

OC FLEX MICROTRANSIT PILOT PROJECT

SIX-MONTH PROJECT UPDATE

OCTOBER 2018 – MARCH 2019

BACKGROUND

In 2015, the Board of Directors of the Orange County Transportation Authority (OCTA) endorsed a comprehensive action plan known as OC Bus 360° to address declining bus ridership. This effort included a review of current and former rider perceptions, a peer review of OCTA's performance and plans, new branding and marketing tactics tied to rider needs, upgraded bus routes and services, technology solutions to improve the passenger experience, pricing and revenue considerations to stimulate ridership, and new funding opportunities.

One of the technology solutions considered as part of the OC Bus 360° Plan is the evaluation of an on-demand microtransit solution, called OC Flex. Initiated in October 2018, OC Flex is an on-demand, curb-to-curb service that extends or complements the OC Bus and Metrolink services provided in the county. Implemented as a one-year pilot, OC Flex is available in two areas selected based on results of planning analysis, a market survey, and technology considerations.

Prior to launch, community feedback was gathered to assure the new service was market-driven and customer-oriented. This research, included a survey and customer focus groups, helped determine areas of highest ridership potential as well as customer preferences regarding fares, hours and days of operation, and points of interest.

As a service concept, the intent of the OC Flex microtransit pilot is to provide a transit option in areas either not adequately served by the existing and planned fixed-route bus network or have recently had unproductive fixed-route bus service removed. The following project goals and performance measures were developed and approved by the Board of Directors to evaluate this service concept.

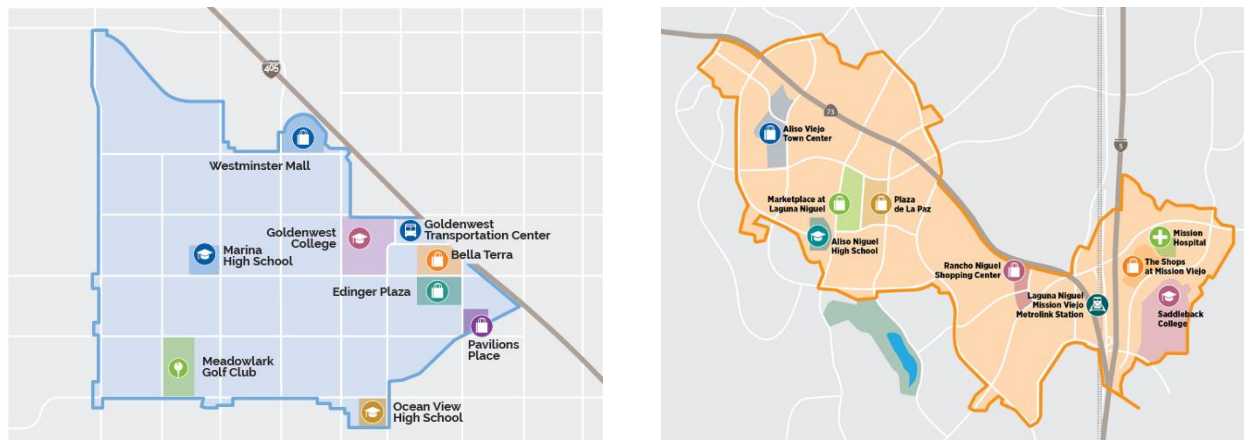
1. Provide public transit mobility in lower-demand areas
 - *Measure: Ridership/Productivity*
2. Reduce total operating and capital costs
 - *Measure: Subsidy per Boarding*
3. Reduce Vehicle Miles Travelled (VMT)
 - *Measure: Shared Rides*
4. Extend reach of OC Bus and Metrolink services
 - *Measure: Connecting Transit Trips*
5. Meet customer needs
 - *Measure: Percent of Passengers Satisfied with Service*

This report provides a review of the performance for the first six months of operation, October 15, 2018 through March 31, 2019, based on the Board approved performance measures. A summary of the performance using these metrics, customer feedback, program and service adjustments, and a peer review of similar pilots implemented across the industry, are also provided.

Overall, the results to date are consistent with expectations for a new service. There is steady growth with observable trends indicating areas of opportunity. The customer response to the service has been positive. Staff is regularly reviewing performance, seeking opportunities to promote the service and make adjustments that meet customer needs within existing resources to ensure a comprehensive evaluation of this service delivery model.

The two zones that are included in the pilot program service areas are referred to by color. The Blue Zone represents the OC Flex service operated in parts of Huntington Beach and Westminster. The Orange Zone represents the OC Flex service operated in parts of Aliso Viejo, Laguna Niguel, and Mission Viejo.

