



High Quality Service through Continuous Improvement 2018 4th Quarter Performance Report

TriMet Board Meeting, March 27, 2019

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 (PM) compliance for all disciplines exceeded 90% this quarter, exceeding the Federal Transit Administration's preventive maintenance target of 80%. Rail Equipment Maintenance (REM) increased year-on-year but declined from the previous quarter to 91.5%. Bus Maintenance remained steady at 95.5%. Maintenance of Way (MOW) saw a small year-over-year improvement to 94.1%, while Fare Equipment continued to complete 100% of PM work on time.*
- *MAX light rail MDBF (Mean Distance Between Failures) performance has increased more than 40% over last year as well as the past quarter.*
- *Fixed-route bus MDBF has decreased by 9.8% over the previous year to 12,996 miles.*
- *Maintenance attendance has increased slightly by 1.4 percentage points to 94.6% 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 87.6% bus service OTP improved by 1.4 percentage points over the previous year, and increased from the past quarter as well. Improved OTP has continued in Jan. 2019 with bus hitting just over 90%, the highest monthly figure recorded in the past 20 years.*
- *MAX service OTP increased by 0.7 percentage points over the past year to 89.9% in Qtr 4 2018. MAX OTP continued strong in the new year as well achieving nearly 92% in Jan. 2019. The next round of OTP initiatives is currently being developed for both bus and rail.*
- *WES OTP declined from the previous year's quarter to 90.7%. Delays related to PTC implementation impacted November and, especially, December with OTP for that month at 84.4%. OTP in January 2019 has bounced back to 99.9%.*
- *Transportation employee attendance was 90.1%, essentially unchanged from the past year as well as the past quarter.*
- *Boarding rides per revenue hour overall declined by 6.7% compared to Qtr 4 2018.*
 - *Fixed-route bus boardings per revenue hour are down by 7% compared to this time last year. The September service change introduced a significant increase in service which can, over the short term, depress boardings per revenue hour.*
 - *MAX boardings per revenue hour are down (-4.5%).*
 - *WES boarding rides per revenue hour were down more than 20% from the past year. Year-on-year declines still reflect large employer closures and job losses in the corridor. Service losses related to PTC implementation contributed in the quarter.*

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 up by 8.2% on a per 100,000 mile basis compared to last year but flat compared to the previous quarter. The increase was driven primarily by an increase in parked vehicles/fixed object collisions (up 37.7% per 100,000 miles) and collisions with moving vehicles (up 14.8% per 100,000 miles.) "Collision Other" had a high percentage decrease but total numbers are relatively low. This category contains collisions with railroad gate arms, animals, shopping carts, and other items.*
- *The total number of MAX collisions increased by 11 for both the prior year and prior quarter. Collision with moving vehicles contributed to most (+9) of this increase.*
- *Total fixed-route bus complaints per 100,000 boarding rides are down 20.6% compared to the past year and down compared to last quarter. This quarter saw fewer Service Delivery complaints while Public Relations and Safety Related complaints increased slightly compared to one year ago.*
- *Total MAX complaints per 100,000 boarding rides are down more than 50% compared to the previous year. Both Service Delivery and Safety complaints declined while Public Relations complaints increased compared to one year ago. 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 as well as from the previous quarter. MAX commendations per million boardings were up compared to the prior year as well as from the past quarter.*
- *MAX rule violations per million miles decreased by 7.1% compared to last year, but were up slightly compared to the previous quarter. However, both Jan. and Feb. have seen significant declines.*

LIFT Paratransit Service

Beginning with 2018 Qtr 3 LIFT performance indicators are included in the Quarterly Performance Report. They are organized in a fashion similar to fixed-route service.

1. Vehicle and System Reliability

Key Performance Indicators: Preventive maintenance schedule compliance and miles between road calls.

- *Preventive maintenance (PM) compliance for LIFT vehicles was 100% for 2018 Qtr 4. This is unchanged from the prior year as well as the prior quarter.*
- *Miles between road calls increased 12.8% from the previous year to 51,808. This also represents an increase from the previous quarter.*

2. Service Delivery

Key Performance Indicators: On time performance (OTP) and boarding rides per revenue hour.

- *LIFT pick-up OTP decreased slightly from the prior year to 89.7% while LIFT appointment OTP also dropped slightly to 89.5%. Cab pick-up OTP declined to 87.1%.*
- *Ridership per Revenue Hour (no cab) remained unchanged from the prior year at 1.87.*

3. Operator Support

Key Performance Indicators: Collisions, complaints, commendations, and call center hold times.

- *Preventable collisions increased from 16 to 22 compared to the previous year.*
- *Total complaints per 1000 rides declined by 7.1% from the prior year. Declines in LIFT Dispatch and Cab were offset by increases in LIFT Transportation complaints.*
- *Total commendations per 1000 rides increased by 2.3%. While commendations increased for LIFT Dispatch and Cab they declined for LIFT Transportation.*
- *The percentage of Call Center calls that were answered within five minutes remains high. From a low of 94.5% for Reservations to a high of 98.9% for Customer Service, with Dispatch calls falling in between at 98.2%.*

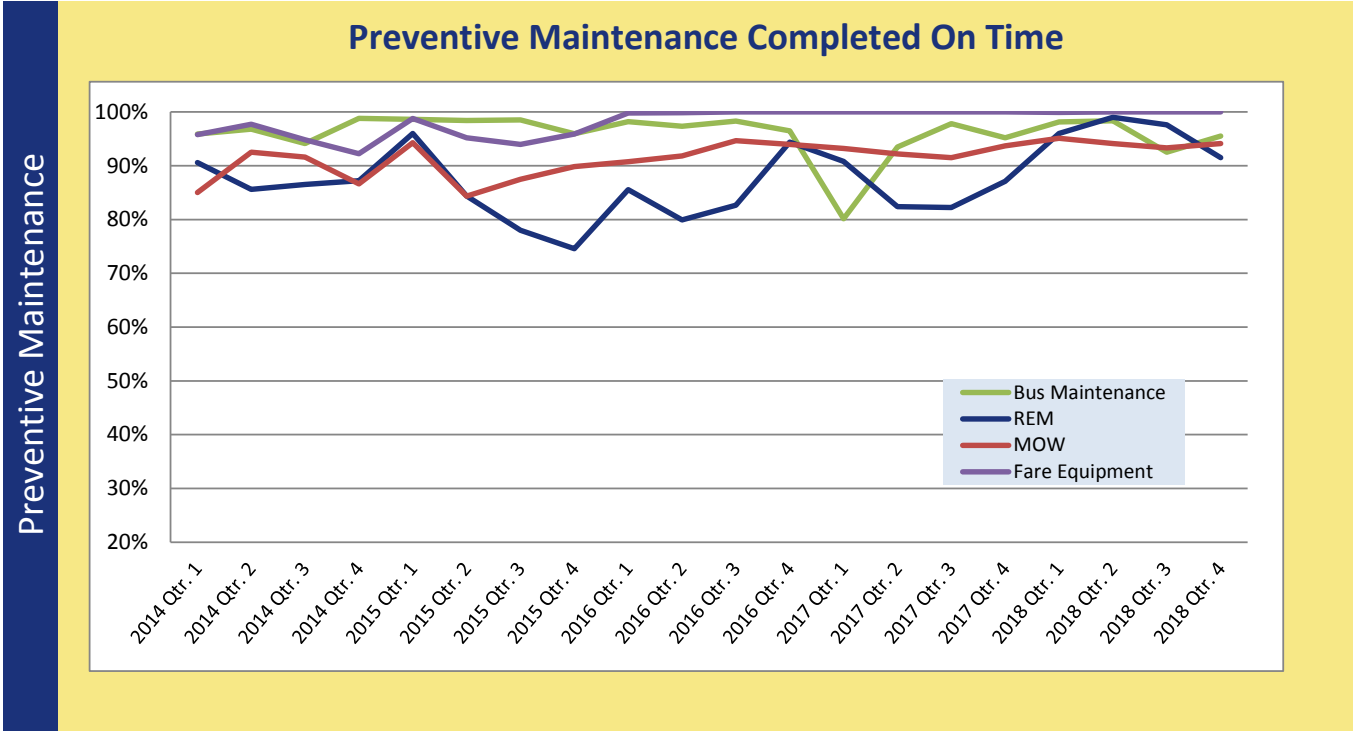


2018 4th Quarter Report

Quarterly Performance Report

Preventive Maintenance Completed On Time

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Pt. Change
Bus Maintenance	95.5%	92.5%	95.2%	0.3
REM	91.5%	97.6%	87.1%	4.4
MOW	94.1%	93.3%	93.7%	0.4
Fare Equipment	100.0%	100.0%	100.0%	0.0

