



TRANSIT DIVISION PERFORMANCE MEASUREMENTS REPORT







**Fiscal Year 2015-16
Fourth Quarter**

About This Report

The Orange County Transportation Authority (OCTA) operates a countywide network of local, community, rail connector, and express bus routes serving over 6,000 bus stops. OCTA also operates federally-mandated paratransit service (ACCESS), a shared-ride program available for people unable to use the regular fixed-route bus service because of functional limitations. Fixed-route bus service operated by OCTA is referred to as directly-operated fixed-route (DOFR) service, while routes operated under contract are referred to as contracted fixed-route (CFR) service. The ACCESS program is a contract-operated demand-response service mandated by the Americans with Disabilities Act (ADA) that is complementary to the fixed-route service and predominately accounts for the overall paratransit services operated by OCTA. These three services make up the bus transit system and are evaluated by the performance measurements summarized in this report.

This report tracks transit system safety, courtesy, and reliability in the areas of preventable vehicle accidents, customer complaints, on-time performance (OTP), and miles between road calls (MBRC) for the fixed-route and ACCESS programs. The performance indicators are measured by a gauge scale (as shown in the table below). To provide additional information related to the ridership declines experienced over the past three years, a new section is provided to highlight route-level performance.

ROUTE #	SERVICE TYPE	GAUGE INDICATOR	
1 to 99	Local Fixed-Route	Not Achieved (More than 5%)	
100 to 199	Community Fixed-Route	Not Achieved (Within 5%)	
200 to 299	Express Fixed-Route – Intra-County	Achieved (Within 5%)	
400 to 499	Stationlink Fixed-Route	Exceeded (More than 5%)	
500 to 599	Bravo!		
700 to 799	Express Fixed-Route – Inter-County		

Fixed-Route Performance Update

Fixed-route service operates in a 798 square mile area serving more than 3 million residents in 34 cities and unincorporated areas, with connections to service in Los Angeles, Riverside, San Bernardino, and San Diego counties. Fixed-route service operates approximately 1.6 million annual revenue vehicle hours and utilizes 555 vehicles to serve 75 bus routes.

The following sections provide performance information for the fourth quarter for directly operated fixed-route and contracted fixed-route services. A gauge scale is included to illustrate the performance of each measurement against the established standards. The areas that will be highlighted are: preventable vehicle accidents, customer complaints, OTP, and MBRC.

Preventable vehicle accidents are counts of incidents concerning physical contact between vehicles used for public transit and other vehicles, objects, or pedestrians, where a coach operator failed to do everything reasonable to prevent the accident.

To obtain a standardized measurement, the accident counts are multiplied by 100,000, and then divided by the total miles the vehicles traveled. OCTA has established a safety standard of no more than one (1) vehicle accident per 100,000 miles for both DOFR and CFR services.

In the fourth quarter of FY 2015-16, both DOFR and CFR services exceeded the safety standard of one vehicle accident per 100,000 miles, with a rate of 0.55 and 0.52, respectively.

Directly Operated Fixed-Route	Contracted Fixed-Route
<i>Standard of one vehicle accident per 100,000 miles</i>	<i>Standard of one vehicle accident per 100,000 miles</i>
<p>0.55 Accident per 100,000 miles</p>	<p>0.52 Accident per 100,000 miles</p>

During this review period, special campaigns such as “ADA Stops training,” “Sharing the Road with Motorcycles,” “Customer Fall Accidents,” “Fatigue Awareness,” “Customers with Bicycles,” and “Pedestrians are Unpredictable” were conducted.

OCTA has an Annual Required Training (ART) program for all operators. CFR conducts monthly safety meetings for its staff to ensure standards are met. Training campaigns are ongoing and address seasonal concerns and specific trends as they are identified, and to keep safety awareness raised at all times.

Customer complaints are counts of incidents when a rider reports dissatisfaction with the service. For fixed-route service, the metric is standardized by multiplying the counts by thousands, then dividing by the total number of boardings. The standard adopted by OCTA for DOFR service is no more than five customer complaints per 100,000 boardings while the contractual standard for CFR service is no more than one (1) complaint per 7,000 boardings.

