Executive Summary and Recommendations
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WHAT IS FAST FORWARD?

As a result of reduced ridership due to impacts of the COVID-19 pandemic, Fairfield and Suisun Transit (FAST) recognized a need to proactively reimagine and adjust its services. In December 2020, the Fairfield City Council directed staff to initiate its first Comprehensive Operational Analysis (COA) called FAST Forward to provide the City of Fairfield (City) with a ten-year road map identifying changes needed for FAST to be a high functioning and sustainable transit network post-pandemic.

FAST Forward first looked at how FAST could best balance and address the:

- Needs of existing users,
- Wants of people who would use transit if it was more convenient, and
- Resources available as effectively and efficiently as possible.

FAST Forward then completed:

- A comprehensive review of all current transit services available to Fairfield and Suisun City residents,
- A peer review of like-sized California transit systems,
- A data-driven review of how, when, and where people move within the region, and
- A comprehensive public engagement program to gather feedback on the current FAST system and initial recommendations.

After completing the above analysis, FAST Forward developed a series of recommendations designed to reimagine and reinvent transit in the City over the next ten years. The City of Suisun City (Suisun City) initially participated in this initiative but has since decided to separately develop and implement microtransit options for its residents.

This Executive Summary provides an overview outlining:

1. Transit needs, wants, and resources of Fairfield residents,
2. Guiding principles necessary to meet project goals, and
3. Updated/new transit service and fare recommendations the City will implement to meet the current and future needs of its residents.

Figure 1 - Mobility Success
**DATA SOURCES AND GLOSSARY**

**Census Data:** The census provides critical data that lawmakers, business owners, teachers, and many others use to provide daily services, products, and support for the community. Every year, billions of dollars in federal funding go to hospitals, fire departments, schools, roads, and other services based on census data.

The results of the census also determine the number of seats each state will have in the U.S. House of Representatives, and they are used to draw congressional and state legislative districts.

The Constitution: Article 1, Section 2 mandates that the country conduct a count of its population once every 10 years. The 2020 Census marked the 24th time the country has counted its population; the first was in 1790. FAST Forward utilized the 2020 census data where it was available. In some cases, census data did not provide information on certain segments of the City such as the Cordelia and Green Valley. It should also be noted that the census data is analyzed by block group. In some cases, these blocks are very large geographically. However, concentrations of populations are not necessarily distributed evenly across the entire block group. This is the case in areas such as southern Fairfield.

**American Community Survey:** The American Community Survey (ACS) is an ongoing survey that provides vital information on a yearly basis about our nation and its people. Information from the survey generates data that help determine how more than $675 billion in federal and state funds are distributed each year. Through the ACS, we know more about jobs and occupations, educational attainment, veterans, whether people own or rent their homes, and other topics. Public officials, planners, and entrepreneurs use this information to assess the past and plan the future.

**Ridecheck:** FAST Forward ridership data was collected using automated passenger counters installed on buses from January 2021-December 2021. These counters collected boardings and alightings along each route at different times of the day; this is known as a “ridecheck.” Overall, three full samples of weekday data (each trip was sampled a minimum of three times) and two samples of weekend trip data were collected.

**GPS/LBS Data:** Global positioning and location-based data has become common place through the advancement and proliferation of smartphones. This study utilizes disaggregated, anonymized GPS/LBS data to understand traffic movement, including frequency, location, and duration.

**Food Desert:** A food desert is an area that has limited access to affordable and nutritious food, in contrast with an area with higher access to supermarkets or vegetable shops with fresh foods.

**Education Desert:** An education desert is defined as a local area where there are either zero or only one public broad-access colleges nearby.

**Transit Dependency:** The American Public Transportation Association (APTA) defines Transit-Dependent Population as people in the transit-dependent market that have no personal transportation, no access to such transportation, or are unable to drive.

**Revenue Hours:** Revenue hours are defined as any time a FAST vehicle is in service.
DETERMINING MOBILITY NEEDS

To determine the needs of Fairfield residents, FAST Forward looked at two areas – the availability of existing service and how it matched where and when people traveled.

TRANSIT AVAILABILITY

In FY 2019 (July 1, 2018-June 30, 2019), FAST operated **185** revenue hours each weekday and **77** revenue hours each Saturday of local service. FAST also operated **134** revenue hours each weekday hours for the SolanoExpress Blue Line and Green Express routes and **31** hours each Saturday for the SolanoExpress Blue Line.

During FY 2020 (July 1, 2019-June 30, 2020), service was suspended on several routes throughout the network, resulting in fewer revenue hours operated for both local and SolanoExpress routes due to the COVID-19 pandemic.

In FY 2021 (starting July 6, 2020), FAST partially restored service levels on both local and SolanoExpress commuter routes.

*Figure 2 - Current System Map with Population Density*
In FY 2021 (July 1, 2020-June 30, 2021), local routes had 19% fewer weekday revenue hours and 21% less Saturday revenue hours than in FY 2019. SolanoExpress routes in FY 2021 had 43% fewer weekday revenue hours and 33% less Saturday revenue hours than in FY 2019.

Note: Route specific metrics are found in individual route profiles.

TRANSIT USAGE
The COVID-19 pandemic has had a significant impact on FAST’s overall daily ridership. On local routes, FAST service was temporarily suspended on Routes 2, 4, 5, and 8 between March and June 2020 due to depressed ridership. Heavily dependent on commuters, SolanoExpress ridership was even more significantly impacted by the pandemic than local routes (see Figure 4).

While service hours were partially restored in July 2020, ridership had not yet significantly rebounded by April 2021 when this study was initiated. This was due to residents still being encouraged to avoid non-essential interactions and travel and many continuing to stay home or drive.

For this study, ridership was collected via automated passenger counters (APCs) that were placed on FAST vehicles from January 2021 through December 2021. While the ridership and usage figures below represent an accurate count, it should be noted that local schools and Solano Community College were closed and conducting all teaching remotely.

The APC data collected in 2021 (represented as 2H FY 2021 in Figure 4) reflected a consistent rebound in local ridership as more riders returned to the system.

![Figure 3 - Fixed Route Daily Revenue Hours](image-url)
SERVICE EFFECTIVENESS AND QUALITY

To truly understand how transit users frequent the existing network, FAST Forward looked at indicators of productivity, on-time performance, and travel time to understand the effectiveness and service quality provided.

Productivity measures how many passengers on average use the service each revenue hour. Productivity sharply decreased from FY 2020 to FY 2021 as fewer passengers used the network due to COVID-19. The goal is to have higher productivity numbers as it correlates with greater use of the services.
At the weekday route level, the Green Express and Route 1 were the most productive routes in the FAST network. Route 4 and the Blue Line were the least productive. It should be noted Route 8 increased its productivity from FY 2019 to FY 2020 before dropping in FY 2021.