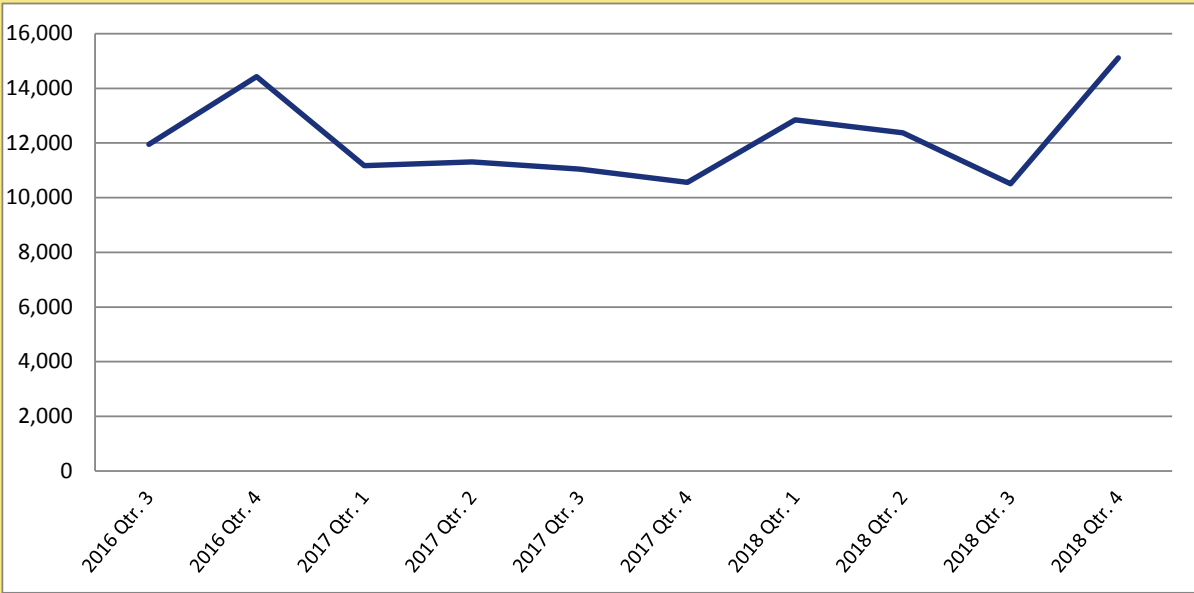


Mean Distance Between Failures (MDBF)

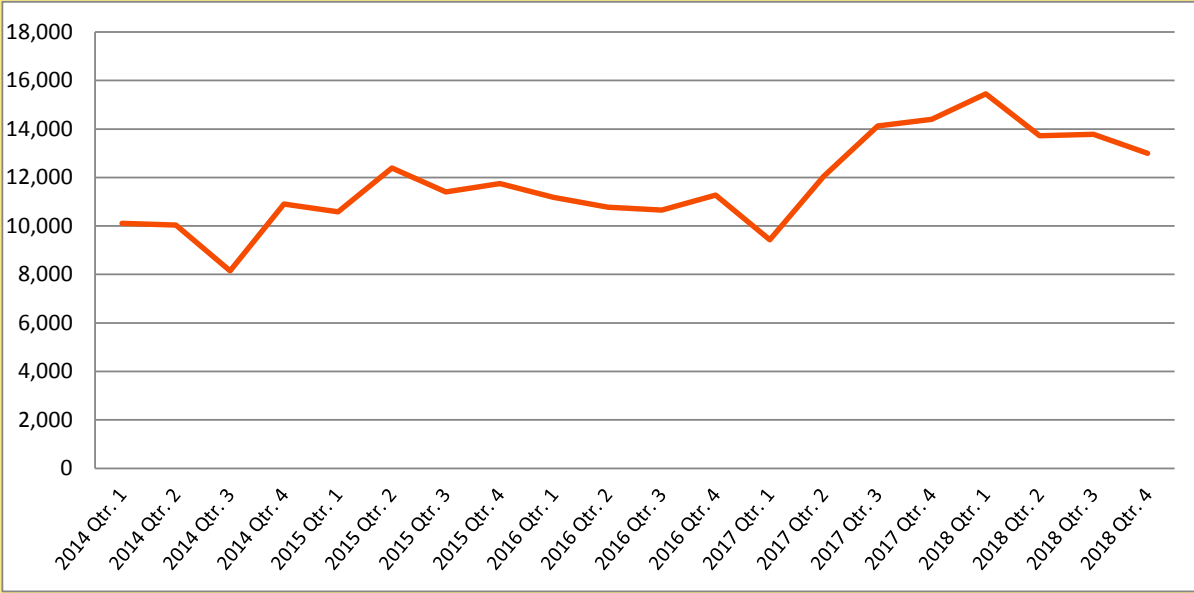
	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
MAX Light Rail	15,115	10,508	10,559	43.2%
Fixed Route Bus	12,996	13,784	14,401	-9.8%

Mean Distance Between Failures (MDBF)

MAX Light Rail MDBF - Lost Service

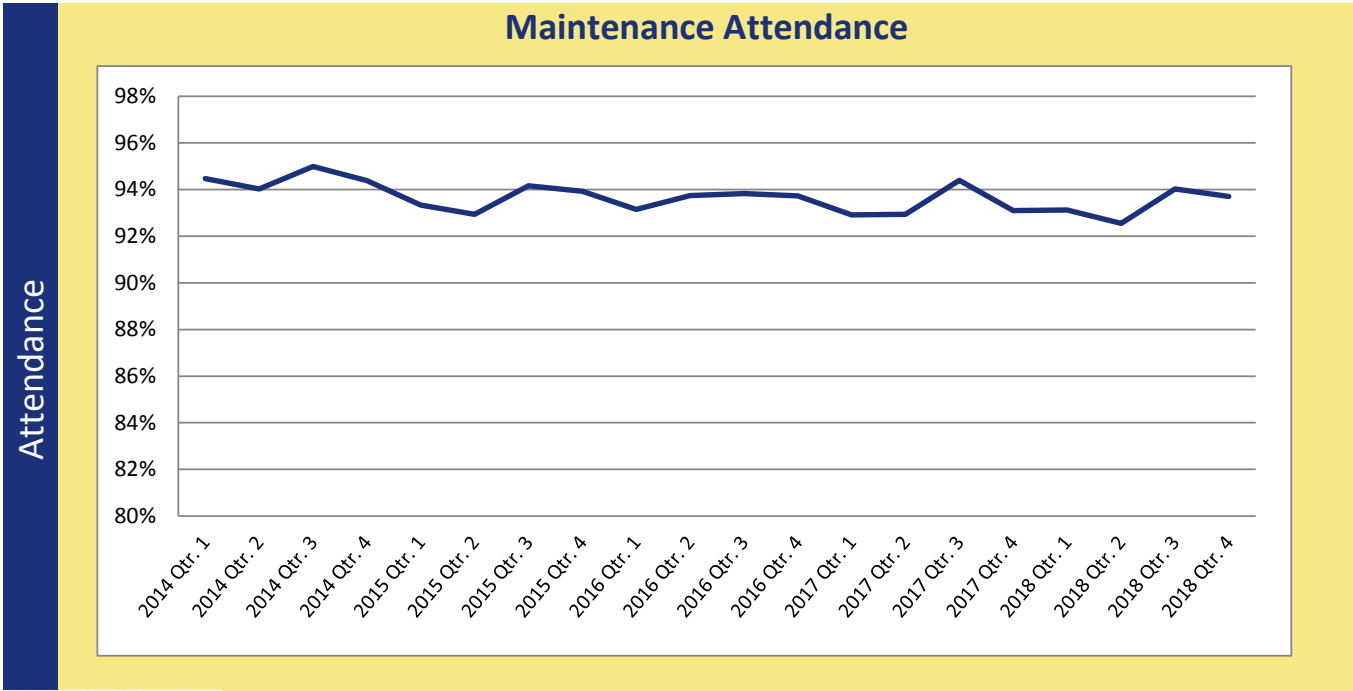


Fixed Route Bus MDBF - Lost Service



Maintenance Employee Attendance

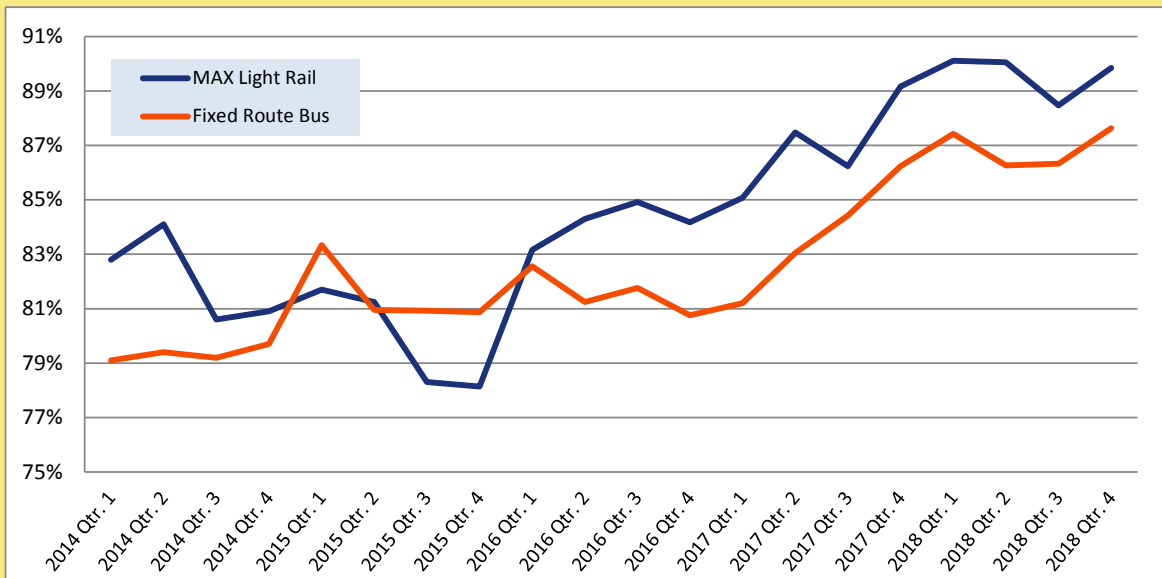
	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Pt. Change
Maintenance	94.6%	93.7%	93.1%	1.4