In the fourth quarter, both services exceeded its respective standards, with DOFR service finishing the quarter with 4.31 complaints per 100,000 boardings and CFR service with 0.98 complaint per 7,000 boardings.

Directly Operated Fixed-Route	Contracted Fixed-Route
<i>Standard of five complaints per 100,000 boardings.</i>	<i>Standard of one complaint per 7,000 boardings.</i>
<p>4.31 Complaints per 100,000 boardings</p>	<p>0.98 Complaints per 7,000 boardings</p>

Consistent with the last three quarters, the most common complaints received for fixed-route service in the fourth quarter were behind schedule, pass by, and judgment.

TOP 3 Categories	Q1	Q2	Q3	Q4	FYTD
Behind Schedule	318	401	186	157	1062
Pass By	139	134	95	117	486
Judgment	134	92	97	84	407

The reduction in the complaint rate over the last two quarters is mainly attributed to staff’s proactive and hands-on approach. In an effort to better understand and address the complaint trend, DOFR management initiated an action plan

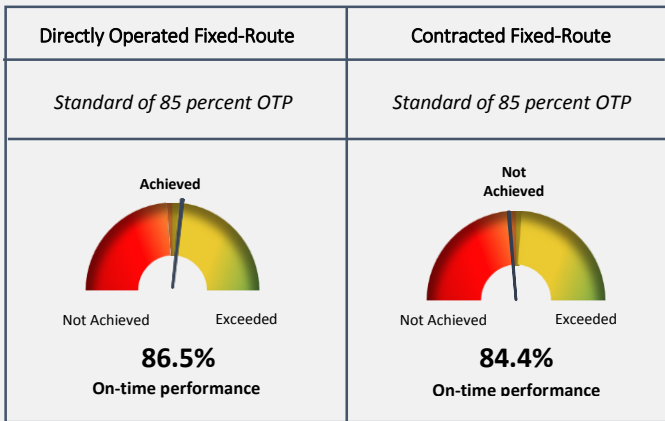
during the second quarter to focus on the ten routes with the highest ridership. The initiative includes a bi-weekly meeting among Bus Operations staff. One of the key objectives of the meeting is to discuss observations and findings related to complaint trends and identify solutions to mitigate the issues.

Similarly, the contractor reviews customer comments with OCTA staff on a weekly basis to identify areas for improvement and review progress on an action plan developed to address complaints received. In addition, route-level analysis is conducted, including increased ride-alongs and spot checks at time points in an effort to improve customer service.

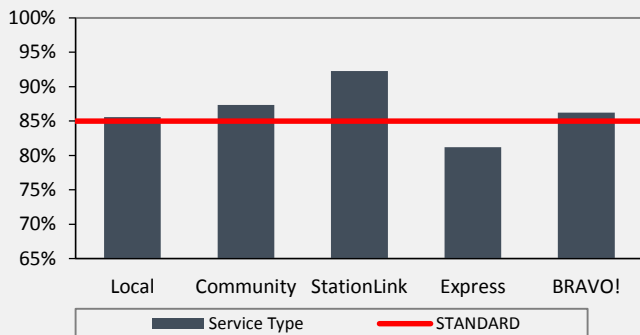
While this trend marks continuous improvement for the last two quarters, staff continues to explore other opportunities to minimize the number of complaints.

On time performance (OTP) is a measure of performance evaluating a revenue vehicle’s adherence to a planned schedule. For fixed-route service, a trip is considered on-time if it departs the time-point no more than five minutes late. OCTA’s system standard for OTP is 85 percent.

Directly operated fixed-route service exceeded the standard with an 86.5 percent OTP in the fourth quarter while contracted fixed-route service was within 0.6 percent of the standard. Opportunities to improve OTP are included in each service change in response to feedback from customers, coach operators, and the ongoing evaluation of OTP for each route.



The following chart shows the OTP by service types for the fixed-route service. With the exception of the Express service, which is greatly impacted by freeway congestion, all the other service types exceeded the standard.