Because on-time performance per route was being measured during a depressed ridership period, and Fairfield and Suisun City have been recovering from a pandemic, the figures below do not necessarily reflect real-world performance. However, FAST’s fixed routes operated mostly on time during the data collection period (winter and spring 2021). Most routes performed faster than projected by the schedule, however, no early departures were observed.

The chart above compared scheduled route travel time to actual route travel time. For example, Route 1, had a scheduled travel time of 26.5 minutes. The actual travel time observed was 25.9 minutes indicating an on-time performance of 97% (25.9/26.5).
On average, customers using FAST’s local services traveled 3.32 miles per journey and spent an average of 12 minutes on the bus.

**UNDERSTANDING CURRENT TRAVEL PATTERNS**

As part of FAST Forward, FAST utilized a next generation way of understanding travel patterns. Using cellular and GPS data, that was anonymized and disaggregated, and complex machine learning algorithms, the City would better understand current travel patterns. Then by comparing these travel patterns across past and current years, FAST could forecast future travel patterns.

This section provides information on travel patterns and an early glimpse as to how well travel needs have been met with existing transit services.

Current travel patterns reflect changes that began taking hold during the pandemic. With a higher work from home population, Figure 9 demonstrates travel patterns are now more focused all day. There is significant movement throughout the City in the early AM and PM, with late night and mid-afternoon being slightly depressed in comparison. Military time is used in both Figures 9 and 10 to demonstrate the travel pattern changes between 2019 and 2022.
When comparing 2019 to 2022, trips started earlier in the day than prior to the pandemic. Trips in the early evening were also higher in 2022 compared to 2019, but 2022 trips dropped off before the end of the day.
As shown in Figure 11, 62% of trips taken occurred within Central Fairfield with an additional 19% of trips taken in the Cordelia/Green Valley area. Most trips from Cordelia/Green Valley went to Central Fairfield.

**TRAVEL DEMAND BY TIME OF DAY**

To understand and identify transit gaps, *FAST Forward* compared transit service trips to travel demand. Transit trips are considered those that start or end within ¼ mile of an existing transit route. In addition, average distance and travel time was compared between transit and non-transit trips. Currently, FAST does not operate late evening service or owl service, which is overnight (midnight to 5 am).
In the table above, travel demand was even across the main time periods (AM Peak/Midday/PM Peak), with a slight reduction in midday travel. On average, each trip taken by car within Fairfield was approximately 4.4 miles long and took 10 minutes. Only 30% of all travel demand could be met by existing FAST service. Again, this is measured by trips that start and end within ¼ mile of existing transit. The trips that can be taken on transit were approximately 19% shorter and took almost double the time. These indicators highlighted that Fairfield residents have geographic and time constraints that need to be better addressed by FAST.

Travel patterns between time periods did not change dramatically. However, travel patterns did intensify in Central Fairfield as the day approached the PM peak period.

FAST service was concentrated within Central Fairfield where most trips start or end. Only 23% of all current trips taken in the City could be completed using FAST service. This was not an indication that the service is poor, it was more an indication that the population and employment centers in the City have grown and changed; the goal of FAST Forward has been to identify these and create recommendations addressing these changes.
UNDERSTANDING MOBILITY WANTS

Transit continues facing an uphill battle attracting passenger car owners and users. Based on the American Community Survey (ACS) data, 95% of all trips taken in Fairfield are made using a passenger car. That accounts for over 28,000 daily Fairfield resident car trips per day. The ACS also reports 93% of trips are made by people who drive alone. Most of these solo driving trips take less than 15 minutes travel and are less than 4 miles in each direction. These solo trips enhance traffic congestion.

Figure 12 - Mobility Mode Choice

Figure 13 - Traffic Volume Map
As part of this study, non-transit users were surveyed to understand what factors prevented them from using transit. Aside from having access to their own automobile, the majority of users said the service either provided a poor experience, because it took too long (13%), or it wasn't available where they lived or needed to go (34%). Over half of City residents surveyed said the inconvenience of transit was the biggest impediment to using transit versus driving.

As an example of this impediment, it would now take over two hours for a Cordelia area resident to travel to work at Travis Air Force Base by transit and would require this resident to make three transfers. When traveling by car, the same commute would take 23 minutes.

Despite these inconveniences, FAST Forward found there were opportunities to shift users from their cars to transit. In the same survey referenced earlier, 63% of respondents between the ages of 35-44 said they would utilize FAST post-pandemic if better connections and faster service were implemented.

- **36%** Of respondents would use public transit post-pandemic – highest in California (tied with BART)
- **61%** Of respondents would use transit if it had better connections and faster service

**PUBLIC OUTREACH RESULTS**

To further understand wants and needs, FAST Forward included a comprehensive public engagement process. The engagement process included the following methods:

- Phone and Email Market Survey,
- Onboard and Community Survey,
• Virtual Community Meetings, and
• Pop-Up Workshops.

PHONE AND EMAIL MARKET SURVEY
The Phone and Email Market Survey was designed to inform FAST Forward by gathering statistically reliable data on relevant perceptions, opinions, travel characteristics, and mode-choice decisions of adult residents in the cities of Fairfield and Suisun City. There were 665 respondents to the market survey.

The survey found that the pandemic compelled many people to change their travel habits — including the frequency and types of trips they make, as well as their modes of travel. Prior to the pandemic, residents in FAST’s service area reported an average 16.8 days per month driving alone or with members of their household, 1.87 days per month carpooling with people they don’t live with, 1.57 days riding a bus, 1.55 days riding BART, and 1.14 days using an on-demand ride hailing service like Uber or Lyft. Approximately one-in-ten respondents indicated in a typical month they used a bike for a trip they otherwise would have taken by vehicle (0.84 days) and rode a Capital Corridor or Amtrak train (0.35 days), pre-pandemic. Just over one year into the pandemic, the average number of trip days reported by respondents was lower for every mode, indicating that residents are making significantly fewer trips overall now than they were previously.

Residents of Fairfield and Suisun City were mixed in their assessments of how well the transportation system in their area meets their needs. Approximately one-quarter rated the transportation system’s performance in this respect as excellent (5%) or good (19%), one quarter as fair (26%), whereas one-third provided a rating of poor (13%) or very poor (19%). An additional 18% were unsure or unwilling to share their opinion.

When asked in an open-ended manner what would make the bus a more attractive option, respondents who expressed a willingness to ride the bus post-pandemic were most apt to suggest adding transit stops or stations (26%) and improving schedules, routes, and/or connection (26%), followed by faster/more direct routes (9%), making the bus perform similar to an automobile (8%), reducing fares/ticket costs (7%), and improving the cleanliness (7%) and the safety/security of the transit system (6%).