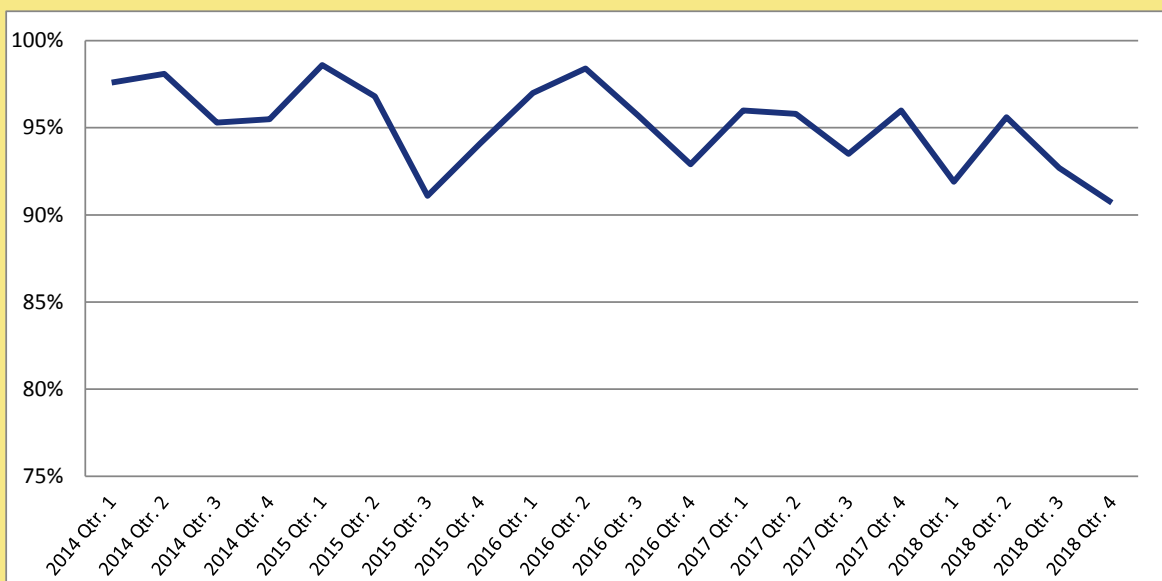
On Time Performance

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Pt. Change
Fixed Route Bus	87.6%	86.3%	86.2%	1.4
MAX Light Rail	89.9%	88.5%	89.2%	0.7
WES Commuter Rail	90.7%	92.7%	96.0%	-5.3

Bus and MAX Light Rail OTP



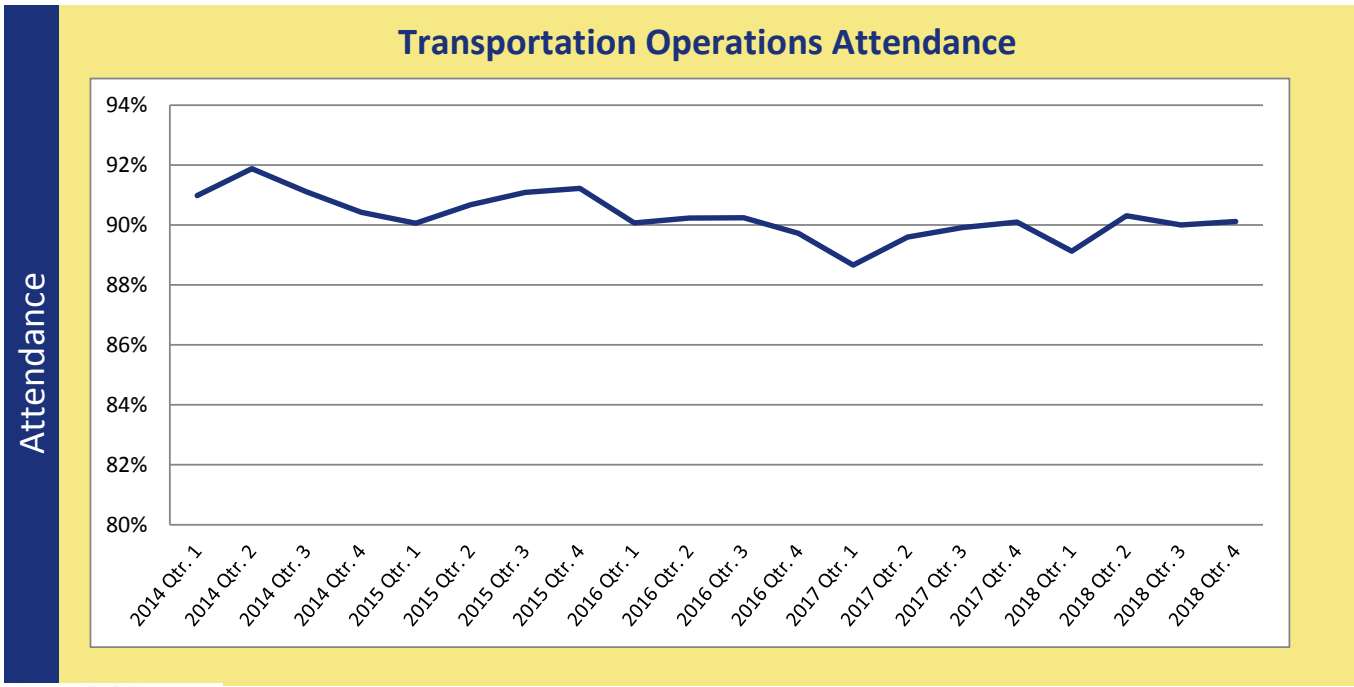
WES Commuter Rail OTP



On Time Performance

Transportation Operations Employee Attendance

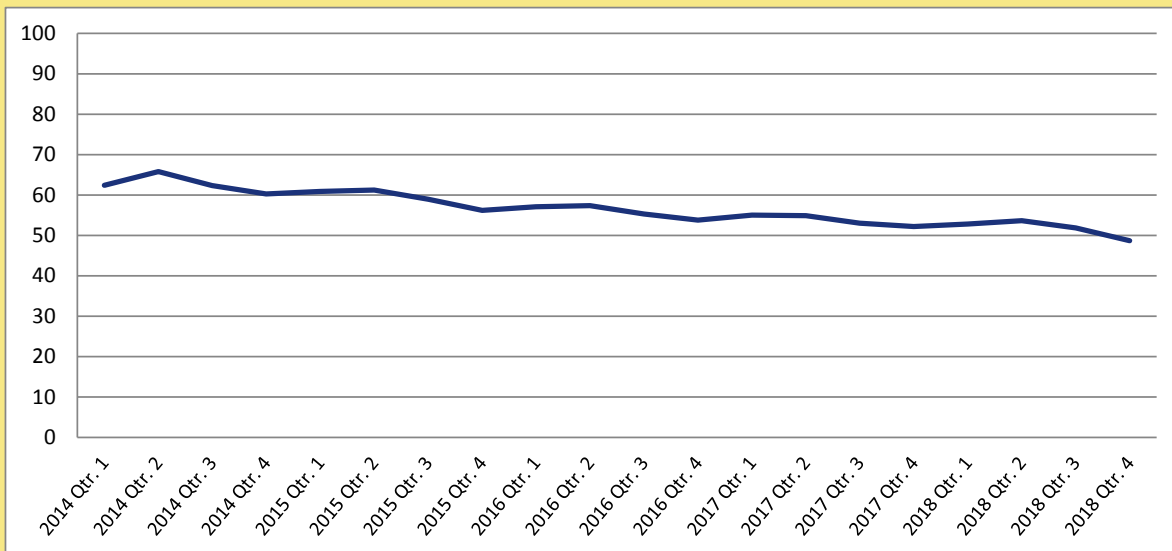
	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Pt. Change
TransOps	90.1%	90.0%	90.1%	0.0