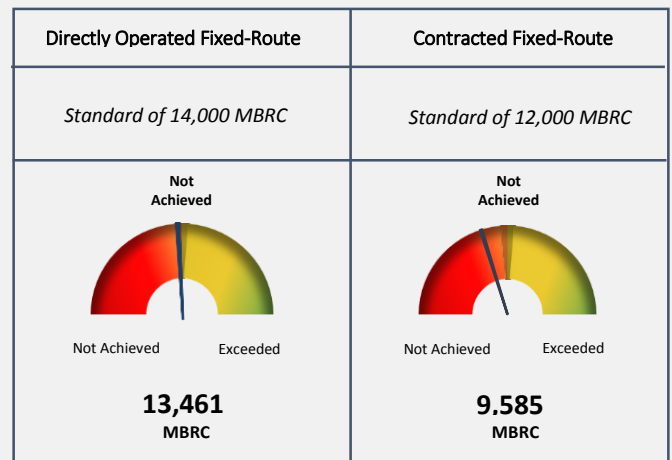
Miles between road calls (MBRC) is a vehicle reliability performance indicator that measures the vehicle miles traveled between mechanical failures for a vehicle in revenue service. Valid mechanical road calls may cause a delay in service and result in removing the vehicle from service until repairs are made. The standard for DOFR service is 14,000 MBRC and for CFR service, it is 12,000 MBRC

Fixed-route service requires a mixed fleet of 555 vehicles, which includes:

Type of Vehicle	Count	Average Age
32-foot compressed natural gas (CNG)	18	3.9
40-foot liquefied natural gas (LNG)	174	14.6
40-foot CNG (Existing)	299	7.6
40-foot CNG (New)	26	0.1
40-foot Diesel	2	18.0
60-foot Diesel	15	14.0
60-foot CNG	20	2.0
60-foot CNG (New)	1	0.1
TOTAL	555	9.3

In the fourth quarter, DOFR service was within 4 percent of the standard with 13,461 MBRC while CFR service completed the quarter with 9,585 MBRC.

Overall, the majority of road calls were for engine-related failures, electrical, and charging system failures. Approximately 19 percent of the mechanical road calls were due to engine-related failures. Generally, engine and transmission failures are indicative of the age of the fleet. The LNG vehicles are scheduled for replacement beginning in February 2016 and continuing into July 2017.



In addition, 299 40-foot CNG vehicles deployed between 2007 and 2008 are due for a mid-life engine rehabilitation, and their performance has been impacted by age and mileage.

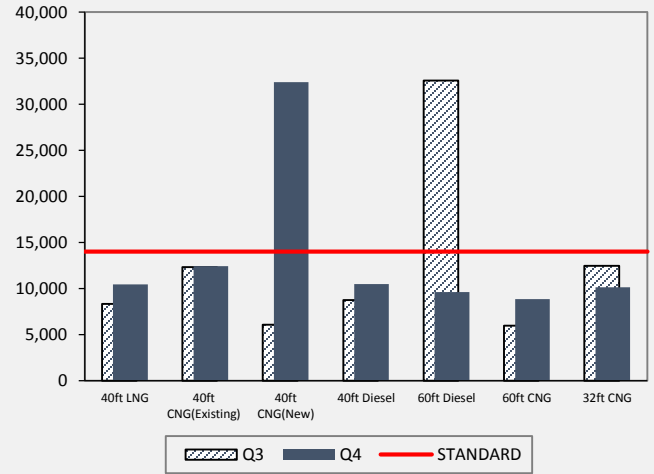
An engine replacement project for 201 of these vehicles was completed in June 2016. The remaining 98 vehicles will receive a near zero emission engine replacement in FY 2016-17. Staff will be seeking Board of Directors (Board) approval for the acquisition of these engines in September 2016.

With the midlife work two-thirds complete and with new vehicles scheduled for deployment over the next 18 months, measurable improvements in MBRC are expected to occur at three intervals, in June 2016, November 2016, and July 2017.

