



Report No:

17-128

Meeting Date:

May 10, 2017

Alameda-Contra Costa Transit District

STAFF REPORT

TO: AC Transit Board of Directors
FROM: Michael A. Hursh, General Manager
SUBJECT: AC Transit Flex Service Update

BRIEFING ITEM

RECOMMENDED ACTION(S):

Consider receiving a report on the performance of the District's Flex Service Pilot to date.

BACKGROUND/RATIONALE:

In July 2016, the District began testing a dynamically scheduled demand-response transit service called Flex in areas of Newark and Castro Valley. The service allows customers to book trips on any internet-enabled device, as well as through the District's customer service call center. Customers book trips from a set of designated bus stops in the Fremont, Newark, and Castro Valley areas, including the Castro Valley and Union City BART stations. The Flex service has no fixed route and no schedule, except at the BART stations where customers can board with or without a reservation (every 30 minutes at Union City BART and every 60 minutes at Castro Valley BART). Pick-ups and drop-offs are conveyed to the bus operator via an onboard tablet computer running scheduling and route-matching software developed by DemandTrans.

As presented previously to the Board (Staff Report 14-247), the purpose of the Flex pilot is to test an innovative service delivery method aimed at improving bus service in low-density and low-demand areas of the District. These areas are typically faced with a dilemma of not having enough demand to support frequent bus service, yet the absence of frequent service means fewer people take the bus. A dynamic reservation-based system allows the District to route service to where customers are in time and place, avoiding the need to operate the same fixed route on every trip regardless of demand. This allows the District to enhance frequency at key transfer points, such as BART, while maintaining coverage where it is needed.

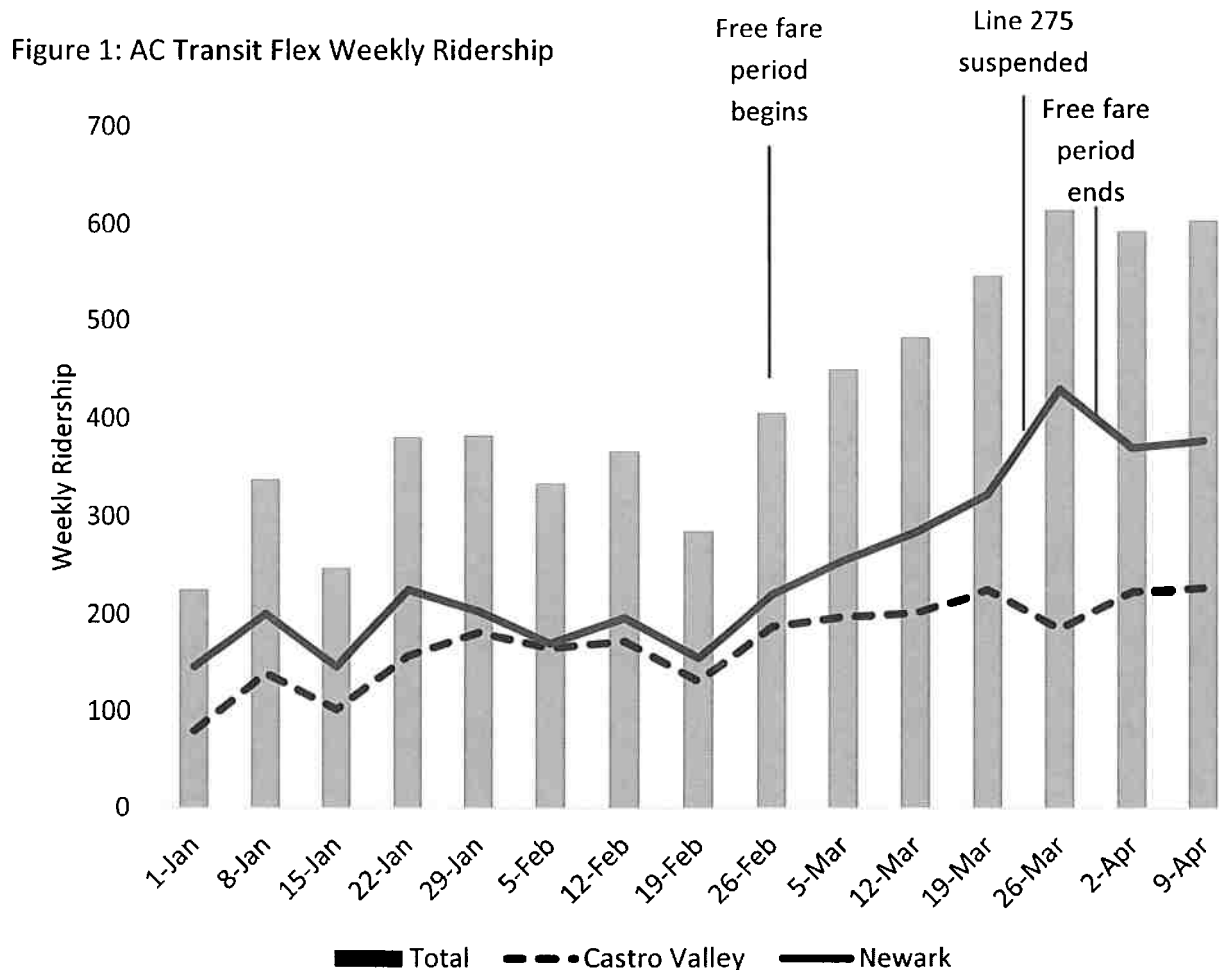
The Flex pilot is also one element of the District's response to changing customer expectations regarding on-demand transportation in the age of ride hailing services like Uber and Lyft, with one important distinction: equity. The growing trend of transit agencies incentivizing their customers to take Uber or Lyft can leave the unbanked or those with disabilities with unequal transit options, while shifting transit labor to the so-called "Gig" economy. By contrast, AC Transit Flex is operated by the District's operators on wheelchair accessible small transit buses with the same fare and customer service policies as a regular local bus.