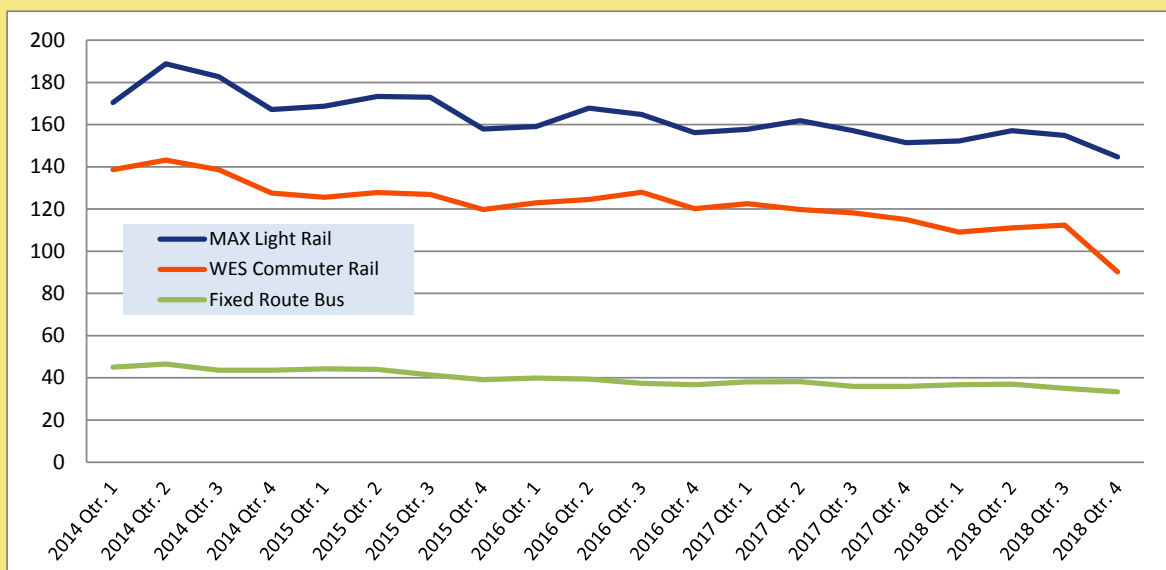
Boarding Rides Per Revenue Hour

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
Total	48.7	51.8	52.2	-6.7%
Fixed Route Bus	33.4	35.1	35.9	-7.0%
MAX Light Rail	144.7	154.8	151.5	-4.5%
WES Commuter Rail	90.2	112.3	115.0	-21.6%

Total Fixed Route Rides Per Revenue Hour



Rides Per Revenue Hour By Mode



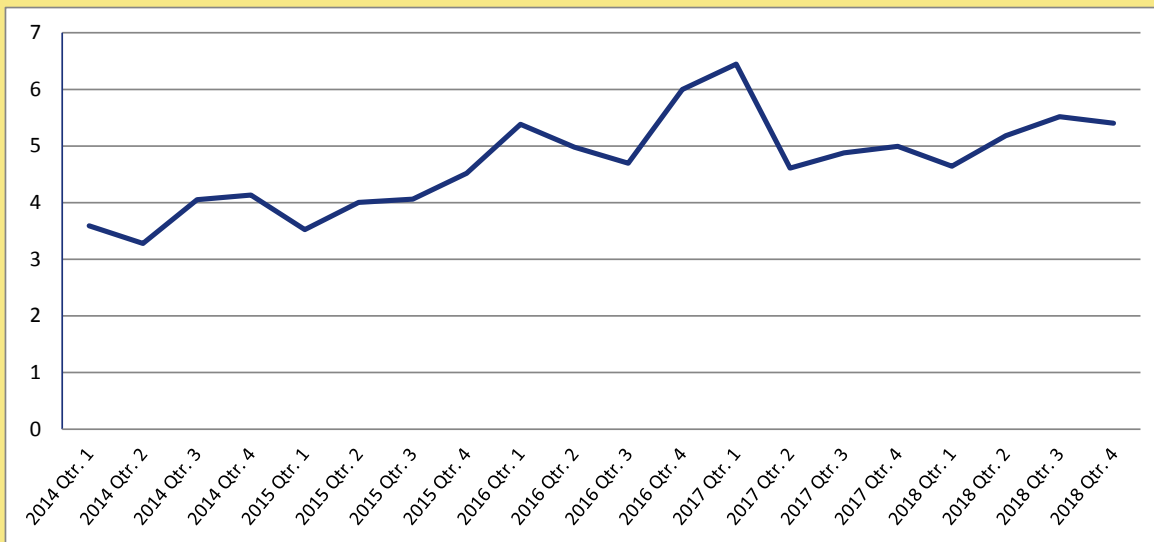
TriMet Boarding Rides Per Revenue Hour



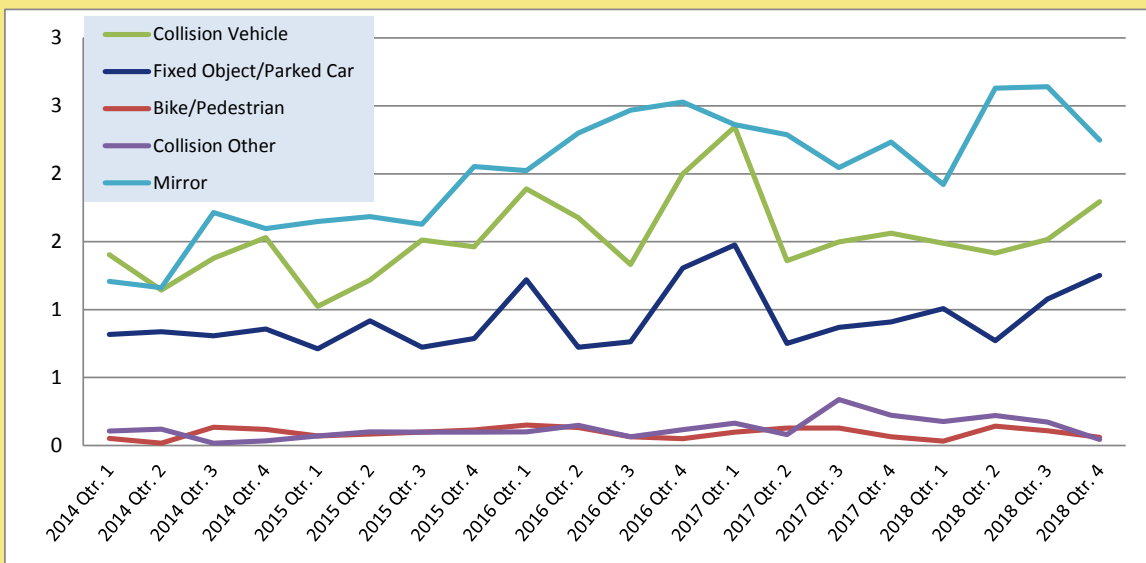
Fixed Route Bus Collisions per 100,000 Miles

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
Total	5.40	5.52	4.99	8.2%
Collision Vehicle	1.80	1.52	1.56	14.8%
Fixed Object/Parked Car	1.25	1.08	0.91	37.7%
Bike/Pedestrian	0.060	0.11	0.064	-5.4%
Collision Other	0.05	0.17	0.22	-79.7%
Mirror	2.25	2.64	2.23	0.7%

