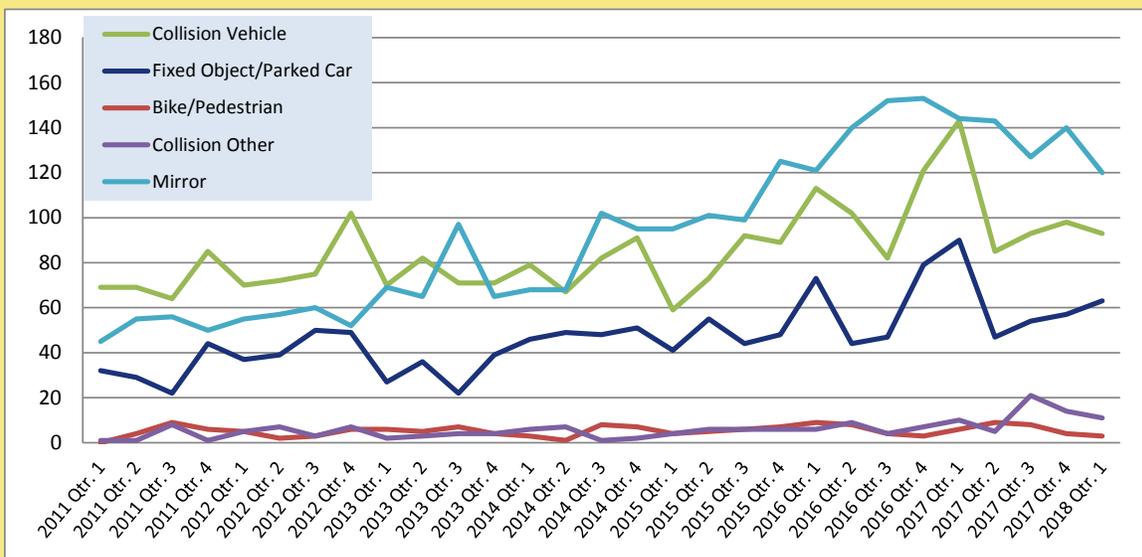
MAX Light Rail Collisions

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Change
Total	21	16	27	-22%
Collision Vehicle	9	7	19	-53%
Fixed Object/Parked Car	-	-	1	0%
Bike/Pedestrian	5	4	4	25%
Collision Other	5	3	3	67%
Mirror	2	2	-	-