Figure 1 and 2: OC FLEX Zones



SERVICE ELEMENTS

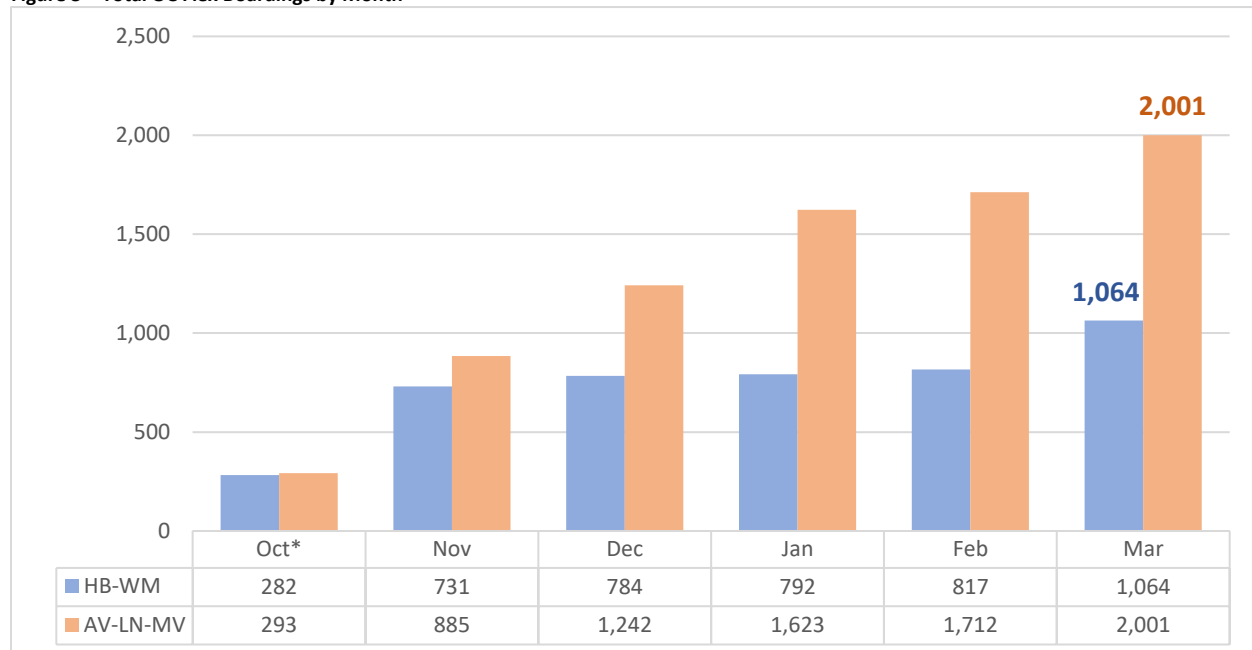
The service is operated by a contractor using four dedicated wheelchair accessible OCTA-owned minivans and two contractor-provided non-dedicated vehicles. Each service area has two of the dedicated vehicles assigned and based on demand, the contractor will deploy one of their vehicles as needed to either zone. The technology solution selected for the mobile application is provided by Via Transportation, Inc. The Via software provides customers with an app for their smart-phone that allows them to place reservations, pay their fare, and monitor their ride. This app also provides scheduling, dispatching, and data collection. In addition, riders can call the contractor directly and book a trip, and they can pay their fare on-board. Passengers receive a discount for using the mobile app to pay their fare. Riders transferring to or from Metrolink or OC Bus can use their Metrolink ticket or the OCTA day pass for a free transfer to/from the OC Flex.

KEY PERFORMANCE MEASURES

Ridership/Productivity

Through the first six months, OC Flex ridership has steadily increased month over month, carrying more than 3,000 riders in March. This represents a 77 percent increase over the reported ridership in November, the first full month of service. From October 15, 2018 through March 31, 2019, there were 12,226 total boardings (Figure 1). In March, the total average weekly ridership exceeded 700.