Total Bus Collisions per 100,000 Miles



Bus Collision Types per 100,000 Miles

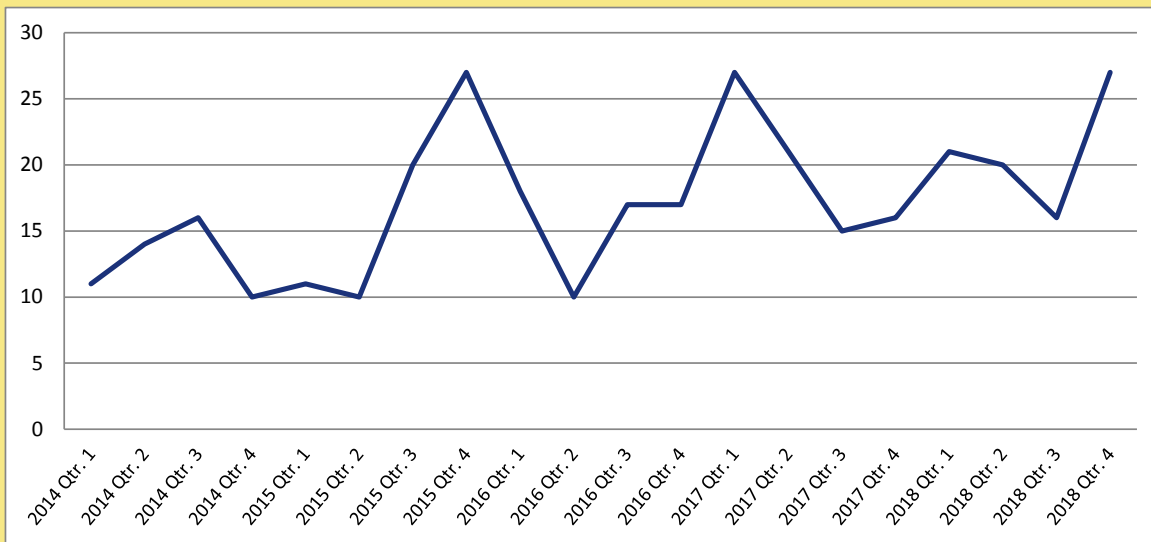


Fixed Route Bus

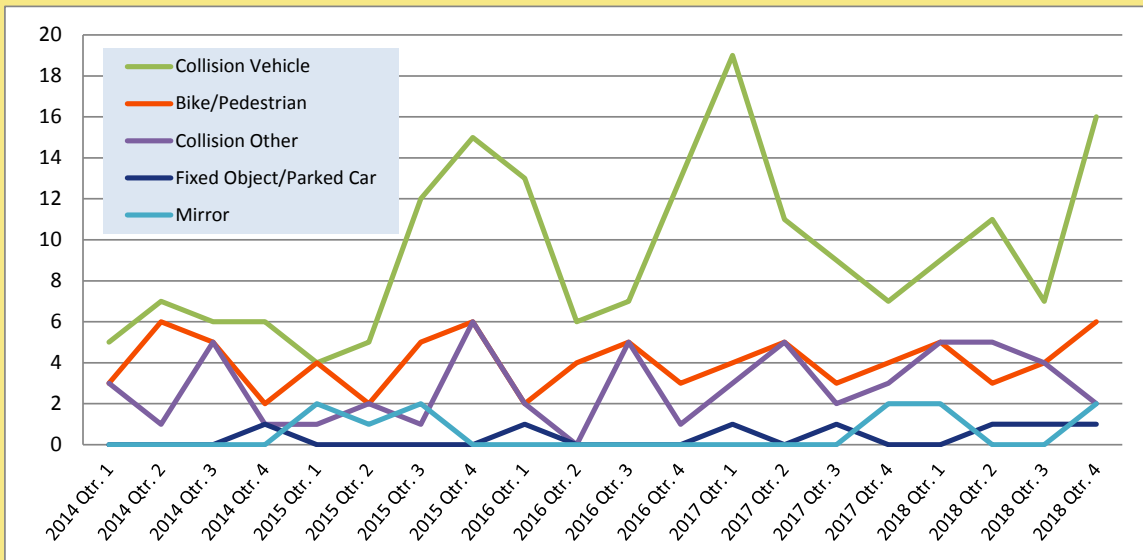
MAX Light Rail Collisions

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
Total	27	16	16	69%
Collision Vehicle	16	7	7	129%
Fixed Object/Parked Car	1	1	0	-
Bike/Pedestrian	6	4	4	33%
Collision Other	2	4	3	-33%
Mirror	2	0	2	0%

MAX Light Rail Collisions



MAX Collision Types

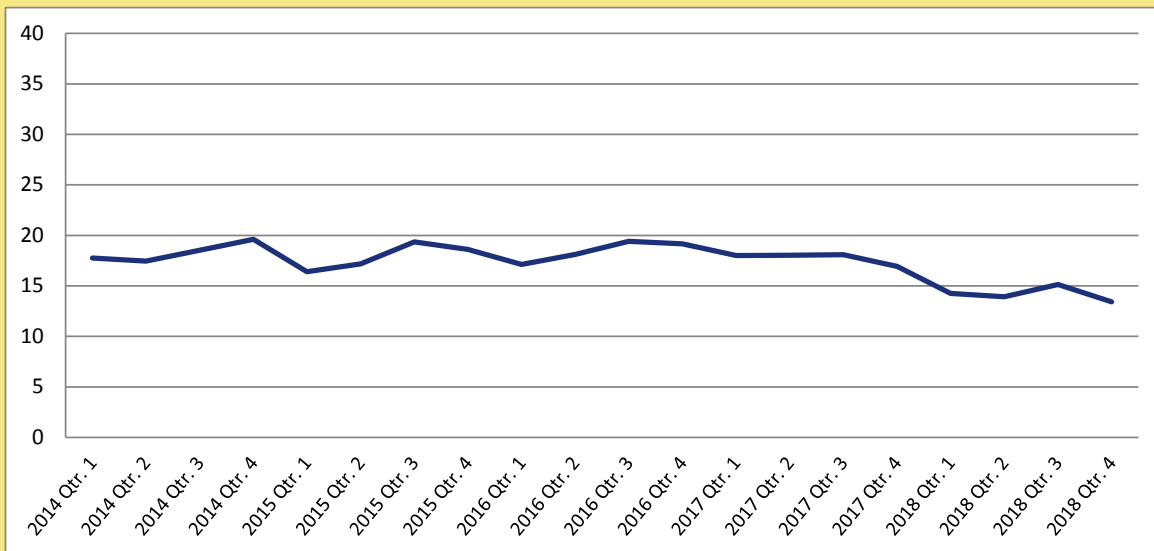


MAX Light Rail

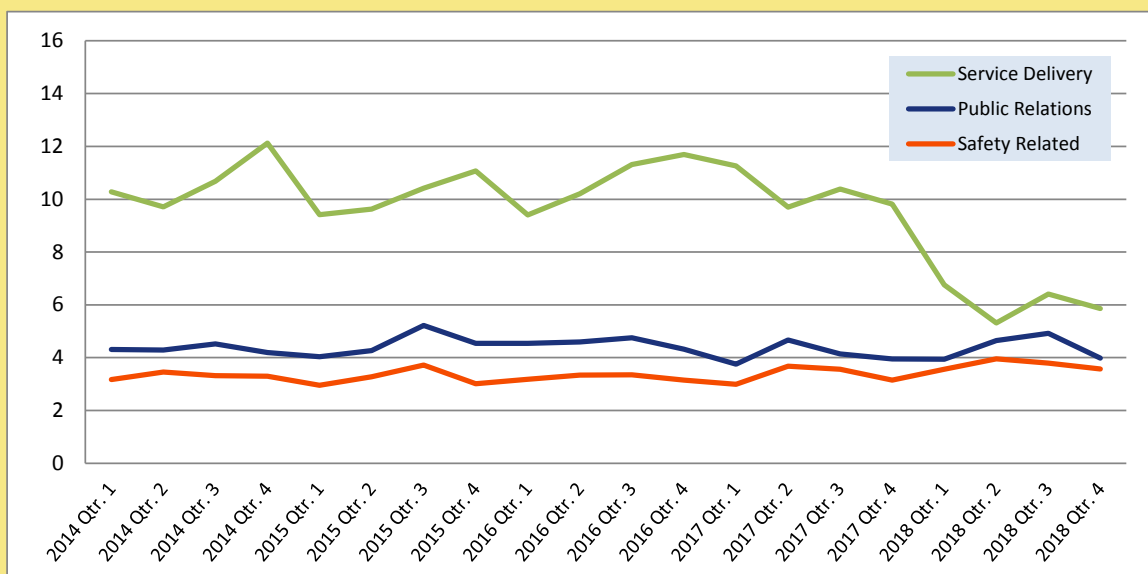
Fixed Route Bus Complaints Per 100,000 Boarding Rides

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
Total	13.4	15.1	16.9	-20.6%
Service Delivery	5.9	6.4	9.8	-40.3%
Public Relations	4.0	4.9	4.0	0.9%
Safety Related	3.6	3.8	3.2	14%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