ONBOARD AND COMMUNITY SURVEY
FAST posted the onboard and community survey on the agency website, and the project team posted the survey to the project website located at: https://www.fastforward2021.com/.
Both FAST and project team distributed five e-mail notifications to a database of more than 900 recipients. Social media messages were posted on Facebook, Twitter, Instagram, and NextDoor. The project team posted paid and geographically targeted social media advertisements on Instagram and reached more than 3,200 community members in the Fairfield and Suisun City region.

The project team also reached out to more than 40 stakeholder groups through personal phone calls and emails, asking them to share information about the survey through their communication channels.

VIRTUAL COMMUNITY MEETINGS
In July 2021, FAST hosted a series of three virtual community meetings to present proposed changes to the region’s local fixed-route bus network and obtain community feedback. A total of 27 community members participated in these meetings, which were hosted virtually through Zoom due to statewide regulations regarding the COVID-19 pandemic. The meetings took place on July 6, 7, and 8 from 5 - 6:30 pm.

POP-UP WORKSHOPS
The study team also held a series of three pop-up workshops at key locations and times throughout the project area to gain a wide scope of input:

- Workshop #1: September 30, 2021, at the Fairfield Farmers Market,
- Workshop #2: October 14, 2021, at the Solano Town Center, and
- Workshop #3: October 14, 2021, at the Safeway on Waterman Road in Fairfield.

The purpose of these pop-up workshops was to talk to existing and potential transit users about the new proposed service changes for FAST, better explain the new micro-transit service, as well as encourage participation in an online user-survey to help the project team better understand the input and reactions to these proposed service changes. The project team interacted with over 160 people at the pop-up workshops informing them of the proposed recommended changes as well as how the new system would function for them specifically.

FEEDBACK ON PROPOSED SERVICE CHANGES

| 4.2/5.0 | Survey respondents felt the proposed service plan would benefit the community |
| 81%     | Survey respondents would consider taking microtransit were it available |
MARKET FACTORS

Beyond the needs and the wants of Fairfield travelers, there were also external factors driving the need to evolve and modernize FAST’s transit network. This was not surprising, as a community evolves over time, and as a result, a community’s mobility needs change. For FAST to continue to successfully provide mobility options to residents, FAST’s network would need to adapt to post-pandemic travel patterns.

The cities of Fairfield and Suisun City grew by approximately 10,000 residents between 2010 and 2018 and are expected to add another 5,000 residents between 2018 and 2030. The number of jobs increased by 2,000 between 2010 and 2015 with an additional 6,000 jobs expected between 2015 and 2030. This influx of additional residents and jobs offers FAST an opportunity to attract additional riders if the network changes to meet rider needs.

Expected growth in Fairfield, Suisun City, and Solano County was enough to warrant this FAST Forward study, but with COVID-19 fundamentally changing how people live their daily lives, the need to reinvent and reimagine FAST had never been greater. Much like other communities regionally, nationally, and worldwide, the pandemic resulted in more people working remotely, which drastically reshaped commuting patterns and shifted when and where people traveled throughout the FAST service area. The decrease in traditional commuters led to decreases in FAST’s ridership and fare revenue, leaving the agency with the need to attract riders from outside traditional markets. Adjusting to these new travel patterns and behaviors is needed to ensure FAST remains a viable mobility option for its residents.

To achieve a truly transformative service plan, the study has utilized data collected through a variety of means to comprehensively tell the story of how, why, and when people move in this area and how FAST services can positively change these habits and affect behavioral changes in resident travel patterns. People are ultimately motivated to make a change only when something becomes less expensive or more convenient. This study has assembled a series of principles to guide the ultimate recommendations found at the end of this section.
ADDRESSING RESOURCES

Since FAST Forward was not an unconstrained plan, proper resource utilization was considered as part of the plan’s recommendations. The plan will also help build advocacy for additional funding by offering better, more compelling mobility solutions for residents.

In 2020, the City spent approximately $13.6 million in annual operating costs for its transit system according to the National Transit Database (NTD). This represents a 6% reduction from 2019. This reduction was due to reduced operating hours that were cut during the pandemic. Prior to 2020, annual service costs increased approximately 2.3% each year, which was in line with industry standards.

In August 2022, FAST will no longer operate SolanoExpress routes, resulting in a significant reduction of FAST’s annual revenue that also will result in a corresponding reduction in expenses as shown in Figure 18.

Figure 17 - FAST Annual Expenses by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>Maintenance Costs</th>
<th>Operating Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$2,497,048</td>
<td>$9,731,928</td>
</tr>
<tr>
<td>2016</td>
<td>$2,337,348</td>
<td>$9,687,390</td>
</tr>
<tr>
<td>2017</td>
<td>$3,031,769</td>
<td>$10,458,812</td>
</tr>
<tr>
<td>2018</td>
<td>$2,985,215</td>
<td>$11,339,584</td>
</tr>
<tr>
<td>2019</td>
<td>$2,933,222</td>
<td>$11,600,565</td>
</tr>
<tr>
<td>2020</td>
<td>$2,881,781</td>
<td>$10,754,924</td>
</tr>
</tbody>
</table>

Figure 18 – FAST Expenses by Year Without SolanoExpress

<table>
<thead>
<tr>
<th>Year</th>
<th>Maintenance Costs</th>
<th>Operating Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>$1,609,817</td>
<td>$6,532,961</td>
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<tr>
<td>2016</td>
<td>$1,587,238</td>
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<tr>
<td>2017</td>
<td>$1,965,373</td>
<td>$6,837,865</td>
</tr>
<tr>
<td>2018</td>
<td>$1,953,313</td>
<td>$7,399,066</td>
</tr>
<tr>
<td>2019</td>
<td>$1,716,415</td>
<td>$6,541,101</td>
</tr>
<tr>
<td>2020</td>
<td>$1,680,132</td>
<td>$6,226,112</td>
</tr>
</tbody>
</table>
Prior to 2020, FAST operated an average of 66,000 revenue service hours per year on its fixed route and DART service. Service hours were reduced 26% due to the pandemic in 2020.

The goal of FAST Forward is to return local service to 2019 levels (if that level of service is still warranted) and address the primary needs and wants of City of Fairfield residents.

Longer term, FAST Forward’s primary goal will be to increase productivity, operate more efficiently, and maintain financial sustainability without operating SolanoExpress. FAST has already established a track record of proactively applying and then successfully receiving federal competitive grants, as demonstrated by FAST being awarded $3.4 million in operational grants in FY 2021-22. These grants will help offset COA implementation activities over the next three fiscal years (through FY 2024-25).
GUIDING PRINCIPLES

In almost all transit systems, there are a limited number of places a person can reach within a reasonable period. This includes travel to jobs, schools, healthcare, or leisure activities. As creatures of habit, people dedicate a certain amount of time for travel to their destination. FAST’s goal is to enhance access and provide better connections that make transit a reasonable choice.