Figure 3 – Total OC Flex Boardings by Month



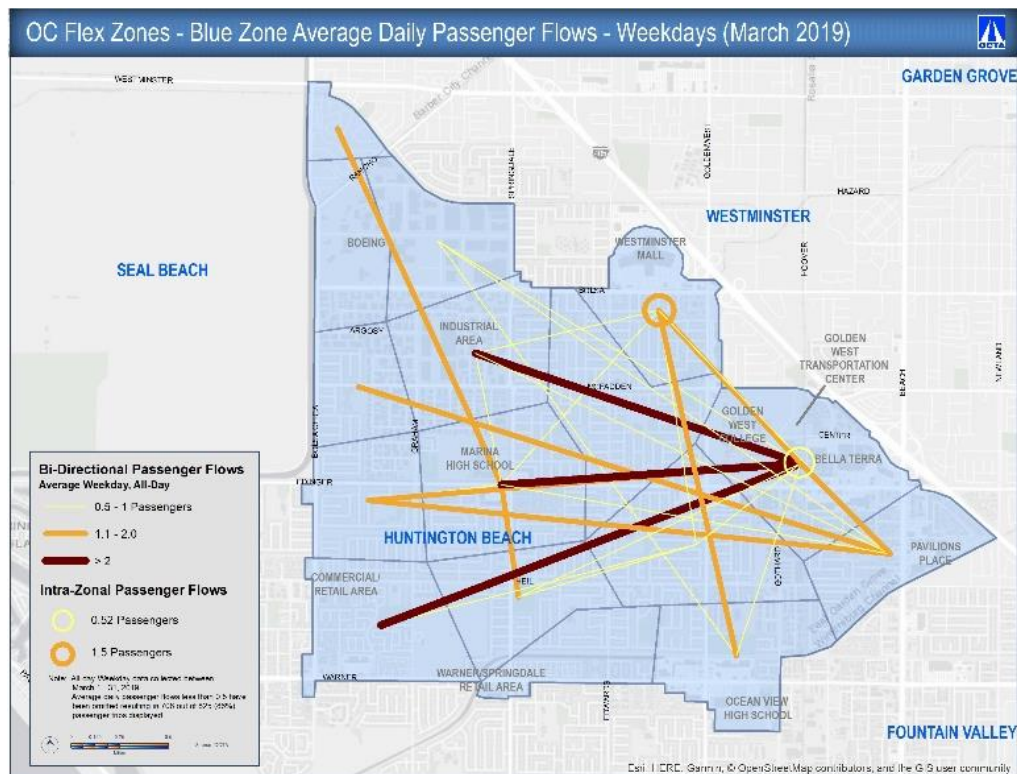
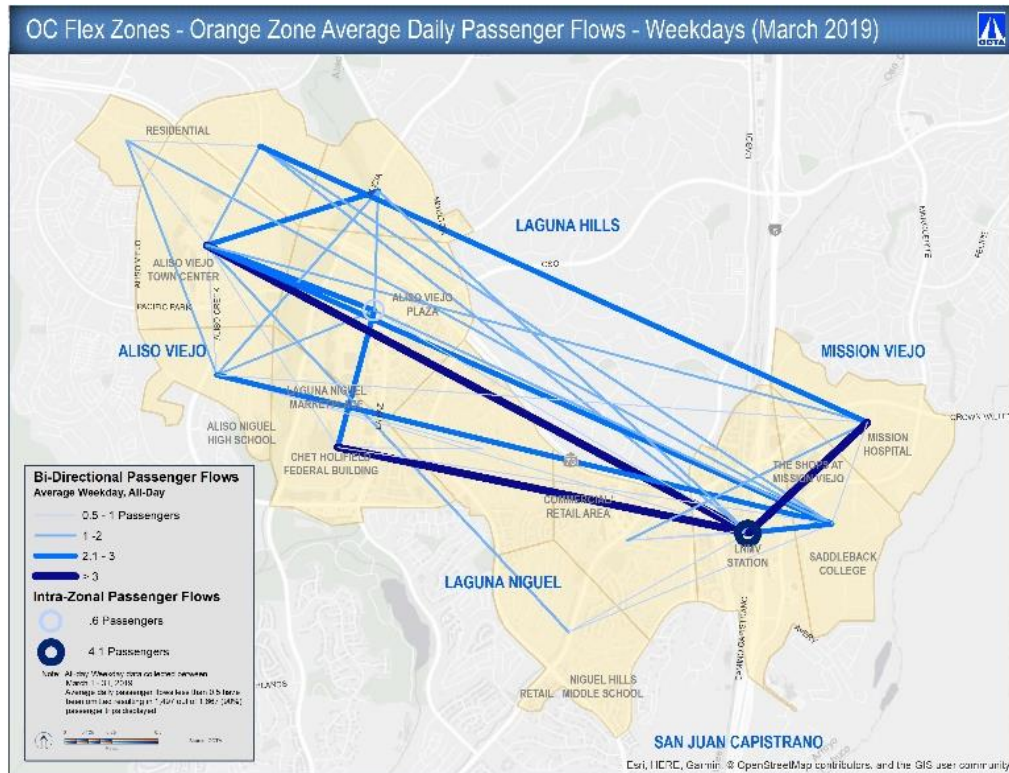
**Service began on October 15th in HB-WM (Blue) Zone; On October 20th in AV-LV-MV (Orange) Zone*

During the reporting period, ridership in the Orange Zone increased at a faster rate than ridership in the Blue zone, 104 percent versus 41 percent.