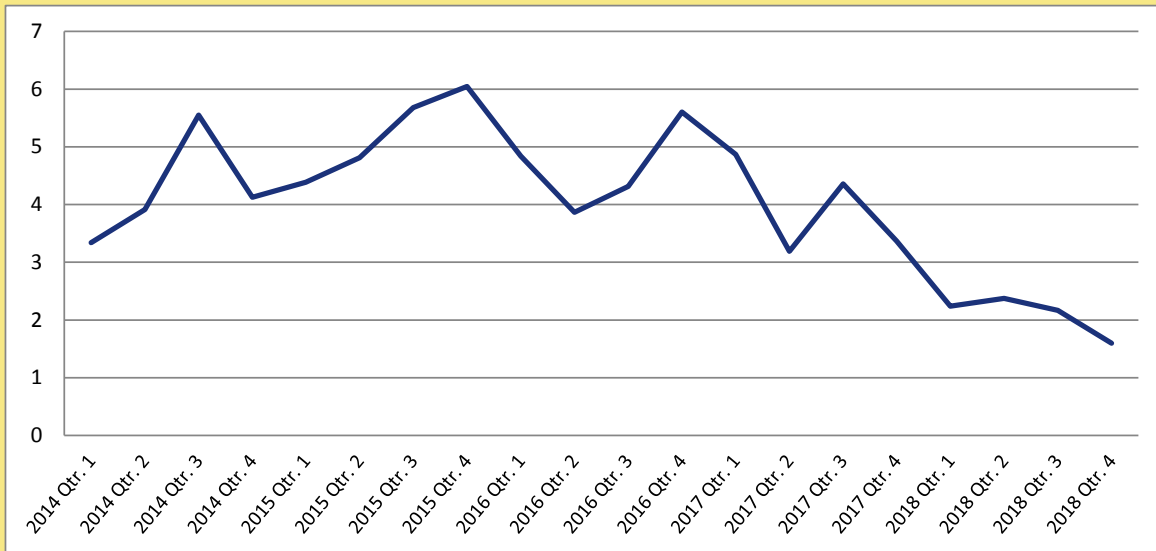


Fixed Route Bus

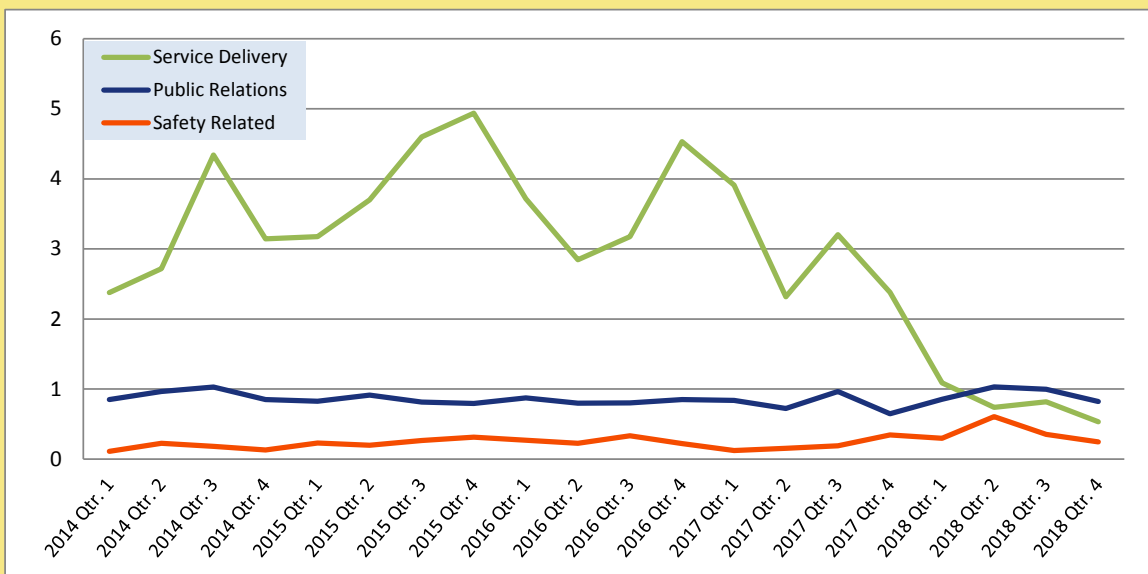
MAX Light Rail Complaints Per 100,000 Boarding Rides

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
Total	1.6	2.2	3.4	-52.6%
Service Delivery	0.5	0.8	2.4	-77.6%
Public Relations	0.8	1.0	0.6	26.8%
Safety Related	0.2	0.4	0.3	-28.9%

Total Operator Complaints Per 100,000 Boarding Rides



Type of Operator Complaints Per 100,000 Boarding Rides

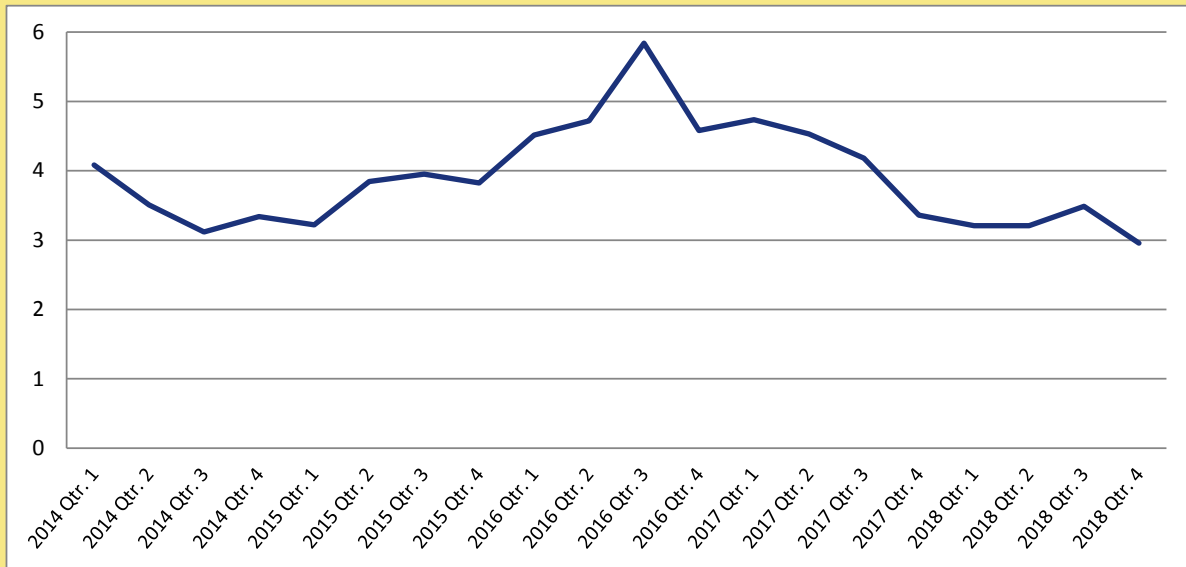


MAX Light Rail

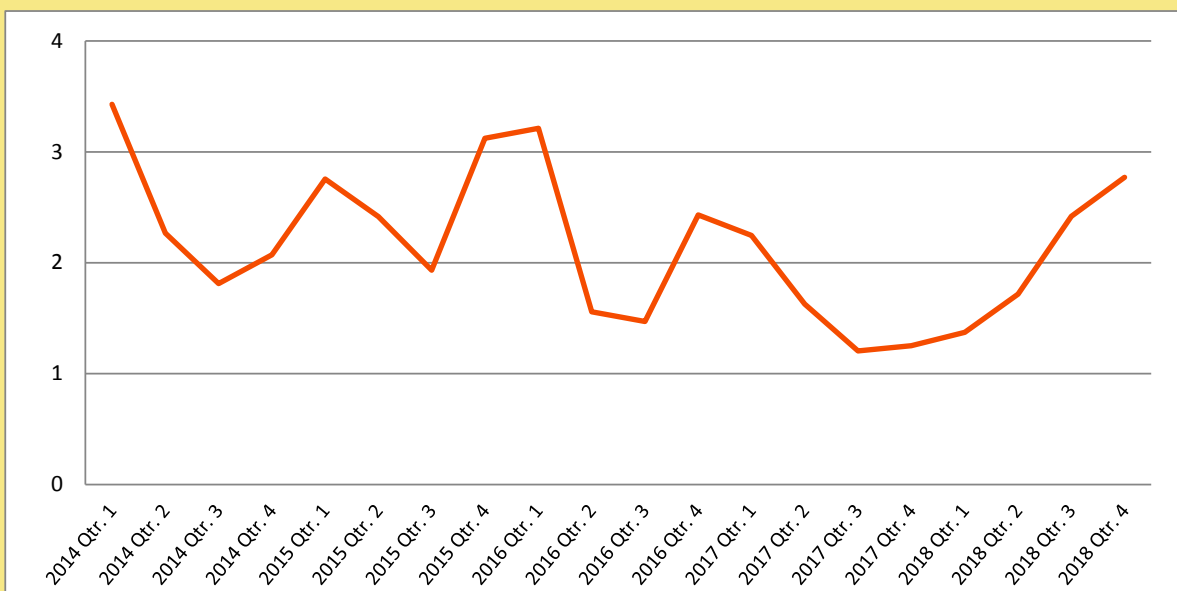
Fixed Route Bus and MAX Light Rail Commendations

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
Fixed Route Bus Per 100,000 Boardings	3.0	3.5	3.4	-12.0%
MAX Light Rail Per Million Boardings	2.8	2.4	1.3	121.2%

Total Bus Operator Commendations Per 100,000 Boarding Rides



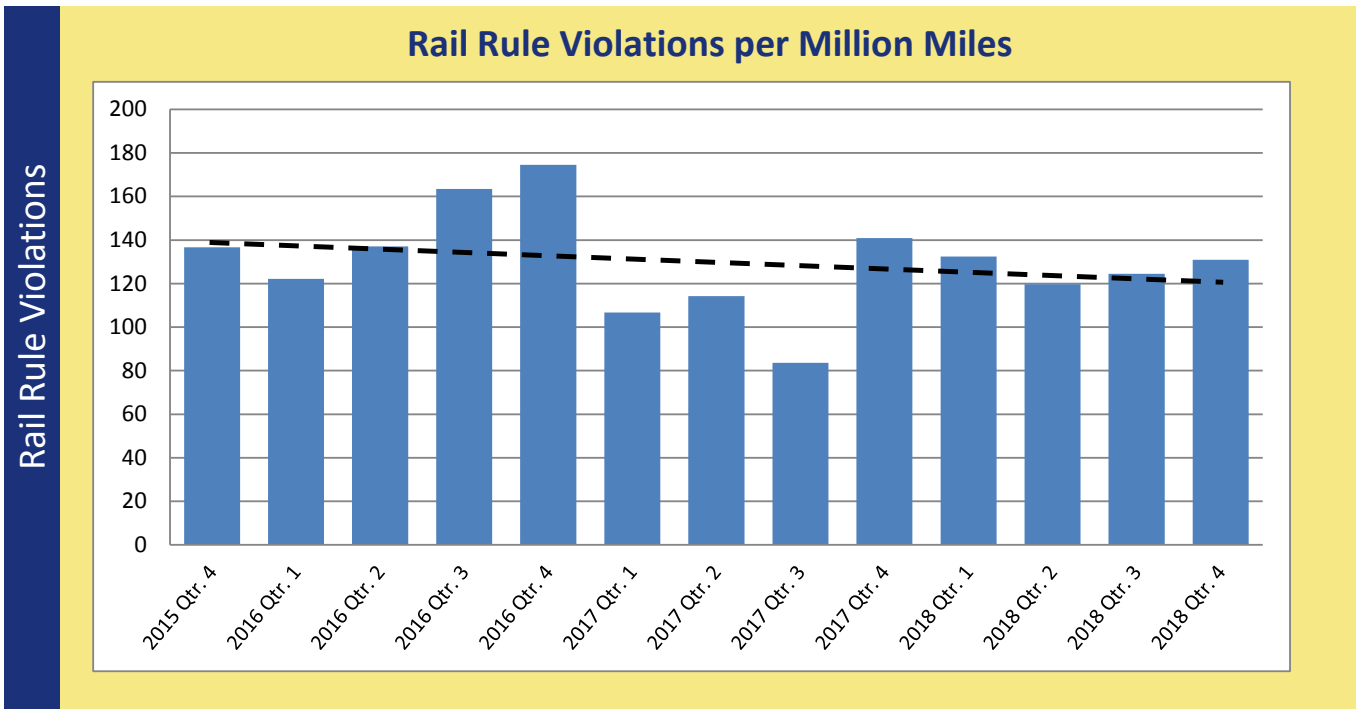
Total MAX Light Rail Commendations Per Million Boarding Rides