MAX Light Rail

MAX Light Rail Collisions
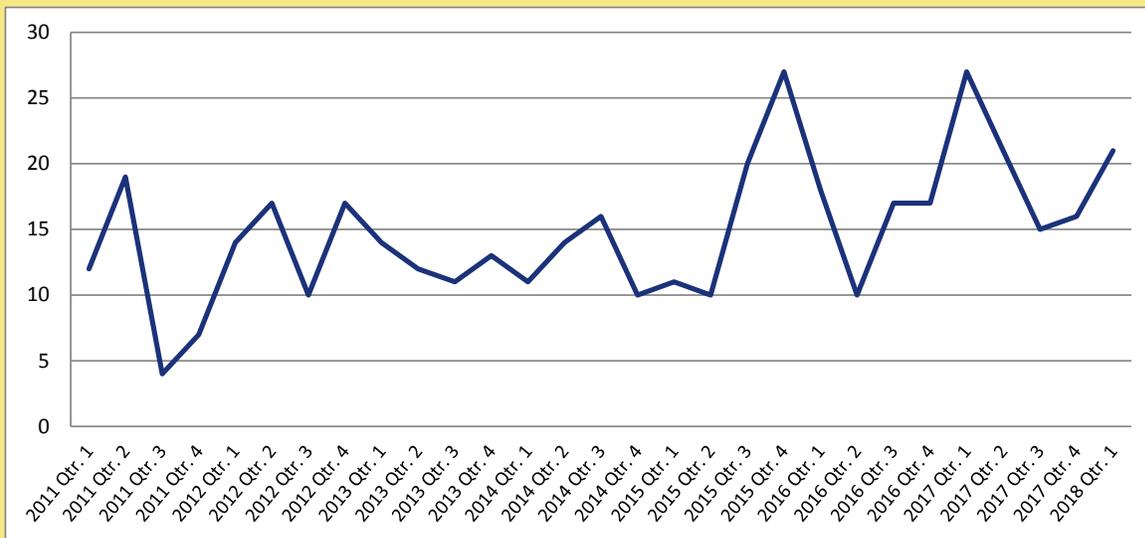
MAX Collision Types
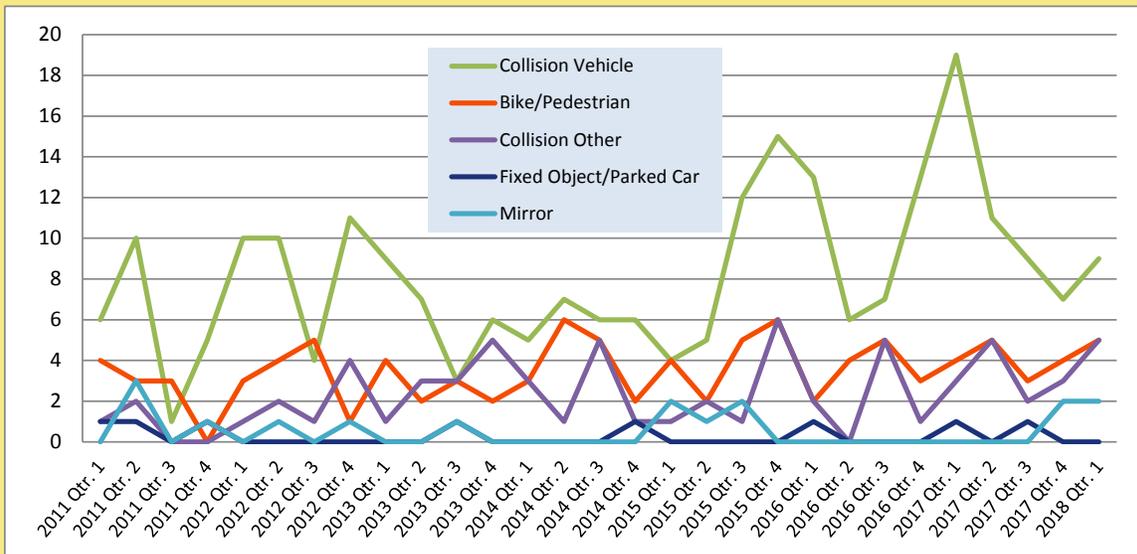
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