Notable ridership trends:

- Ridership is heaviest during the weekday peak periods (AM/PM); lower on Saturdays; and light on Sundays
- Highest daily ridership: 150 riders (Friday, March 22, 2019)
- Low ridership was experienced on Holidays (Thanksgiving, Christmas, New Year's Day)
- A strong commuter base exists in the Orange Zone as many trips begin and end at the Laguna Niguel/Mission Viejo Metrolink Station during the weekday peaks.
 - Strong first/last mile connections to points east and west of the rail station
- There is a higher percentage of group rides occurring on weekends, particularly in the Blue Zone

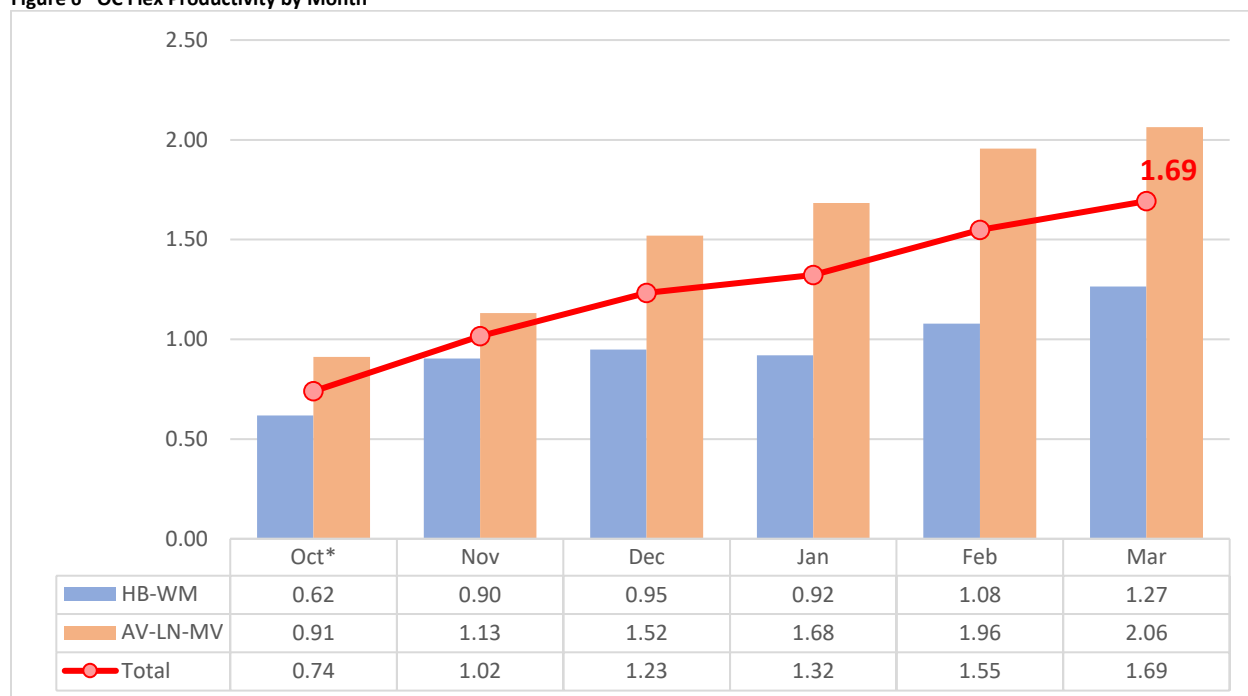
The maps below provide the major origin-destination pairs in each zone.



Productivity is measured using boardings per revenue vehicle hour. This is consistent with how productivity is measured on the OC Bus and rail services. Ridership data is captured through the microtransit software OC Flex. The established target for the pilot is 6 boardings per revenue vehicle hour (b/rvh). For reference, OC Bus service is budgeted to carry 23.5 b/rvh and OC ACCESS is budgeted to carry 1.81 b/rvh in FY 2018-19.

Similar to ridership, productivity on OC Flex is trending positively, 1.69, up from the 0.74 b/rvh. At the zone level, productivity in the Aliso Viejo-Laguna Niguel-Mission Viejo has increased by an average of 23 percent per month. Productivity in Huntington Beach-Westminster experienced a dip through the holidays but has shown incremental growth since January. In March, overall weekday productivity rates were frequently above 2.0 b/rvh.

Figure 6 –OC Flex Productivity by Month



*Service began on October 15th in HB-WM (Blue) Zone; On October 20th in AV-LV-MV (Orange) Zone