FAST Forward’s recommendations were developed to balance the needs of existing riders with improving transit access and quality for potential riders. This plan also is designed to make transit an easier and convenient option for more people. To accomplish this mission, the following guiding principles were developed.

These guidelines are supported by the following project goals:

- **Collaboratively** determine a set of service types and how they function together,
- Gather fully **up-to-date**, detailed ridership, market, and service information,
- Prioritize the **rider experience**, and
- Develop **service standards** for existing and new service.
ENHANCE ACCESS

Shown graphically below, access can be measured by taking the amount of time a person is willing to travel to their points of interest in any given city. The basic premise of public transportation is to increase the number of useful places people can access in a reasonable amount of time without driving beyond the area they could reach on their own.

In Figure 20, access is determined by:

- **The network, including transit routes with their frequency, speed, and duration.** These features determine how long it takes to get from any point in the network to any other point.
- **The layout of the city.** This determines how many useful destinations can be located near transit stops. For example, where there are more people or useful destinations near a given stop, good access from that point is of value to more people.
- **Your location.** This determines which routes are close and frequent enough to be useful to you.

*Figure 20 - Measuring "Access" Courtesy Jarret Walker*
In the City of Fairfield, most residents live within ¼ mile of existing FAST stops. However, there are new and growing population centers in Green Valley, Paradise Valley, and in Northeast Fairfield with limited or no access to FAST routes.

However, access is not just about how close residents live to existing transit, it is also about where people want to go (e.g., leisure, healthcare, jobs, schools, shopping, restaurants).

Disaggregated, anonymized cell phone GPS/LBS data was used to determine travel patterns in the FAST service area. When looking at access to jobs, FAST Forward looked at jobs that were accessible within 45 minutes of public transit. Outside of Central Fairfield (the circled area on Figure 22) most jobs were inaccessible via transit in under 45 minutes.
**BETTER CONNECT LOCAL COMMUNITIES**

The cell phone GPS/LBS data also showed Fairfield residents do not just travel within Fairfield. Figure 23 purple sections showed 77% of all Fairfield residents traveled outside City limits at least once per month. 23% of outside trips went to Vacaville, while 21% traveled to Vallejo or Benicia. Sections in green represented the percentage of trips that started in Fairfield but ended outside City limits.

The major trip generators in order of frequency of use in the current FAST service area are as follows:

- Solano Town Center
- Walmart-Suisun City
- Walmart-Fairfield
- Costco - Green Valley
- Rodriguez High School
- Suisun City Waterfront
- Travis Air Force Base
- Fairfield-Vacaville Hannigan Train Station

When looking at how well the existing transit network meets the demand of residents traveling within the City of Fairfield, it was clear many trip generators (blue dots in Figure 24) are within walking distance (0.5 miles) of existing FAST service. The darker blue dots reflect the most used trip generators.

Figure 25 shows the major trip generators that are greater than 0.5 miles from existing transit. These include new developments in Green Valley, Paradise Valley, and Northeast Fairfield.

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**Figure 23 - Local Trip Distribution**

**Figure 24 - Trip Generators and Distance to Transit**

**Figure 25 - Trip Generators Greater than 0.5 Miles from Transit**
**BETTER REGIONAL CONNECTIONS**

With SolanoExpress commuter service, Fairfield residents have opportunities to travel much greater distances. Figure 26 shows where Fairfield residents travel regionally to the Bay Area and Sacramento. The purple sections represent trips that originated in Fairfield with destinations outside the City limits. Sections in green represent the percentage of trips that started in Fairfield but ended outside the City limits.

The disaggregated, anonymized cell phone GPS/LBS data was also used to determine regional travel patterns. During an average month, Fairfield or Suisun City commuters made 562,000 trips to major destinations:

- 245,000 Davis/Sacramento trips
- 119,000 San Francisco trips
- 89,000 Richmond/Oakland trips
- 65,000 Concord/Pleasant Hill trips
- 44,000 Napa/Sonoma/Petaluma trips

FAST transferred its operation of SolanoExpress service to SolTrans in August 2022. While FAST will no longer directly operate the service, Fairfield transit commuters will still board SolanoExpress at current SolanoExpress pickup locations.

**FASTER AND MORE FREQUENT, RELIABLE SERVICE**

The market survey and direct community feedback received throughout this project clearly demonstrates Fairfield residents want faster, more frequent service to make public transit a more attractive option over other mode options. While the service recommendations do include higher frequencies on core fixed transit routes, the service plan below also includes implementing a new service mode called “microtransit.”

Microtransit is a form of Demand Responsive Transit (DRT). These transit services offer flexible routing and/or flexible scheduling of vehicles, typically booked through a smartphone application. Microtransit providers build routes to match demand (trip) and supply (driven vehicle) and extend the efficiency and accessibility of the transit service. Possible pick up/drop off stops are restricted, usually within a...
geofenced area. Vehicle type can vary, but microtransit is often operated with a van or minibus. Conceptually, microtransit fits somewhere between private individual transportation (cars or taxicabs) and public mass transit (bus). Trips are typically subsidized by a city government or transit agency. Microtransit improves access to mobility by offering high-quality service where fixed-route buses can’t operate efficiently, by upgrading dial-a-ride and paratransit services, or by providing critical first-mile/last-mile connections to fixed-route transit.

When customers request a ride using a smartphone application or by calling a dispatcher, a vehicle is dynamically routed to pick up a rider near their location and take them to their destination, while picking up and dropping off other passengers along the way, balancing rider convenience and overall service efficiency.

Microtransit services that are run through partnerships with transit authorities and municipal governments address the equity, accessibility, and environmental needs of the public more comprehensively than private ride pooling services operated by transportation network companies (TNCs) such as Uber or Lyft. Microtransit is purpose-built for seamless sharing at scale and designed to provide the following benefits:

- More efficient sharing reduces congestion and CO2 emissions
- Accessible vehicles are available for people with mobility challenges
- Riders without smartphones can dial into a dispatch number or book online
- People without credit cards can pay with cash

According to FAST Forward’s guiding principles, deploying microtransit would provide increased citywide transportation coverage as microtransit operates on-demand rather than on a fixed schedule. Microtransit would connect residents to more areas within Fairfield and would also increase connectivity with SolanoExpress and Amtrak. By adding a microtransit component, FAST would also address equity, access, real-world travel patterns, and traffic, while improving wait and travel times. Microtransit would also allow increased flexibility for Americans with Disabilities Act (ADA) riders by offering more frequent and direct service at a lower cost as microtransit would utilize existing paratransit vehicles and carry more passengers per hour than a traditional paratransit service.