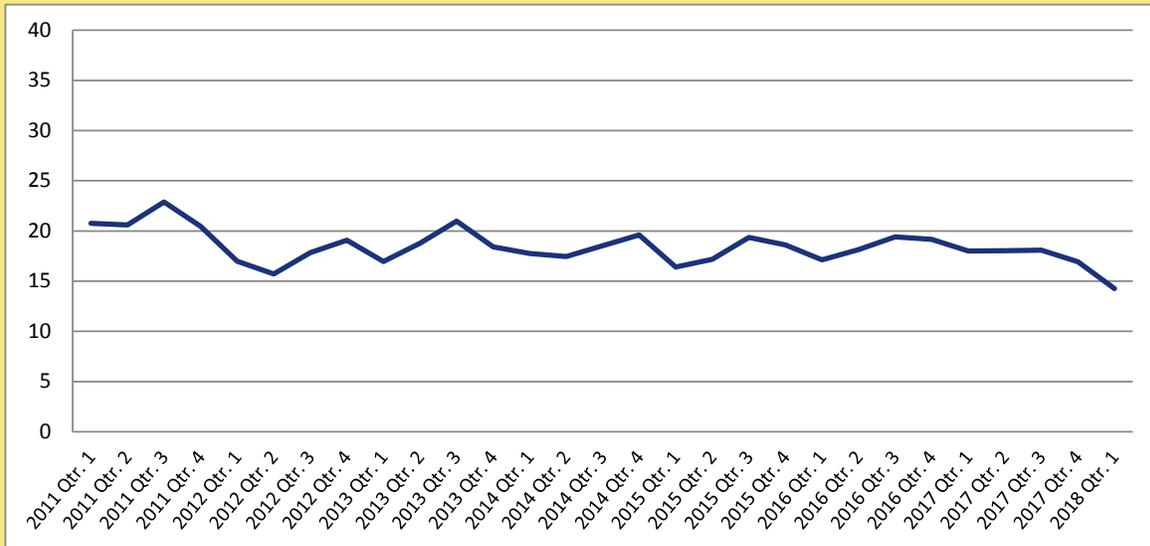
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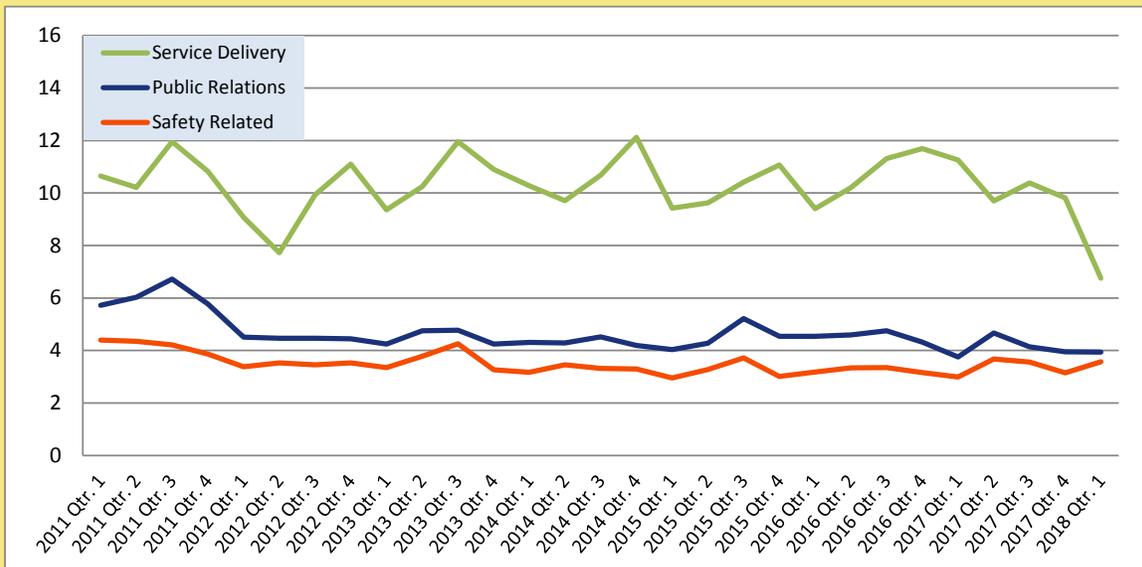
Fixed Route Bus Complaints Per 100,000 Boarding Rides