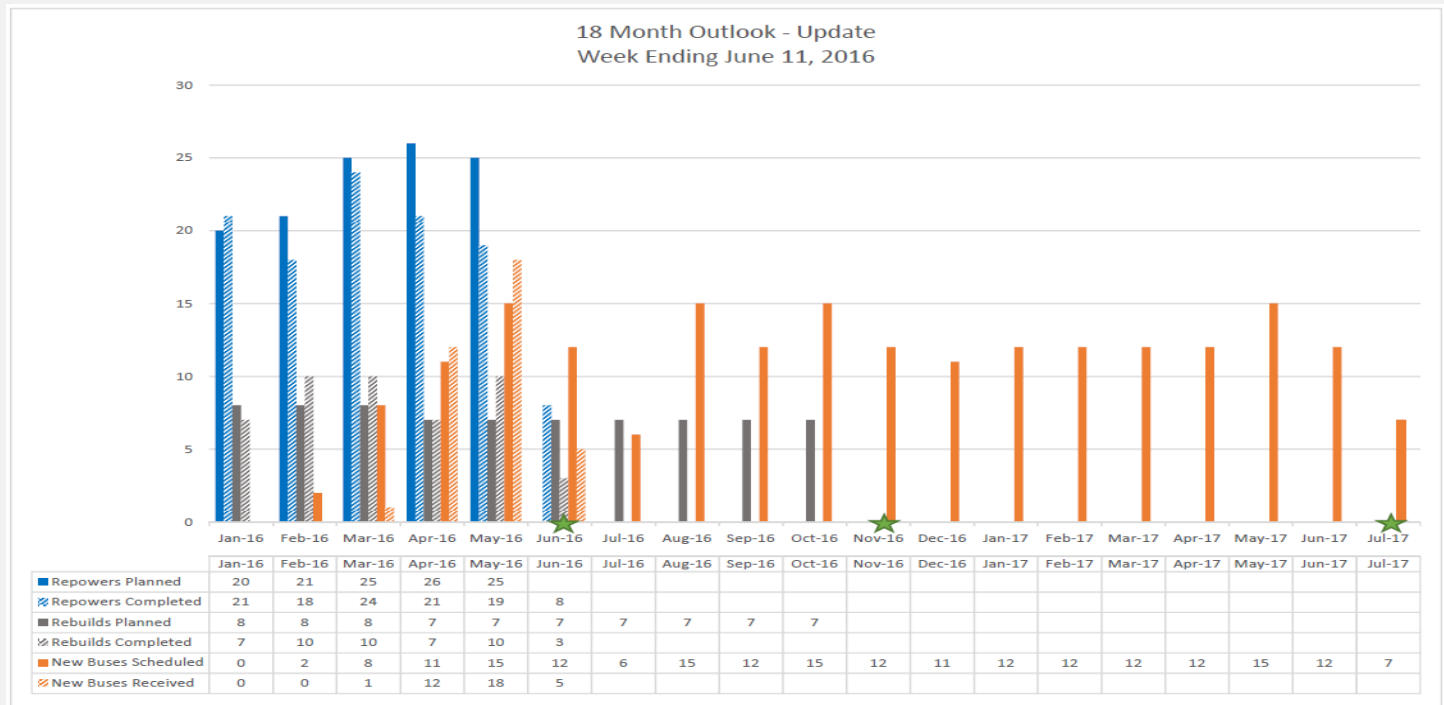
The 18-month outlook chart below shows the schedule for the work underway and the three improvement milestones for MBRC for the 40-foot CNG sub-fleet. As expected, the first 18-month outlook milestone for June 2016 is showing improvements in MBRC.

In addition, 16 new 60-foot CNG articulated buses will also be received during 2016, replacing the remaining 16 diesel articulated buses; the first article is currently in service with the remaining 15 buses expected by the end of October 2016.

MBRC by Vehicle Type



While repower plans and bus delivery schedules are in place and being monitored, some minor delays may arise throughout the 18-month outlook. Once engine campaigns and the replacement of older vehicles underway are completed, MBRC will be positively impacted and the overall performance of the fixed-route fleet will be improved.



As an additional tool to monitor overall service performance, a new measurement has been added to track the percentage of service completed. This is a measure of actual service operated versus service scheduled. The measurement is calculated by dividing actual service hours (scheduled service hours minus lost hours) by scheduled service hours.

Some of the key factors that contribute to lost service hours are: operator absence, vehicle failure, dispatch error, traffic, accident, and other unforeseen events. The table below tracks the percentage of monthly service completed for the last four quarters.