Increased county and regional connectivity and coordination is also now being emphasized by the Metropolitan Transportation Commission (MTC) post-pandemic. Suisun City choosing to discontinue coordination with FAST limits the intercity connectivity and coordination that existed for more than thirty years between the two cities. This will have the added adverse impact of reducing ease of travel between the two cities for both Fairfield and Suisun City residents. FAST will look for other intracity and intercity partnering opportunities to demonstrate to MTC that Solano County services are becoming more and not less integrated.

**ADDRESS EQUITY**

Transit systems across the United States also speak about attracting “choice” riders and understanding the need to also serve the “transit dependent.” Transit dependent riders are normally determined by evaluating multiple socio-economic indicators such as poverty level, housing status, and language proficiency. These indicators were previously used by transit systems to determine a population’s propensity to use transit, however, new indicators demonstrate transit dependency may not be a good indicator of whether someone will use transit.
That is why the approach used to determine the need for FAST users was **not** to look at transit dependency as a potential for ridership growth but to instead use a new tool that looked at whether services were accessible and equitable. This tool, called the **Mobility Vulnerability Index (MVI)**, weights sixteen socio-economic indicators based upon historical information to determine what portions of the service area would most be impacted by changes to the public transit system. The MVI is derived from indicators collected by the annual American Community Survey and by census block group (CBG). These indicators are placed into three categories: Mobility, Housing, and Education. The three categories are then weighted, and each census block group was then ranked on a scale of 0-100 on how vulnerable these riders are to mobility changes.

MVI data was also used to determine impacts of congestion and where community education and food deserts are located. As part of **FAST Forward**, MVI illustrated the concentration of communities and individuals who are more vulnerable to changes in transportation. **FAST Forward** also ensured the voices of these communities were heard during the recommendation phase of this project to ensure these individuals were given an opportunity to provide feedback on proposed service changes.

The MVI analysis showed that the average travel time for Fairfield residents who live in vulnerable locations to major trip destinations in the City was over 60 minutes. When factoring wait time and transfer times, the average vulnerable transit user could spend more than two hours a day traveling less than ten miles round trip on public transit. As outlined in more detail in the next section, deploying microtransit in Cordelia/Green Valley and Southeast Fairfield would improve equity by reducing travel times for these residents. **FAST Forward** would also address equity in the City by increasing service along corridors that are adjacent to vulnerable populations and by introducing new modes such as microtransit to expand to areas where no service or inadequate service exist today.
SERVICE RECOMMENDATIONS

In June 2021, Fairfield City Council held a study session to provide feedback and direction to FAST staff and Innovate Mobility on initial recommendations and community outreach. At this meeting, City Council directed staff to look at options to continue utilizing a contract operator (currently MV Transportation) to implement microtransit and continue reducing fixed route service to areas where ridership and connectivity would be maximized.

A transit network redesign traditionally requires effort from both passengers and the transit agency. Updating a network to introduce a new mode and a shift in approach to providing fixed route service can make the most knowledgeable riders pause. FAST recognizes people are most comfortable with what they know. However, FAST also recognizes the need for network modernization to ensure long-term sustainability.

To ensure a smooth transition, service recommendations would be implemented in two phases. Adjustments would be considered and implemented as needed to service hours to ensure service was operated within available financial resources. New performance metrics would also be developed to regularly evaluate and adjust services during the ten-year period.

PHASE I – FEBRUARY 2023
Replace Routes 2, 4, and 8 with microtransit services in Southeast Fairfield and Cordelia/Green Valley.

REPLACE ROUTE 2 WITH MICROTRANSIT
Route 2 is a local route primarily running on Travis Boulevard and East Tabor Avenue, serving Solano Town Center, Kaiser Permanente Medical offices, Fairfield-Suisun Adult School, Lee Bell Park, Food4Less (formerly FoodMaxx), Tabor Park, additional various schools, and the Fairfield-Vacaville Hannigan Train Station. Route 2 operates Monday through Saturday.
Route 2’s major boarding locations are along East Tabor Avenue, with riders exiting the bus along Travis Boulevard to the Solano Town Center. Riders on Route 2 spend the least amount of time on the bus, averaging 8.5 minutes per ride. Route 2 ridership remains 30% below pre-pandemic levels.

Replacing Route 2 with an expanded microtransit zone would provide more frequent opportunities for riders to access zone services (e.g., faster trips to the Solano Town Center and to locations along the Texas Street corridor).

**REPLACE ROUTE 4 WITH MICROTRANSIT**

Route 4 is a local route primarily serving Cement Hill Road, Air Base Parkway, and North Texas Street. Route 4 serves Fairfield Walmart, Smart & Final, Fairfield High School, Laurel Creek Park, the Solano County Special Education Center, Travis Air Force Base (TAFB), and David Grant United States Air Force Medical Center (David Grant Medical Center). On weekdays, Route 4 operates only during peak periods. Beginning August 6, 2022, the Route 4 will no longer operate on Saturdays due to a lack of ridership.
Route 4 riders spend approximately 11 minutes on the bus per trip. Except for Route 8, Route 4 is the least productive route FAST operates on weekdays and is the lowest performing route on Saturdays. Route 4 ridership remains 40% below pre-pandemic levels.

New microtransit service would expand options for riders of this route by:

- Creating the ability to transfer to Routes 1, 3, and 6,
- Improving access for residents living along Travis Boulevard, and
- Dropping passengers off at the TAFB Main Gate using a smaller, more cost-efficient shuttle vehicle versus current use of a larger, mostly empty bus needing to pass through base security.

There have already been discussions initiated with TAFB personnel to work through any negative impacts from FAST no longer providing service on TAFB. FAST vehicles would still enter a side gate entrance to drop passengers off at David Grant Medical Center.

**REPLACE ROUTE 8 WITH MICROTRANSIT**
Route 8 is a local route, serving the Cordelia area of Fairfield. Route 8 links to the rest of the FAST network via a transfer to Route 7 at the Cordelia Library. Route 8 serves the Cordelia Library, Green Valley Shopping Center, Pittman Road/Central Way Loop, Rodriguez High School, Green Valley Middle School, and the Cordelia Community Park. Route 8 operates Monday through Saturday.

![Route 8 Load by Stop](image)

Figure 37 - Route 8 Load by Stop

Route 8 riders spend an average of 10 minutes on board the bus each trip. Ridership on Route 8 is 60% lower than pre-pandemic levels.