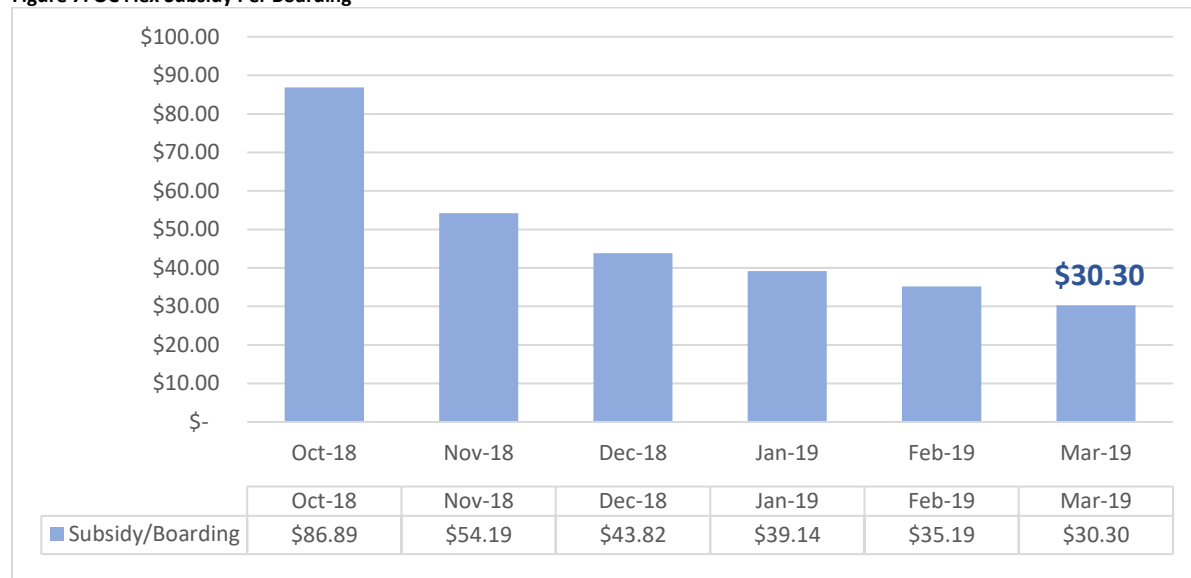
Though the trend is positive, the probability of reaching the target of 6 b/rvh by the end of the first year is low. A review of peer agencies implementing microtransit pilots are experiencing productivity levels ranging from 3.0 b/rvh to 4.5 b/rvh. Given these findings, a productivity level of 3.0 b/rvh can be reasonably expected. Staff are reviewing various approaches to increasing productivity, including reallocation of resources and targeted promotions.

Cost Effectiveness

The measure of cost effectiveness for this pilot is subsidy per boarding calculated using the direct cost of the service less fare revenue and divided by the total boardings. The performance target for this measure is \$9.00 per boarding. This is consistent with the productivity target of 6 b/rvh, as they are inversely related since the cost per operating hour is approximately \$54. Through the review period the total subsidy per boarding was \$41.12. As with the increasing trend in productivity, the trend for subsidy per boarding decreased each month, dropping by 44 percent from November to March. Even with a \$30.30 subsidy per boarding in March, the subsidy per boarding is still higher than the target of \$9.00 per boarding. As ridership and productivity increase, subsidy per boarding is expected to

decrease. If a productivity level of 3 b/rvh is achieved by the end of the pilot period, an estimated subsidy per boarding between \$15 and \$20 can be reasonably expected.

Figure 7: OC Flex Subsidy Per Boarding

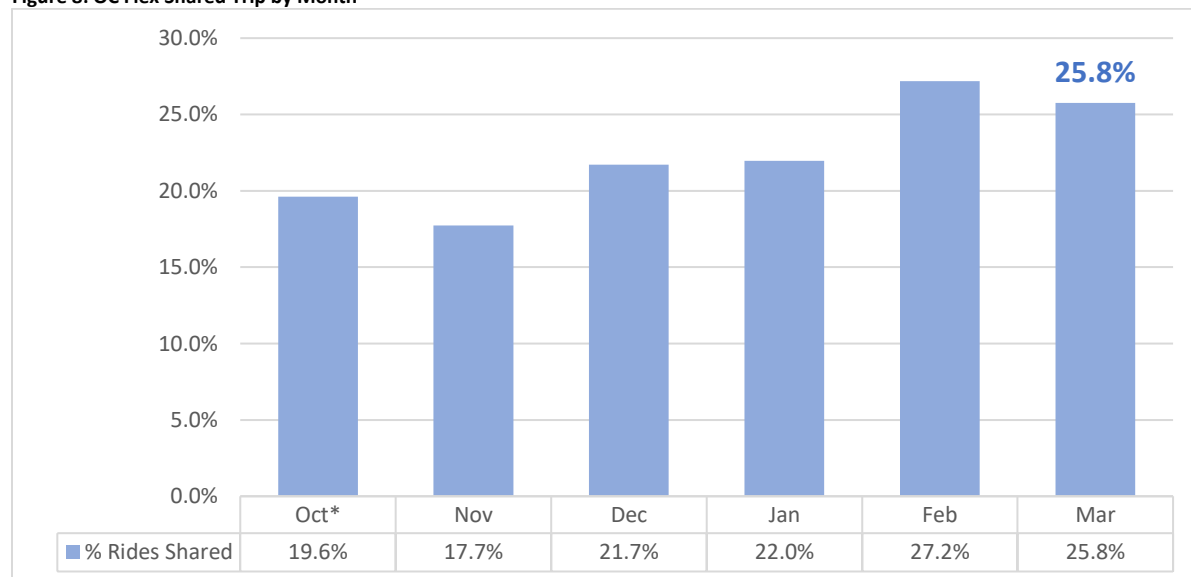


**Service began on October 15th in HB-WM (Blue) Zone; On October 20th in AV-LV-MV (Orange) Zone*

Shared Rides

The key metric for measuring VMT reduction is the percent of shared trips or rides. The data to calculate this measure comes from the microtransit software package that records the number of booked trips that share a vehicle. Performance through March 31, 2019 show a positive trend for shared rides with performance reaching a high of 27.2 percent in February, exceeding the target of 25 percent. Overall, the shared ride percentage is 23 percent. Changes to the microtransit software algorithms, discussed in the adjustments section, are partly responsible for the growing percentage in shared trips on OC Flex.