Total Fixed-Route				
Month	Scheduled Service Hours	Lost Hours	Actual Service Hours	% Service Completed
July 2015	138,294.08	96.78	138,197.30	99.93%
August 2016	135,940.33	108.07	135,832.27	99.92%
September 2015	138,283.63	119.40	138,164.23	99.91%
October 2015	132,802.30	133.13	132,669.17	99.90%
November 2015	129,910.70	98.82	129,811.88	99.92%
December 2015	137,633.12	101.48	137,531.63	99.93%
January 2016	132,893.73	94.38	132,799.35	99.93%
February 2016	129,961.87	96.73	129,865.13	99.93%
March 2016	140,247.88	74.82	140,173.07	99.95%
April 2016	132,960.02	68.35	132,891.67	99.95%
May 2016	135,065.52	67.73	134,997.78	99.95%
June 2016	135,810.77	68.90	135,741.87	99.95%
FYTD	1,619,803.95	1,128.60	1,618,675.35	99.93%

Performance Evaluation

Continuing efforts are underway to better understand and address ridership trends. The OC Bus 360 plan, approved by the Board in March 2016, identifies several strategies to stimulate fixed-route ridership, including targeted marketing, a discounted summer youth pass, development of a mobile ticketing application, re-branding the fixed-route fleet, and improved travel time through the use of express-type service on local routes. Additional route adjustments are currently under evaluation. These adjustments were developed after considering route-level performance. Some of these strategies were implemented in the June 2016 service change. Performance evaluation is important because it provides:

- A better understanding of where resources are being applied;
- A measure of how well services are being delivered;
- A measure of how well these services are used; and
- An objective basis for decisions regarding service changes and service deployment.

OCTA has developed a **Service Performance Index (SPI)** to provide a detailed measure of performance at the route by day of week level. The SPI uses three performance indicators.

- **Px/RVH:** Passenger Boardings per Revenue Vehicle Hour
- **PxM/StM:** Passenger Miles per Seat Mile
- **Fare Rec’y:** Farebox Recovery Ratio

Px/RVH measures service effectiveness in terms of usage per unit of service provided. PxM/StM measures service efficiency in terms of the percentage of seats occupied. Fare Rec’y measures financial efficiency in terms of farebox revenue as a percentage of operating cost.

Each performance measure for a given route by day of week is compared against the system-wide average. The three performance measures are averaged and then converted into a score between zero and one, with a higher score always indicating better performance. This score is the SPI value for the particular route and day. An SPI of 0.5 represents an “average” OCTA route. This data is used for evaluating service efficiency and considering route planning options.

The tables on the following pages show the SPI ranking for Weekdays, Saturdays, and Sundays. The data is categorized by service type: Local Fixed-Route, Community Fixed-Route, Express Fixed-Route (Intra-County), Stationlink Fixed-Route, Bravo!, and Express Fixed-Route (Inter-County).

Service Performance Index Ranking (SPI)