Implementing microtransit in this area would make sense, as outside of AM and PM hours when students ride to and from school, Route 8 is the least utilized local route in the FAST network on weekdays. Route 8 is the second least productive route on Saturdays.
IMPLEMENT MICROTRANSIT SERVICE

FAST would initially deploy microtransit in two zones in Fairfield. Zone 1 would cover Cordelia/Green Valley, and Zone 2 would encompass Southeast Fairfield/Travis Air Force Base. Riders in these areas would receive more consistent, responsive service by trained and screened MV Transportation drivers who would operate city-owned and accessible 12-passenger vehicles. A microtransit technology partner is being identified to assist FAST with determining where boarding and alighting for the on-demand service would be located.

![Proposed Microtransit Zone Map](image)

Routes 2, 4, and 8 would no longer operate as local fixed routes. Instead, for travel outside of these two microtransit zones, customers would transfer to FAST local fixed routes at designated stops, such as the Cordelia Library, Solano Town Center, and Smart & Final/Fairfield Walmart.

By implementing microtransit, riders would only wait up to 20 minutes for a microtransit vehicle to arrive rather than the average 60-minute wait on most existing fixed routes. Riders would save an average of 30 minutes per day utilizing microtransit over existing fixed route service. New service north of Air Base Parkway in Zone 2 and north of the Green Valley Shopping Center in Zone 1 would create additional points of access for residents.
As mentioned previously, FAST would continue its ongoing coordination with TAFB personnel to address the impacts of FAST no longer entering TAFB to pickup and drop-off riders.

**Zone 1 – Cordelia/Green Valley**

Zone 1 is in the southwest portion of FAST’s service area currently served by Route 8 and is the location of the terminus of Route 7 at the Cordelia Library. Zone 1 would allow for ease of travel within the zone and include connections to the Fairfield Transportation Center (FTC), Solano County Health and Human Services, Solano Town Center, Cordelia Library, and other locations. The existing Route 7 does not provide convenient stop locations to current and future riders. The successful microtransit technology provider would assist FAST with determining where boarding and alighting locations for the on-demand service are best located.

**Service Span**

- 6 am – 8 pm Weekdays
- 8 am – 6 pm Saturdays
- No service on Sundays

**Estimated Revenue Hours per Day**

- Up to 28.2 on Weekdays
- Up to 20.4 on Saturdays

**Rider Experience**

- Wait times of less than 20 minutes
- Travel times of less than 30 minutes

As Rodriguez High School in Cordelia is still a major trip generator, and microtransit service cannot support large, simultaneous loads, FAST would continue operating bus tripper service to Rodriguez High School and other Fairfield schools as needed to ensure student travel needs can be accommodated. These trippers would only operate during the school year.
Zone 2 – Southeast Fairfield/Travis Air Force Base

Zone 2 would replace current Routes 2 and 4 and provide service to Southeast and Central Fairfield, plus on-demand service to the Travis Air Force Base Main Gate, David Grant Medical Center, and the Fairfield-Vacaville Hannigan Train Station. The service would also connect riders to key locations outside the zone such as the Solano Town Center and Fairfield Transportation Center.

In a later implementation phase, FAST would consider expanding microtransit service north to portions of Paradise Valley and to Paradise Valley Estates. If this occurs, an additional vehicle would be added to manage increased demand.

Service Span

- 6 am – 8 pm Weekdays
- 8 am – 6 pm Saturdays
- No service on Sundays

Estimated Revenue Hours per Day

- Up to 28.2 on Weekdays
- Up to 20.4 on Saturdays

Rider Experience

- Wait times of less than 20 minutes
- Travel times of less than 30 minutes

Figure 40 - Microtransit Zone 2 Map
OTHER SERVICE RECOMMENDATIONS

FIRST/LAST MILE PROGRAM

Solano Transportation Authority (STA) is Solano County’s congestion management agency. Under its umbrella, STA oversees the First/Last Mile Program (First/Last Mile) contracted through Lyft. First/Last Mile was designed to facilitate a connection with county transit including the ferry building, the two county train stations, and Solano Express bus stops. In Fairfield, the program covered transportation to the FTC, Suisun Valley SolanoExpress commuter bus stop, and the Fairfield-Vacaville Hannigan Train Station.

All participants are eligible for 45 rides in one calendar month. Each ride is subsidized 80% of cost per ride up to $25. Participants must reside or work within the Solano County limits and be over the age of 18. Since Lyft drivers operate as independent contractors, STA is not able to control the availability of drivers, which drivers are chosen to complete the rides participants hail, nor is STA able to control the condition of the car or the conditions that the driver puts on passengers in their car.

In March 2020, due to the COVID-19 pandemic, FAST temporarily suspended service on four local routes (Routes 2, 4, 5, and 8) for three months (March-June 2020). At that time, FAST accepted STA’s offer to temporarily expand First/Last Mile to enable those affected by the service reduction to access essential services. The locations covered by the temporary service elimination included David Grant Medical Center, Travis AFB, Food4Less (formerly FoodMaxx), Smart and Final, Fairfield Walmart, and Green Valley Shopping Center. After FAST transit services were restored in July 2020, many of these locations remained geofenced under First/Last Mile. First/Last Mile has also expanded its Fairfield locations to other medical and government facilities (Solano Community College, California Department of Motor Vehicles (DMV), Travis AFB, Solano County Government Center, Sutter Health, NorthBay Medical Center, Kaiser Clinic, OLE Health, DaVita Dialysis, Solano County Health and Human Services, Solano Business Park, and Solano Town Center). All these locations are also served by FAST.

To avoid the perception this service is duplicating and competing with FAST’s transit, microtransit, and current 24/7 reduced local taxi program, the City Council’s COA approval would authorize the City Manager or his designee to formally notify STA to remove all current First/Last Mile ½ mile geofencing in the City of Fairfield and limit program services in the City of Fairfield to location to location geofencing that would only drop off or pick up riders at SolanoExpress commuter stops at the Fairfield FTC, Suisun Valley bus stop, and at the Fairfield-Vacaville Hannigan Train Station. This would again make the program consistent with how the program was initially presented and how it is operated in other Solano County cities. This formal request would be made and become effective the month following City Council approval of the COA.
SUISUN CITY MICROTRANSIT

Beginning in January 2022, Suisun City has requested its new microtransit program be allowed to enter Fairfield’s transit service area to accommodate healthcare needs of Suisun City residents. The City of Fairfield has conversely requested access to the Suisun-Fairfield Train Station and the former Suisun City Senior Center on Merganser Drive for transit and/or microtransit access. Staff from both cities are working through details on how these requests can be accommodated without duplication and competition between FAST current services and COA recommendations and Suisun City’s future microtransit service. These and other service transition points will be incorporated into an agreement for consideration by the City Council of both cities in late 2022.

Figure 41 - Suisun City Possible Microtransit Destinations in Fairfield
PHASE II – JULY/AUGUST 2023

During Phase II, FAST would complete its network evolution with the restructuring of the remaining local routes and continued implementation of microtransit.