After several months of testing in revenue service, the District officially launched the one-year Flex pilot in Newark on March 27th, 2017, coinciding with the temporary suspension of Line 275. The Newark Flex service operates during the same days of the week and service hours and covers all bus stops previously served by Line 275, with a few exceptions:

- Service frequency at BART is improved to 30 minutes from 45 minutes;
- Stops between Union City BART and Decoto Road in Union City are not served by Flex (Lines 99, 200, 232, DB, and DB1 serve these stops); and
- Previously closed stops in the Ardenwood, Gateway, and Thornton Avenue employment areas have been reopened.

Flex Ridership Analysis

To date, there have been over 13,000 passenger trips taken on Flex. Figure 1 shows weekly ridership trends by service zone and overall since the beginning of the calendar year.



The noticeable ridership growth in March coincided with a targeted marketing and communications campaign that included messaging about the suspension of Line 275 and the free fare promotion on the Flex service:

- Direct mail to 11,000 Fremont/Newark area residences and businesses
- Brochures, flyers, seat drops and car cards
- Ads at Union City BART Station with a circulation of 3,784,368
- Bus exterior ads with estimated views of 550,000
- Bus shelter ads with 550,000 impressions
- Digital media advertising with 500,000 guaranteed impressions
- Website, including new carousel image, social media and eNews
- Use of bi-lingual brand ambassadors at Union City BART Station and on Line 275 buses to promote Flex and help passengers register for the service
- At-stop signage, including pole case inserts and Flex service signs.

By the end of March, ridership doubled in Newark from previous levels before dipping slightly at the end of the free fare period.

An analysis of ridership trends in the Newark area reveals customer trips are generally commute focused:

- 66% of trips occur during the peak periods of 6am – 9am or 3pm – 7pm
- 74% of trips begin or end at BART, connecting BART passengers to office parks in the Ardenwood area or residences along Thornton Avenue
- 24% of trips are to areas newly served by Flex in the Ardenwood and lower Thornton Avenue employment zones
- The average trip length is 4.5 miles and 17 minutes in duration

By contrast, the Castro Valley Flex service is generally more neighborhood focused:

- Ridership is steadier throughout the day, with fewer than 60% of trips occurring during peak periods
- 67% of trips begin or end at BART
- The average trip length is 1.8 miles and 11 minutes in duration

Of all trip requests that come into the system, 46% are booked online by customers themselves, 38% are walk-on trips at BART, and 16% are booked through a call center agent. The low proportion of trip requests booked through the call center indicates most customers are learning to navigate the booking process themselves.

Next Steps

Ultimately, staff will consider the Newark pilot a success if productivity on Flex approaches that of the Line 275. Encouragingly, average daily passenger trips on Newark Flex in the first week of operation of the pilot exceeded half of those previously taken on Line 275. In addition, productivity levels equal or exceed during peak periods the average weekday productivity levels of Line 275 of seven passengers per revenue hour.

Just as important to success is customer satisfaction, and early indications are positive here as well. The weeks since the suspension of Line 275 have not seen an increase in customer complaints, and to date there has been just one complaint regarding the suspension of Line 275. Over two-thirds of customers who have booked trips on Flex since the beginning of the program have taken return trips, and 28% have taken more than 10 trips. This compares favorably to a recent analysis of the RideKC: Bridj on-demand pilot in Kansas City, Missouri, which found that half of users made just one trip and just 9% took more than 10 trips.

Staff will continue to evaluate service productivity and customer feedback throughout the pilot year and make a recommendation to the Board at the end of 2017 to continue Flex or restore Line 275 or a similar fixed route for the March 2018 service change. In addition, staff plans to conduct a marketing campaign for Castro Valley Flex coinciding with the implementation of the Central County AC Go service changes which are planned for spring 2018 and depend on availability of sufficient operators and operating budget.