Service Type	Route	Weekday SPI	Saturday SPI	Sunday SPI	Service Type	Route	Weekday SPI	Saturday SPI	Sunday SPI	
Local Fixed-Route	64	● 0.86	● 0.76	● 0.73	Community Fixed-Route	143	● 0.56	● 0.30	● 0.21	
	43	● 0.84	● 0.65	● 0.64		129	● 0.55	● 0.31	● 0.25	
	38	● 0.84	● 0.85	● 0.59		167	● 0.47	● 0.20	● 0.17	
	66	● 0.82	● 0.82	● 0.78		153	● 0.43	● 0.31	● 0.27	
	26	● 0.80	● 0.56	● 0.44		177	● 0.34	● 0.41	● 0.30	
	46	● 0.80	● 0.79	● 0.65		178	● 0.30	● 0.09	-	
	53	● 0.80	● 0.76	● 0.69		191	● 0.22	● 0.16	● 0.10	
	30	● 0.79	● 0.75	● 0.53		145	● 0.22	● 0.10	● 0.11	
	60	● 0.76	● 0.75	● 0.64		175	● 0.17	-	-	
	37	● 0.74	● 0.55	● 0.59		187	● 0.15	-	-	
	42	● 0.74	● 0.96	● 0.88		173	● 0.13	-	-	
	29	● 0.73	● 0.67	● 0.63		188	● 0.13	-	-	
	47	● 0.73	● 0.74	● 0.69		172	● 0.13	-	-	
	54	● 0.73	● 0.61	● 0.68		193	● 0.11	-	-	
	57	● 0.70	● 0.66	● 0.60		Express Fixed-Route (Intra-County)	206	● 0.62	-	-
	33	● 0.70	● 0.79	● 0.52			211	● 0.52	-	-
	71	● 0.69	● 0.46	● 0.41			213	● 0.50	-	-
	89	● 0.69	● 0.83	● 0.66			212	● 0.30	-	-
	50	● 0.66	● 0.65	● 0.58			216	● 0.21	-	-
	35	● 0.65	● 0.52	● 0.52		Stationlink Fixed-Route	453	● 0.74	-	-
	59	● 0.58	● 0.27	● 0.21	454		● 0.70	-	-	
	91	● 0.58	● 0.49	● 0.35	472		● 0.63	-	-	
	83	● 0.56	● 0.48	● 0.52	473		● 0.62	-	-	
	90	● 0.56	● 0.42	● 0.39	462		● 0.49	-	-	
	70	● 0.55	● 0.49	● 0.60	480		● 0.26	-	-	
	56	● 0.55	● 0.51	● 0.33	463		● 0.23	-	-	
	55	● 0.55	● 0.56	● 0.51	490		● 0.16	-	-	
	72	● 0.54	● 0.36	● 0.27	464		● 0.12	-	-	
	24	● 0.50	-	-	430		● 0.09	-	-	
	79	● 0.49	● 0.39	● 0.29	410		● 0.08	-	-	
	86	● 0.44	-	-	411		● 0.07	-	-	
	25	● 0.42	● 0.43	● 0.36	Bravo!		543	● 0.79	● 0.73	● 0.68
1	● 0.40	● 0.41	● 0.36	Express Fixed-Route (Inter-County)	794		● 0.65	-	-	
82	● 0.37	● 0.21	-		757		● 0.46	-	-	
87	● 0.34	● 0.18	-		758	● 0.42	-	-		
51	● 0.31	● 0.07	-		701	● 0.37	-	-		
21	● 0.22	-	-		721	● 0.32	-	-		
85	● 0.22	● 0.14	-							
76	● 0.20	-	-							
20	● 0.19	-	-							

ACCESS Service Performance Update

ACCESS is OCTA's shared-ride, advance reservation service for people who are unable to use regular fixed-route bus service because of functional limitations caused by a physical or cognitive disability. These passengers must be certified by OCTA to use ACCESS service by meeting ADA eligibility criteria. Other elements of the ACCESS program that are required through ADA include service provided within ¼ mile corridor of all OCTA fixed-route service, available on the same days and hours of operation as fixed-route.

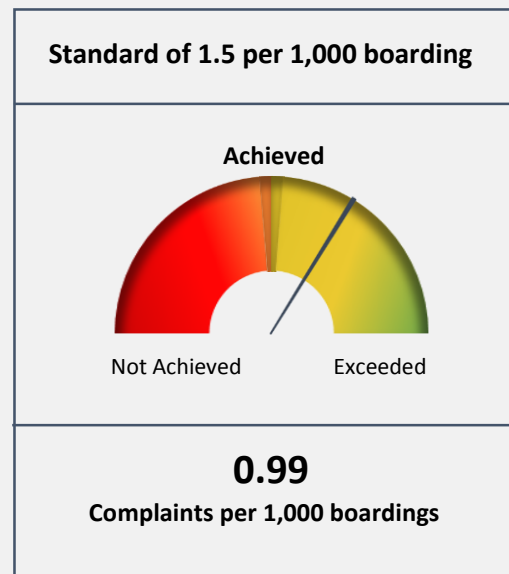
ACCESS service is operated by MV Transportation, Inc. (MV). The ACCESS program uses a fleet of 248 paratransit vehicles and is operated out of the Irvine Construction Circle facility. MV sub-contracts with a taxi provider for ACCESS trips during peak periods when demand exceeds capacity on the ACCESS fleet. In an effort to decrease total ACCESS costs and improve efficiency, supplemental taxi services are also used during the non-peak periods when trip demand is lower and the opportunities for a shared ride are lower.