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Change
Total	14.3	16.9	18.0	-20.8%
Service Delivery	6.8	9.8	11.3	-40.0%
Public Relations	3.9	4.0	3.8	4.9%
Safety Related	3.6	3.2	3.0	19%

Total Operator Complaints Per 100,000 Boarding Rides

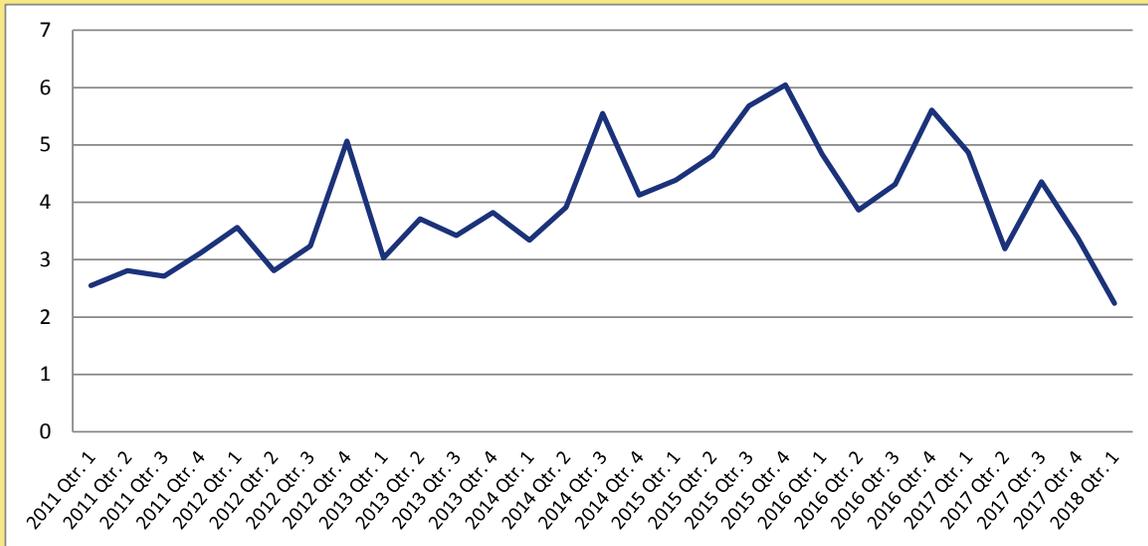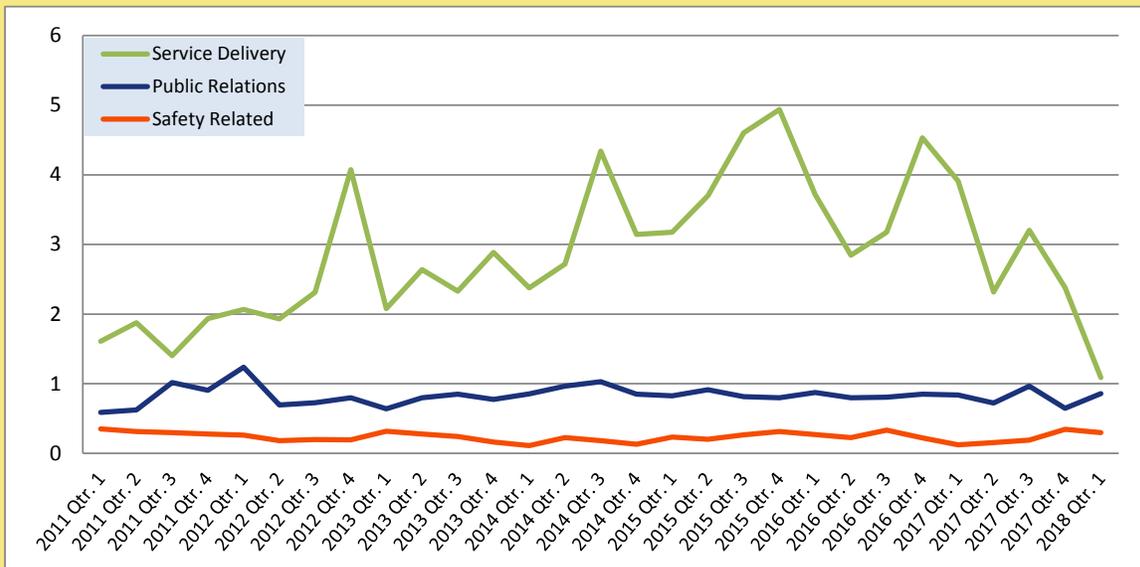## Type of Operator Complaints Per 100,000 Boarding Rides

Fixed Route Bus

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MAX Light Rail Complaints Per 100,000 Boarding Rides

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Change
Total	2.2	3.4	4.9	-54.0%
Service Delivery	1.1	2.4	3.9	-72.2%
Public Relations	0.9	0.6	0.8	2.2%
Safety Related	0.3	0.3	0.1	141.4%