Figure 8: OC Flex Shared Trip by Month



**Service began on October 15th in HB-WM (Blue) Zone; On October 20th in AV-LV-MV (Orange) Zone*

Connecting Transit Trips

The key measure for connecting transit trips is the percentage of trips to/from transit hubs, namely the Goldenwest Transportation Center (GWTC) and the Laguna Niguel-Mission Viejo (LN-MV) Metrolink Station.

Riders connecting to/from OC Flex at GWTC are generally transferring from OC Bus routes. Those riders connecting to/from OC Flex at the LN-MV Metrolink station are assumed to be transferring from the regional rail system. The performance target for trips to transit hubs is 25 percent. Of the 12,226 riders through the first five months, over 3,500 trips were transfers to/from the transit hubs, a rate of 29 percent (Figure 9).

The transfer rate by zone shows a similar level of disparity. Of the 3,500 trips that were transfers, 72 percent of the transferring trips occurred in the Orange Zone (Figure 10).

Figures 9 and 10: Transfer Trips

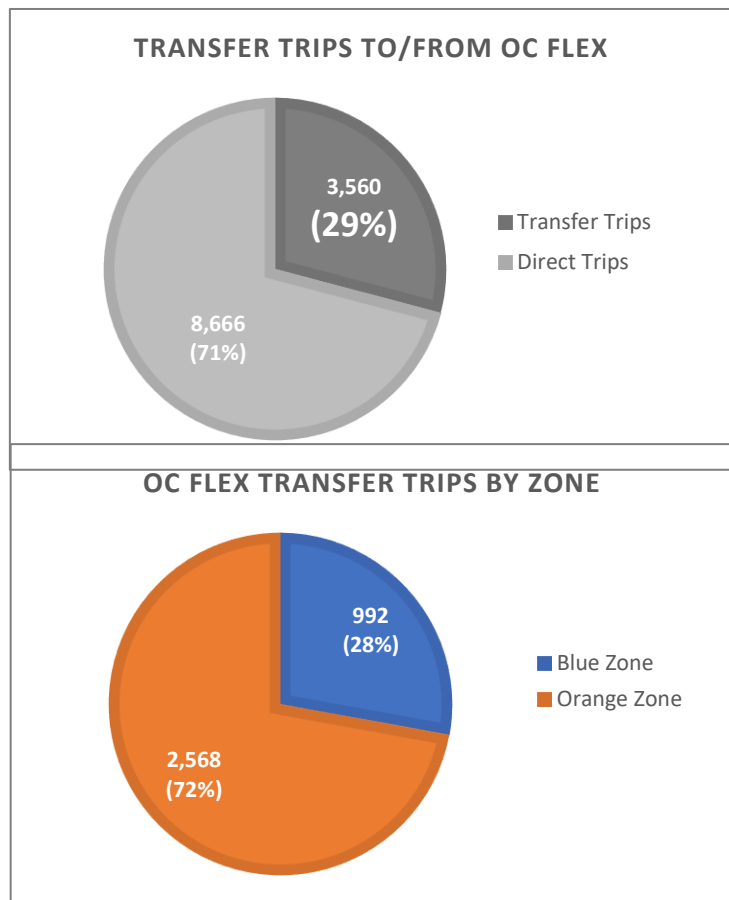
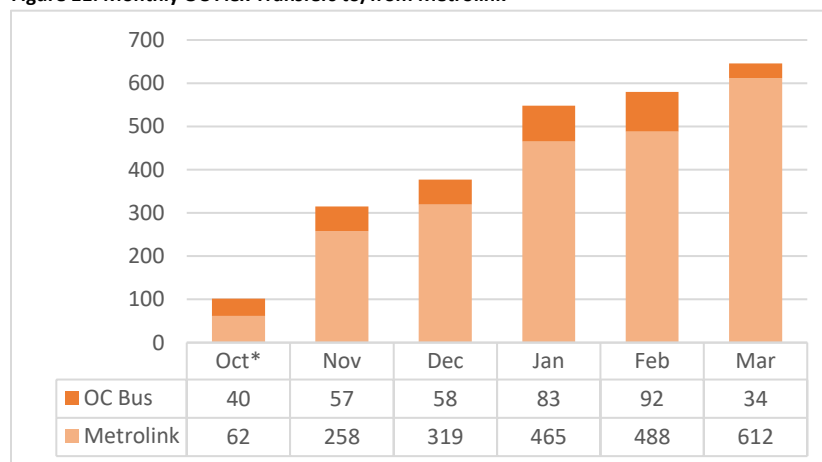