Current paratransit vehicles have been converted so Americans with Disabilities (ADA) eligible riders would also utilize accessible on-demand microtransit. Nine new twelve-passenger vehicles were approved by City Council in April 2022 to replace less efficient 2002 Gillig 35’ fixed route buses.

ROUTE 1

Route 1 would be extended from Dickson Hill Road north to Manuel Campos Parkway. Current service along Dickson Hill Road and Dover Avenue would be served by the new microtransit service. Wait times in the Dickson Hill Road and Dover Avenue sections of the previous Route 1 would be between 15-20 minutes versus 30-60 minutes currently.

Route 1 would operate every 30 minutes from approximately 5:30 am until 8 pm on weekdays and Saturdays. For sections with overlapping Route 3 service (see page 35), buses would be scheduled to arrive every 15 minutes. These changes are estimated to decrease wait times by up to 50% on weekdays and 75% on Saturdays.

Figure 42 - Proposed Route 1 Map
ROUTE 3

Texas Street is by far the busiest transit thoroughfare in Fairfield. As shown in Figure 42, more service would be added along Texas Street on Route 1. The proposal for Route 3 is to also run along Texas Street in a staggered fashion with Route 1. In essence, riders would board either Route 1 or Route 3 to reach most destinations along the Texas Street corridor. Like Route 1, Route 3 would be restructured to offer more service along Texas Street to the Solano Town Center, North Bay Medical Center, and Pennsylvania Avenue, which are currently major transit travel destinations.

Riders heading to the Solano Town Center, one of the biggest trip generators in the City, would have a one-seat ride by no longer having to transfer buses.

Route 3’s current service between the Solano Town Center and Fairfield Walmart and along Dover Avenue would be replaced with microtransit. These riders would have the ability to request a vehicle at prescribed stops and experience shorter wait and travel times.

Route 3 would operate every 30 minutes from approximately 5:45 am until 8:15 pm on weekdays and on Saturdays. For sections with overlapping Route 1 service, buses would be available every 15 minutes, decreasing wait times by up to 50% on weekdays and 75% on Saturdays.

Figure 43 - Proposed Route 3 Map
ROUTE 6 (FORMERLY ROUTES 6 & 7)

Routes 6 and 7 would be combined to create a new Route 6 - Fairfield-Cordelia crosstown route via Travis Boulevard. The new Route 6 would operate from Travis Boulevard and Sunset Avenue to the Cordelia Library. Route 6 would serve the North Bay Medical Center, Solano Town Center, Fairfield Transportation Center, Suisun Parkway, Business Center Drive, Solano Community College, Green Valley Shopping Center, and the Cordelia Library. Service to the Fairfield Civic Center would be maintained with service provided on Routes 1 and 3.

The new Route 6 would provide service to Solano County Health and Human Services, Courage Drive, and Chadbourne Road where it would allow riders to connect with Cordelia/Green Valley microtransit vehicles.

Route 6 would operate every 30 minutes from approximately 6 am until 7:30 pm on weekdays and on Saturdays. Riders on Route 6 would have 30-50% shorter wait times than on today's Routes 6 and 7.

It is recommended that new Routes 1, 3, and 6 be renumbered or rebranded altogether as part of the Phase II changes. For example, Route 3 could be renamed “Texas St via Civic Center” to better identify the corridor where the route primarily travels.
REPLACE PARATRANSIT AND TAXI WITH CITYWIDE MICROTRANSIT

The final recommended change in Phase II of FAST Forward is to replace all existing taxi and paratransit service with microtransit, effectively expanding the new on-demand service across the entire City. Currently, paratransit service is the most expensive per rider for FAST to operate. The City would financially benefit from lowering costs per paratransit trips.

Paratransit customers would notice almost no difference in how they currently reserve trips and interact with the service. Instead, these riders would gain added convenience by having return trips operate on-demand versus having to wait for a scheduled return trip pickup as occurs now.

Paratransit customers would also receive scheduling priority over regular microtransit customers in booking and travel time to ensure their trips are completed in accordance with ADA guidelines.

Based on the adjacent activity map, paratransit customers would gain benefits during Phase I of FAST Forward as most paratransit trips are made in the Cordelia/Green Valley and Southeast Fairfield/TAFB areas. Under Phase II, with microtransit service expanding to Central Fairfield, paratransit customers would experience reduced wait and travel times along with greater convenience booking trips.
PROPOSED PHASE II SERVICE MAP

When the COA is fully implemented, FAST would operate faster, more frequent service along its most widely used corridors and replace underperforming routes and expensive paratransit service with microtransit. These changes would result in FAST serving major trip generators in the City of Fairfield more frequently. For example, residents from Cordelia/Green Valley could take microtransit directly to locations within the established zone and would also allow riders to easily transfer to fixed route service being provided more frequently on Routes 1, 3, or 6.

FAST would also continue coordinating with the City’s Engineering Division to minimize and address any future transit and microtransit impacts to street and traffic corridors. However, it is expected shifting to using smaller, lighter weight shuttle vehicles will help reduce future concerns.

Figure 47 - FAST Forward Phase I and II Service Map
RECOMMENDED SERVICE HOURS

After implementing all recommended changes, FAST would evaluate returning weekday service levels to pre-pandemic levels and whether increased service on Saturdays was needed to better address resident travel needs. These combined changes address the guidelines presented earlier in this document.

FAST would expect to see a savings of $100k-$150k per year in paratransit operating costs from 2019 levels when Phase II of FAST Forward is deployed. This 10-15% savings would occur due to the reduction in paratransit per trip costs and from better, more efficient vehicle utilization.

Overall local service hours would increase over pandemic era FY 2020-21 and 2022 levels. This would be especially evident on Saturdays. Microtransit would also take the place of paratransit and local taxi as part of Phase II, which accounts for the larger increase in hours shown below in Table 2.