BUDGETARY/FISCAL IMPACT:

The Newark Flex pilot is more or less cost-neutral given that two buses operating on Line 275 have been replaced with two buses operating on Newark Flex, with the same weekday span and revenue hours. The Castro Valley pilot costs an additional bus because it operates on top of existing service. In both cases, the additional cost of the tablet computers and hardware, as well as the software and support provided by DemandTrans, adds approximately \$5.75 per revenue hour per vehicle, an increase of 3-5% in operating cost. This cost is offset by the lower maintenance costs associated with operating the Flex service with 24-foot cutaway buses, which average \$0.48 per mile compared to \$1.11 per mile for the 30-foot buses previously on Line 275. To date, this has saved an average of \$9.75 per revenue hour. Operator pay will be higher during the pilot year due to a Memorandum of Understanding between the District and ATU that allowed operators to volunteer to sign the Flex service based on seniority outside the normal sign-up process. The agreement provides that the District pay the operator's signed run pay, which is higher than the straight run pay of Flex. This allowed the District to train a select group of veteran operators during the pilot year. Should Flex continue beyond the pilot period, operators will bid on the service through the normal sign-up process.

ADVANTAGES/DISADVANTAGES:

The principal advantage of Flex is that it allows the District to serve customer demand where it is in time and place. For example, rather than running the 275 on the same fixed route every 45 minutes, Newark Flex departs every 30 minutes from Union City BART to serve customers' exact trip requests (Castro Valley Flex provides departures every hour from Castro Valley BART using just one bus). For the District, this means the Flex vehicles, which already have lower maintenance costs than standard buses, drive fewer miles and can be operated more frequently from BART. For customers, besides more frequent BART departures, Flex service means shorter travel times due to more direct routing and the ability to schedule trips on demand or when convenient, which equates to shorter wait times.

This advantage can be a disadvantage if the need to schedule a pickup becomes a barrier to using the service. Customers accustomed to walking to the nearest bus stop to board Line 275 may find scheduling a pick-up beforehand cumbersome. This may explain the lower ridership on Newark Flex to date (it may also be explained by passengers using other fixed routes in the area, such as Lines 99, 200, and 232). Staff has worked to lessen the scheduling barrier by ensuring customers have the option to book trips online or by phone, and has posted a step-by-step guide to using the service online, on the bus, and at key bus stops. Staff will continue rider education efforts throughout the pilot year to ensure all who wish to use the service can do so conveniently.

An additional advantage of Flex service is it provides a more robust dataset for planning purposes. Because the scheduling software records the origin and destination of each trip – instead of simply the boarding and alighting counts at each stop like on regular buses – staff can plan service based on trip level data rather than stop level data. The software also records travel time continuously, meaning travel time estimates can be updated constantly.

Finally, the service has generated positive attention for the District in the community, the press, from elected officials, and from numerous transit agencies around the country. A recent community health fair at the Kenneth Aitken Senior Center in Castro Valley drew interest from hundreds of seniors. External affairs staff has met with local, state, and federal elected officials to discuss the service, many of whom display Flex materials in their offices or promote the service via social media. Staff has also been invited to present at numerous conferences, including a recent Transportation for America conference in Washington, D.C., where over a dozen transportation agencies convened to learn about innovative transit projects around the country. Staff has also been invited to present at the Transportation Research Board's Automated Vehicle Symposium in San Francisco this July to discuss the role of transit in the context of automated transportation.

ALTERNATIVES ANALYSIS:

Staff previously studied alternatives to Flex with District 2 stakeholders as part of the Mobility Management and Technology Task Force (Staff Report 13-253). Key service delivery alternatives studied included route and point deviation systems and the establishment of a centralized trip brokerage service that would coordinate passenger trips across multiple providers in a region. An additional alternative, one which the Task Force did not study, would be to subsidize customer trips on ride-hailing services such as Uber or Lyft, which other transit agencies have adopted. The Task Force ultimately recommended the Flex Pilot as a project the District could feasibly implement with its own vehicles and operators. At the time, staff released the RFP for the technology component of the Flex Pilot, there was only one respondent who could integrate on-demand, scheduled, and reservation-less boardings at BART – DemandTrans. There may be alternative technology providers now, and staff plans to release another RFP for technology services should Flex continue beyond the pilot year.

The Mobility Management and Technology Task Force also developed a draft cost-neutral service plan for District 2 that provided 15-minute or better service on all key arterials and 5 to 7 Flex zones anchored by key transit stations (e.g. BART, Ardenwood Park and Ride, ACE) covering all remaining bus stops in Fremont and Newark.

The plan came out of a recognition from stakeholders that the current service network of low-frequency routes, many of which are hourly with limited transfer opportunities, works well for those whose destinations are served and whose time and schedule allow but is limiting for the majority of residents in the region. While the current Flex pilot is targeted at improving service along a particular route, the ultimate goal is to improve the transit network in all of Fremont and Newark. An alternative to this plan would be to generally keep the current network, but improve frequency on a few select lines. Staff will present a refined high-frequency arterial/flex zone network at the conclusion of the Flex pilot should the Board want to continue and expand the service.

PRIOR RELEVANT BOARD ACTION/POLICIES:

14-247 – Line 275 Flex Service Pilot

13-253 – Mobility Management and Technology Task Force

ATTACHMENTS:

None.

Approved by: Ramakrishna Pochiraju, Acting Executive Director of Planning and Engineering

Reviewed by: Robert del Rosario, Director of Service Development and Planning

Prepared by: John Urgo, Transportation Planner, Service Planning
Michael Eshleman, Manager, Service Planning