MAX Light Rail

Total Operator Complaints Per 100,000 Boarding Rides

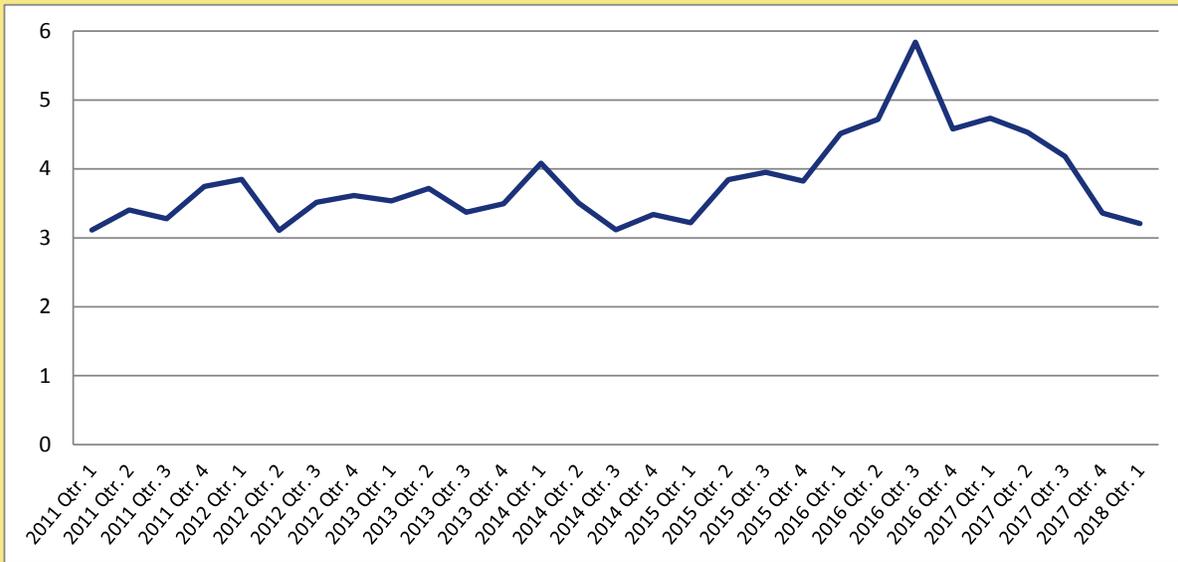

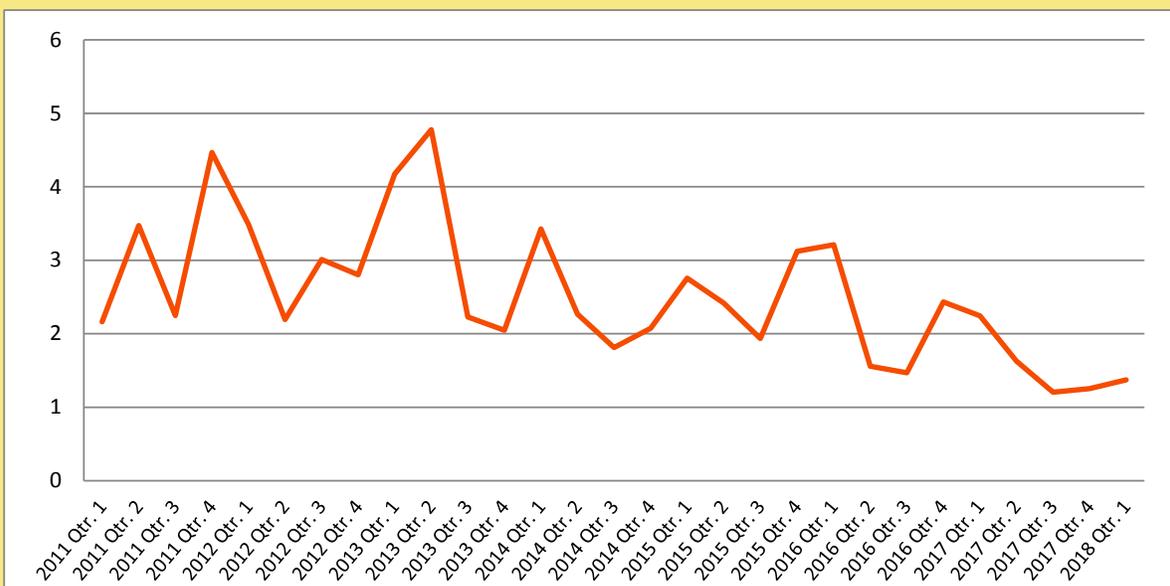## Type of Operator Complaints Per 100,000 Boarding Rides

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Fixed Route Bus and MAX Light Rail Commendations

	2018 Qtr. 1	2017 Qtr. 4	2017 Qtr. 1	2018 - 2017 Percent Change
Fixed Route Bus Per 100,000 Boardings	3.2	3.4	4.7	-32.3%
MAX Light Rail Per Million Boardings	1.4	1.3	2.2	-38.9%

TriMet Bus and MAX Commendations

Total Bus Operator Commendations Per 100,000 Boarding Rides

Total MAX Light Rail Commendations Per Million Boarding Rides

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Rail Rule Violations per Million Miles

	2018 Qtr. 1	**2017 Qtr. 4**	**2017 Qtr. 1**	**2018-2017 Percent Change**
Rail Rule Violation Rate	132.5	140.9	106.6	24.2%

Rail Rule Violations per Million Miles