Figure 11: Monthly OC Flex Transfers to/from Metrolink



*Service began on October 20th in AV-LV-MV (Orange) Zone

The high peak demand in the Orange Zone is largely driven by commuters using the OC Flex service for first or last mile connections to the LN-MV Metrolink station. The number of transfers from the regional rail system has increased in each successive month, with March transfers totaling 612, or 70 percent of the total OC Flex transfers and 95 percent of transfers in the Orange Zone.

Customer Satisfaction

The metric for customer satisfaction was to reach an 85 percent passenger satisfaction level by the end of the first year of service. After five full months of service, this goal has been met. A customer survey sent to all OC Flex riders (422 riders) in January 2019 asked respondents how likely they were to recommend OC Flex to a friend or colleague (a common customer satisfaction survey question). Of the 127 responses to this question, 89 percent reported that they were “likely to extremely likely” to recommend OC Flex (responses of 7 to 10 on a 10-point Likert scale).

Figure 12: OC Flex Performance: Through the First Six Months

Board Adopted Goals / Measures		Performance*	Goal Met?
Productivity <i>Boardings per Revenue Vehicle Hour</i>	6	1.7	X
Cost Effectiveness <i>Subsidy per Boarding</i>	\$9.00	\$41.12	X
Shared Rides <i>% of Bookings sharing a vehicle, including groups</i>	25%	23.2%	—
Connecting Transit Trips <i>% of transfer trips</i>	25%	29%	✓
Customer Satisfaction <i>% “likely”/”very likely” to recommend service</i>	85%	89%	✓

Other Measures: Customer Experience

Wait Time

A general objective of the OC Flex microtransit pilot is to attract riders who consider traditional transit to be unattractive or inconvenient. Based on a customer survey conducted during the initial planning, the parameters of the service were set to achieve an average wait time of 15 minutes. Overall, the average wait time after a rider books an OC Flex trip is just under 13 minutes. At the zone level, the difference is notable as the average wait time in the Blue Zone is just over 10 minutes, while the wait time in the Orange Zone is approximately 14 minutes. For reference, the average distance of trips taken on OC Flex is 1.8 miles; 1.6 miles in the Blue Zone and 1.9 in the Orange Zone.

Travel Time

Though shared rides are a primary goal, the in-vehicle time of the customer is tracked to be kept to a minimum in order to meet the customer need of fast and direct service. Through the first six months, the average trip time is approximately 10 minutes. As with wait time, there is a difference at the zone level, with the Blue Zone averaging 9 minutes of in-vehicle time and the Orange Zone averaging 12 minutes of in-vehicle time.

Considering the average wait and travel times, the total time from a customer booking a trip to the time they arrive at their desired location is, on average, 23 minutes. At the zonal level, the times are 19 minutes and 26 minutes for the Blue and Orange Zones, respectively.

RIDE RATINGS

OC Flex riders are able to report their satisfaction directly using the OC Flex mobile app by rating their last ride. As of April 2, 2019, the average ride rating for OC Flex is 4.92 (out of 5). In addition, OCTA Customer Relations receives, reports, and responds to customer comments received by phone, email, social media, or through the OC Flex app.

In order to more directly assess customer satisfaction, demographics, and feedback on service attributes, a customer information survey was conducted from January through February 2019. Out of 422 active OC Flex customers at the time the online survey was conducted, 134 riders (32% of active riders) responded. As mentioned previously, customer satisfaction levels were high, with 89 percent reporting they were “likely to extremely likely” to recommend OC Flex. Respondents also reported being “satisfied or very satisfied” with:

- OC Flex safety (96%)
- Driver courtesy (95%)
- Service cost (91%)
- Travel time (89%)

The majority of survey respondents were very favorable towards OC Flex, with some specific service attributes (such as service coverage area or vehicle availability) having lower customer satisfaction levels. Additional survey response data and demographic information is included in Attachment C.

ADJUSTMENTS

An advantage of a pilot service is the ability to implement minor adjustments to service allowing for a more comprehensive evaluation while meeting the customer needs. Though the first six months of service OCTA staff, working with the service contractor and technology vendor, made various adjustments related to planning, service parameters, and marketing.

Vehicle deployment

Under the operating agreement, the Contractor provides up to two vehicles (one in each zone) as necessary to accommodate increased passenger demand during peak periods. Due to the high request rate of peak period trips in the Orange Zone, beginning on January 14, 2019, the third vehicle was deployed daily during the weekday peak. This adjustment had a two-pronged effect: first, the change reduced the volume of messages customers received that reported no vehicles were available; second, the change sustained the increasing trend in service ridership and productivity in the Orange Zone.