TriMet Bus and MAX Commendations

Rail Rule Violations per Million Miles

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018-2017 Percent Change
Rail Rule Violation Rate	130.9	124.5	140.9	-7.1%



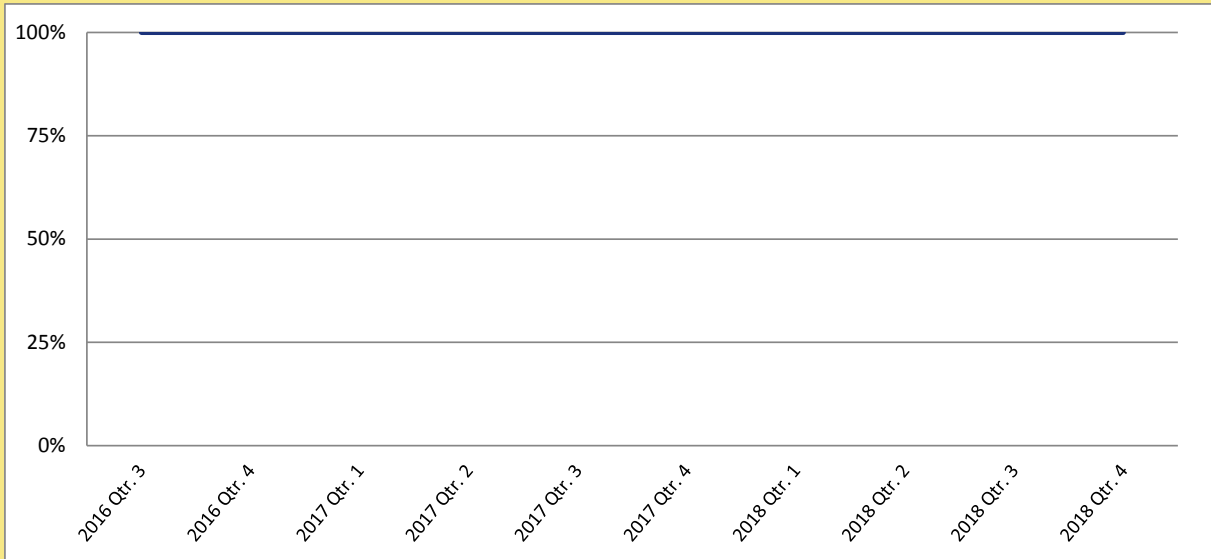
Preventive Maintenance Completed On Time

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
LIFT	100.0%	100.0%	100.0%	0.0%

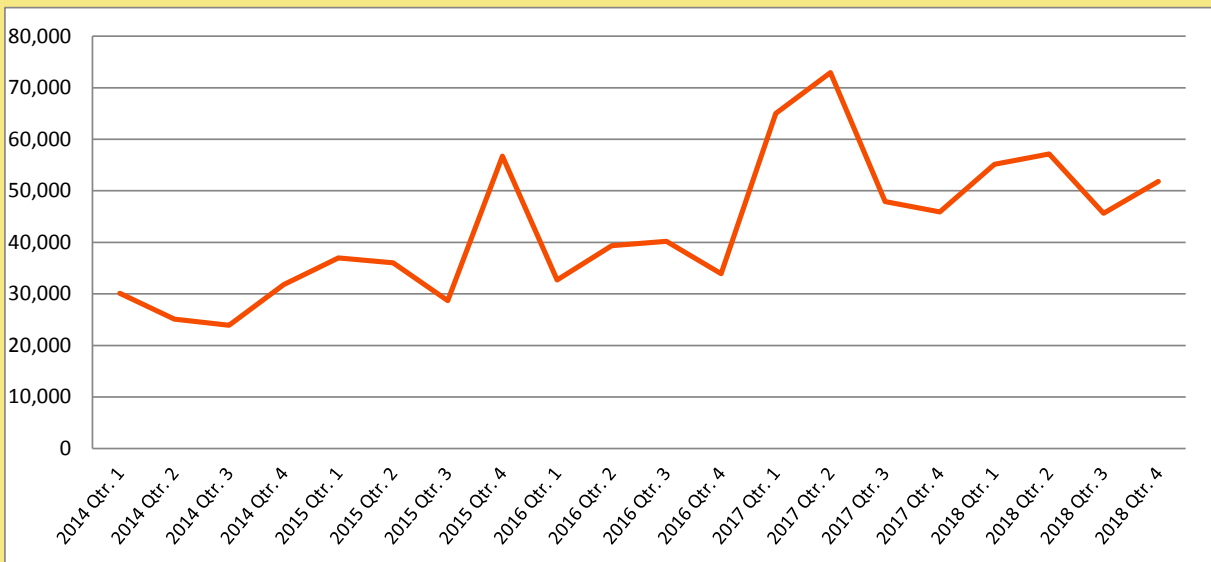
Miles between Road Calls

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
LIFT	51,808	45,629	45,914	12.8%

Preventive Maintenance Completed On Time



Miles between Road Calls



LIFT Vehicle and System Reliability

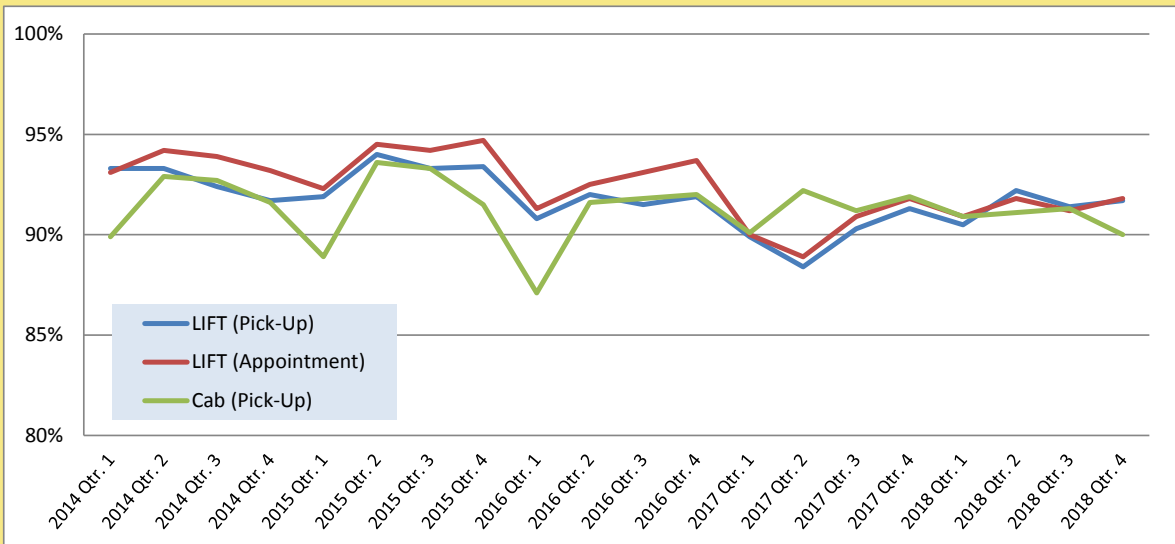
On Time Performance

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
LIFT (Pick-Up)	89.7%	91.7%	90.5%	-0.9%
LIFT (Appointment)	89.5%	91.8%	90.9%	-1.5%
Cab (Pick-Up)	87.1%	90.0%	90.9%	-4.2%