Similar to the fixed-route section of the report, the ACCESS performance update highlights: preventable vehicle accidents, customer complaints, OTP, and MBRC.

In the fourth quarter, ACCESS exceeded the performance standard of one **preventable vehicle accidents** per 100,000 miles traveled with a rate of 0.38. The contractor employs various strategies to meet the service standard, including conducting monthly driver safety meetings, which provide an opportunity for safety and training staff to discuss trends related to recent accident activity and driver safety information.

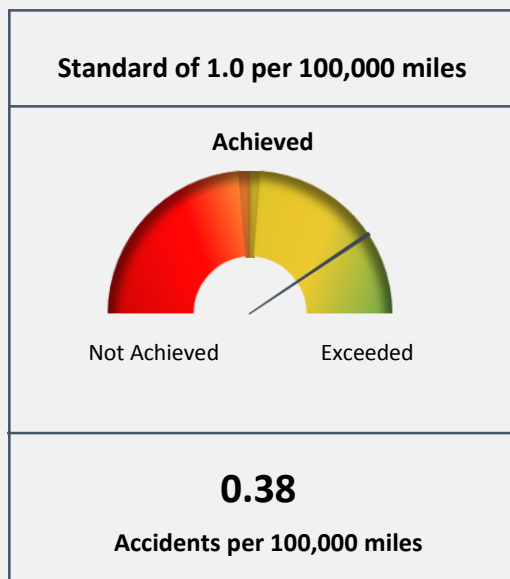
Mandatory annual corporate training and monthly safety meetings are required for all ACCESS employees. Safety campaigns such as, "Intersection Awareness" and "Following Distance and Left Turns" are conducted throughout the year to ensure that safe driving habits are reiterated and that safety messages stay updated.

Customer complaints are counts of incidents when a rider reports dissatisfaction with the service. For ACCESS, the metric is standardized by multiplying the counts by 1,000, then dividing by the total number of boardings. The standard is no more than 1.5 customer complaints per 1,000 boardings.



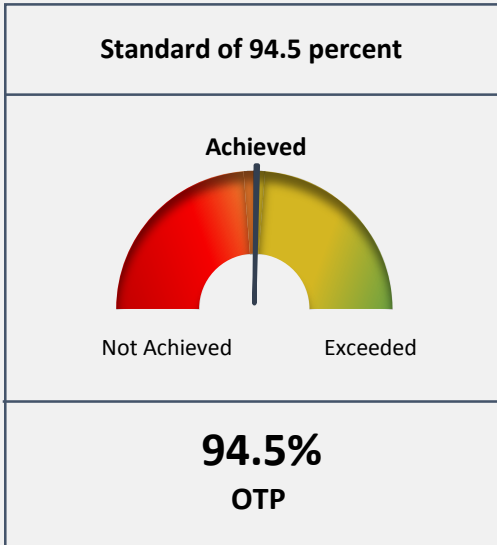
ACCESS exceeded the standard in the fourth quarter with 0.99 complaints per 1,000 boardings.

OCTA and the contractor staff continue to explore options to provide more efficient trip scheduling and routing to maintain customer service standards. Staff works with the contractor to identify areas for improvement and address customer service issues during a monthly meeting with the contractor.



OTP is a measure of performance evaluating a revenue vehicle's adherence to a scheduled pick-up time for transportation on a demand-response trip. A trip is considered on-time as long as the vehicle arrives within a 30-minute window. The ACCESS OTP standard is 94 percent.

In the fourth quarter, the ACCESS program met the OTP standard with 94.5 percent. The use of monitoring software has assisted in managing service operations and making real-time adjustments when necessary to ensure trips are performed within standard.



MBRC for the ACCESS program surpassed the standard of 25,000 MBRC with 39,646 MBRC. The main contributor to the increase has been the acquisition of 99 new vehicles in 2015, approximately 40 percent of the ACCESS fleet.