For more direct routing and improved trip times in the Orange Zone, toll-road transponders were installed on OC Flex vehicles to permit use of CA-73 which runs through the middle of the zone.

Technology/Conceptual Parameters

OC Flex is a microtransit service, meaning it is technology-enabled by a software application, provided by Via Transportation, Inc., that allows customers to hail trips directly from their mobile devices. The supporting software dispatches vehicles in response to customer demand while providing real-time status and arrival information. It is within the software that service parameters can be modified to optimize vehicle use and service performance. Through the review period, the OC Flex team has implemented several improvements within the Via software package. These improvements include, but are not limited to:

- **Maximum detour:** Expand the maximum detour a vehicle would make with boarded customers to pick up other ride hailing customers. The purpose of this change was to increase ridership and productivity as well as the number of shared rides.
- **Total pick-up delay threshold:** Increase the allowable delay for customer pickup from three to five minutes to allow other bookings on the same trip, increasing the potential for shared rides and increased productivity.

For example, if Rider A accepts a 12-minute estimated wait time for a ride, and Rider B tries to book a ride on the same van, but in doing so, would cause Rider A to have a 15.5 minute wait time, under the 3 minute parameter, Rider B would receive notification that no seats were available. By expanding the delay threshold to five minutes, Rider B would be accommodated on the same trip with Rider A as long as the estimated wait time for Rider A did not exceed 17 minutes.

- **Minimum good wait:** Extend vehicle wait times at terminals (e.g., Transit Hubs) from three minutes to six minutes to assist with trip aggregation (shared rides) and increased productivity

Marketing/Promotions

OCTA has conducted comprehensive campaigns to educate residents about OC Flex and to promote ridership. Prior to launching the service, potential riders in both zones learned about the new transit option through direct mail (43,130 households), 16 pop-up booths at events, vehicle branding, outdoor advertising, and making presentations at city council meetings and community centers. Targeted digital advertisements and social media reached nearly 99,500 people. In addition, as a result of comprehensive business outreach, 25 business partners signed up to offer discounts to OC Flex customers.

After OC Flex launched in October 2018, promotions were developed based on service demand. During November and December 2018, OCTA positioned OC Flex as an alternative transportation choice for holiday gatherings/shopping as well as for students on holiday break. OCTA partnered with the Capistrano Unified School District to send an email to all district students to familiarize them with the new option and encourage ridership in the south county zone. In addition, a campaign targeting students through digital advertisements and social media was launched in both OC Flex zones. On New Year's Eve, service hours were extended to 2:00 am to offer a safe travel alternative on this festive evening. In addition to direct mail, digital advertising during the holiday period reached more than 50,000 people and generated 700 responses (clicks, likes, shares, comments) on social media.

In February 2019, a group ride fare promotion was implemented to increase weekend ridership. The campaign offers discounts for groups of two, three or four riders who book rides using the OC Flex mobile app during weekends. Direct mail postcards were sent to households in both OC Flex zones and targeted digital advertisements were posted which reached nearly 125,000 individuals and generated more than 2,000 engagements on social media. Based on initial results, the campaign has been successful in raising the number of group rides on weekends. Approximately 90 group ride tickets were purchased to date since the campaign launched on February 2. The promotion will continue through July 28, 2019.

In addition, OCTA continues to market OC Flex to area businesses such as hotels, dealerships, and medical complexes to encourage them to offer OC Flex as a transportation option to and from their businesses.

PEER REVIEW AND INFORMATION EXCHANGE

Transit agencies and service providers across the industry are currently evaluating the merits of the microtransit concept. During the review period, OCTA staff surveyed five other transit agencies currently operating comparable microtransit services with the intent to broaden the scope of the evaluation. Though the operational contexts vary, the information offers key insights for consideration for the remainder of pilot period. The American Public Transportation Association (APTA) will host a peer exchange on behalf of OCTA during the upcoming APTA Mobility Conference in May 2019. The intent is to collect additional information from the industry and to share our experience to date with OC Flex. In addition, OCTA plans to post this report and previous OC Flex planning documents on our website for reference.

NEXT STEPS

Since pilot initiation, OCTA staff, in cooperation with the contractor and technology vendor, have made a number of adjustments related to planning/operations, software service parameters, and marketing promotions. Staff will:

- Continue to make adjustments to allow for the comprehensive evaluation of the service concept while testing new and existing rider markets. Continue to collect the data necessary to measure performance
- Conduct another customer survey in June 2019, after the six-month point of the pilot evaluation period
- Evaluate the data available after the conclusion of the pilot period in October 2019, compare against the established performance measures and develop recommendations based on the findings
- Return to the OCTA Board of Directors in early 2020 to present the pilot results, present recommendations based on the findings, and revisit the performance metrics, as appropriate, for this new service model as directed by the Board.