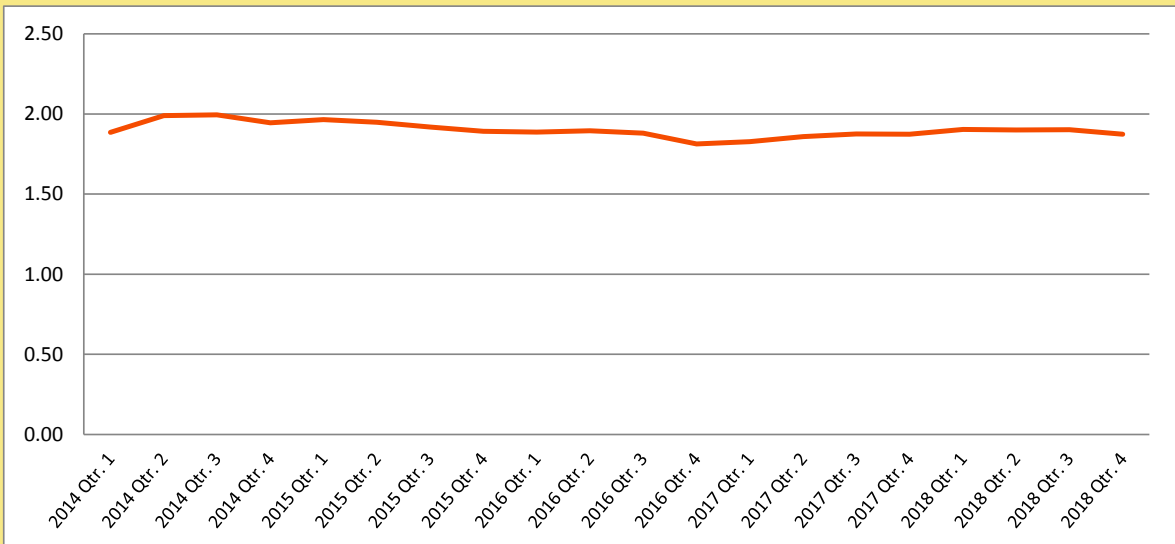
Ridership per Revenue Hour (no cab)

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
LIFT	1.87	1.90	1.87	0.0%

On Time Performance



Ridership per Revenue Hour (no cab)



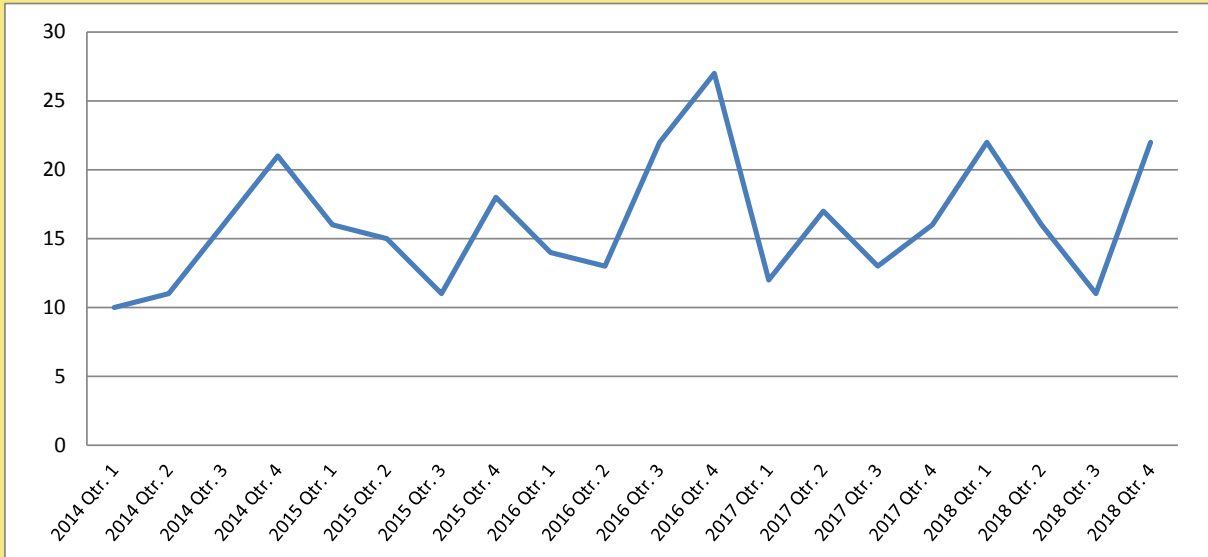
LIFT Service Delivery

Preventable Collisions

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
LIFT	22	11	16	37.5%

LIFT Operator Support

Preventable Collisions



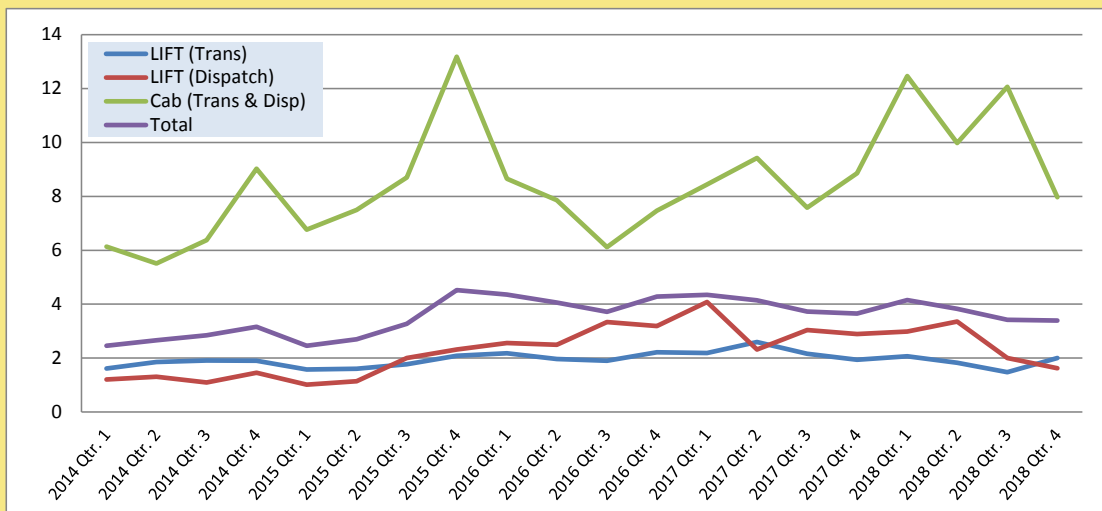
Total Complaints per 1,000 Rides

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
LIFT (Trans)	2.01	1.48	1.94	3.7%
LIFT (Dispatch)	1.63	2.01	2.89	-43.8%
Cab (Trans & Disp)	7.97	12.07	8.85	-10.0%
Total	3.39	3.42	3.65	-7.1%

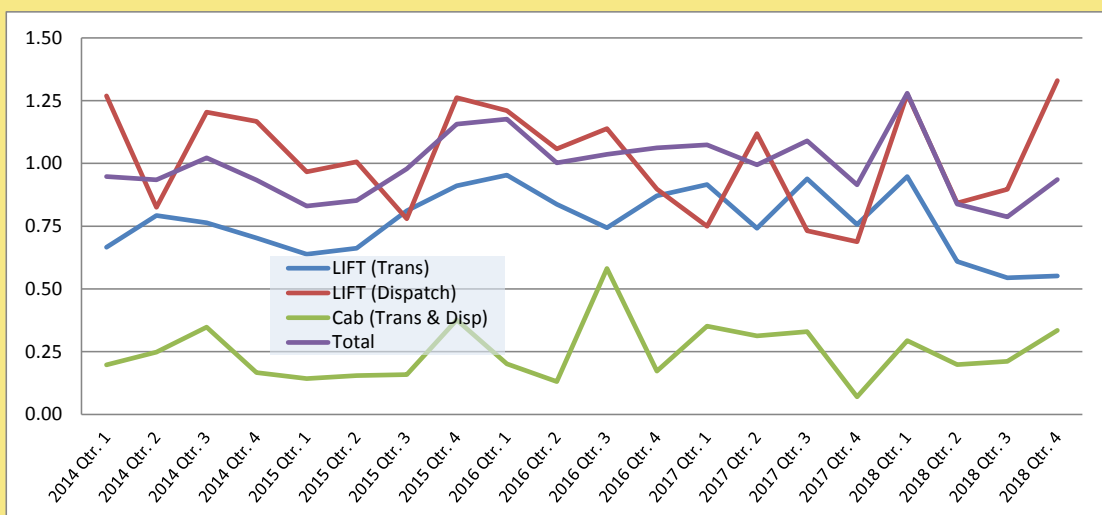
Total Commendations per 1,000 Rides

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
LIFT (Trans)	0.55	0.54	0.76	-27.0%
LIFT (Dispatch)	1.33	0.90	0.69	93.3%
Cab (Trans & Disp)	0.33	0.21	0.07	376.3%
Total	0.94	0.79	0.91	2.3%

Total Complaints per 1,000 Rides



Total Commendations per 1,000 Rides



LIFT Operator Support

Call Center - Percent of Calls Answered within 5 Minutes

	2018 Qtr. 4	2018 Qtr. 3	2017 Qtr. 4	2018 - 2017 Percent Change
Reservations	94.5%	97.0%	89.3%	5.8%
Dispatch	98.2%	98.5%	96.8%	1.4%
Customer Service	98.9%	98.8%	93.7%	5.6%