Table 2 - Proposed Service Plan Daily Hours

<table>
<thead>
<tr>
<th></th>
<th>Hours</th>
<th>2019</th>
<th>2021</th>
<th>Phase I</th>
<th>Phase II</th>
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<td><strong>Fixed Route</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekday</td>
<td>Revenue</td>
<td>185.4</td>
<td>152.1</td>
<td>90.2</td>
<td>124.9</td>
</tr>
<tr>
<td></td>
<td>Platform</td>
<td>191.5</td>
<td>158.0</td>
<td>93.2</td>
<td>126.6</td>
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<tr>
<td>Saturday</td>
<td>Revenue</td>
<td>77.1</td>
<td>61.6</td>
<td>36.3</td>
<td>90.4</td>
</tr>
<tr>
<td></td>
<td>Platform</td>
<td>80.1</td>
<td>65.0</td>
<td>38.1</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Weekday</td>
<td>Revenue</td>
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<td>14.1</td>
<td>28.2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Platform</td>
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<td>15.3</td>
<td>30.6</td>
<td>0</td>
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<td>Revenue</td>
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<td>5.9</td>
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</tr>
<tr>
<td></td>
<td>Platform</td>
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<td>6.6</td>
<td>13.2</td>
<td>0</td>
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<td><strong>Microtransit</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Revenue</td>
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<td>0</td>
<td>56</td>
<td>98</td>
</tr>
<tr>
<td></td>
<td>Platform</td>
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<td>0</td>
<td>61</td>
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<td>Platform</td>
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<td>0</td>
<td>30</td>
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<td><strong>Total</strong></td>
<td>Weekday</td>
<td>Platform</td>
<td>237.4</td>
<td>173.3</td>
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<tr>
<td></td>
<td>Saturday</td>
<td>Platform</td>
<td>94.4</td>
<td>71.6</td>
<td>81.3</td>
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</table>
RIDER BENEFITS

When fully implemented, transit riders could expect to see a time travel savings of up to 30 minutes per day. As shown in Table 3 below, riders would also experience shorter wait times and increased single seat rides.

Table 3 - FAST Forward Journey Time Savings

<table>
<thead>
<tr>
<th>Destination</th>
<th>Origin</th>
<th>Current</th>
<th>Proposed Changes</th>
<th>Savings</th>
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<td></td>
<td></td>
<td>Journey Time*</td>
<td>Transfers</td>
<td>Journey Time</td>
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<tr>
<td>Solano Community College</td>
<td>E Travis Blvd./ Sunset Ave.</td>
<td>82</td>
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<td>65</td>
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<td></td>
<td>Marigold Dr./ N. Texas St.</td>
<td>70</td>
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<td>51</td>
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<tr>
<td></td>
<td>Heath Dr. &amp; Brenton Dr.</td>
<td>59</td>
<td>1</td>
<td>58</td>
</tr>
<tr>
<td>Solano County Health &amp; Human Services</td>
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<td>50</td>
</tr>
<tr>
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<td>Marigold Dr./ N. Texas St.</td>
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<td>1</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>Heath Dr. &amp; Brenton Dr.</td>
<td>57</td>
<td>1</td>
<td>41</td>
</tr>
<tr>
<td>Green Valley Shopping Center</td>
<td>E Travis Blvd./ Sunset Ave.</td>
<td>98</td>
<td>2</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Marigold Dr./ N. Texas St.</td>
<td>84</td>
<td>1</td>
<td>68</td>
</tr>
<tr>
<td></td>
<td>Heath Dr. &amp; Brenton Dr.</td>
<td>73</td>
<td>1</td>
<td>63</td>
</tr>
<tr>
<td>Travis Blvd/ Oliver Rd</td>
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<td>57</td>
<td>1</td>
<td>34</td>
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<tr>
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<td>Marigold Dr./ N. Texas St.</td>
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<td>1</td>
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<td>Heath Dr. &amp; Brenton Dr.</td>
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<td>Solano Town Center</td>
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<td>30</td>
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<tr>
<td></td>
<td>Heath Dr. &amp; Brenton Dr.</td>
<td>21</td>
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<td>13</td>
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</table>

*Journey time is defined as roundtrip travel time plus waiting, including transfers.
FARE RECOMMENDATIONS

Under the proposed fare structure, the single ride local and microtransit fare would increase from $1.75 to $2.00. This is in line with similar sized systems with comparable service offerings. Please see the Fare Review section for more details.

Discounts for youth and seniors would adjust in line with the existing fare structure. Microtransit service would not have any discounts for youth or senior riders. The federal half-fare rules require that cash fares on local service be discounted 50% for certain riders. Microtransit service is not required to observe the federal half-fare rule.

The 31-day pass would increase to $80. This represents a 40 multiplier, which is higher than the existing multiplier. A multiplier is defined as the number of rides a passenger will make on average. This is derived by dividing the pass price by the single ride fare. For FAST’s 31-day pass, the proposed multiplier ($80/$2.00) represents a multiplier of 40. Currently, the multiplier is 34. DART fares would increase in line with local service to $4.00 for a single ride and $40 for a 10-ride pass. Paratransit customers using microtransit would access in-advance scheduling and curb-to-curb service for a $4.00 fare.

Table 4 - Proposed Fare Structure

<table>
<thead>
<tr>
<th>Fare Type</th>
<th>Adult (19-64)</th>
<th>Youth (6-18)</th>
<th>Senior (65+/Disabled/Medicare)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microtransit Single Ride (Cash)</td>
<td>$2.00</td>
<td>$2.00</td>
<td>$2.00</td>
</tr>
<tr>
<td>Fixed Route Single Ride (Cash)</td>
<td>$2.00</td>
<td>$1.75</td>
<td>$1.00</td>
</tr>
<tr>
<td>Microtransit/Fixed Route 31-Day</td>
<td>$80.00</td>
<td>$70.00</td>
<td>$40.00</td>
</tr>
<tr>
<td>Pass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paratransit Single Ride</td>
<td>$4.00</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Paratransit 10-Ride Pass</td>
<td>$40.00</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

RIDERSHIP AND REVENUE MODELING

The Simpson-Curtin Elasticity Model was used to estimate future ridership and revenue. The model estimates that when fares are increased by 10%, there would be a corresponding 3% ridership drop. Further information on the modeling undertaken for FAST Forward can be found in the Fare Review section of this report.

Under the proposed fare structure, fares would increase approximately 14.3%. A 4% ridership drop could occur should rider elasticity peak. However, when comparing ridership across the peer systems in California who have also increased fares, a smaller 0.95% drop occurred. Based on these factors, it is reasonable to conclude the rider elasticity drop would initially be between 0.95% (Low) - 4% (High). As the new service options are marketed and seen as a convenient affordable option, it is expected ridership will again increase.

Using Table 4’s proposed fare structure, Table 5 outlines the projected key financial indicators.
### Table 5 - Ridership and Revenue Projections

<table>
<thead>
<tr>
<th>Mode</th>
<th>Average Fare</th>
<th>Farebox Recovery</th>
<th>Ridership</th>
<th>Fare Revenue</th>
<th>Subsidy per Passenger</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Low</td>
<td>High</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>Local</td>
<td>$1.40</td>
<td>13%</td>
<td>14%</td>
<td>503,625</td>
<td>521,164</td>
</tr>
<tr>
<td>DART</td>
<td>$2.80</td>
<td>10%</td>
<td>11%</td>
<td>20,960</td>
<td>21,960</td>
</tr>
<tr>
<td>Micro</td>
<td>$1.80</td>
<td>12%</td>
<td>12%</td>
<td>48,000</td>
<td>50,000</td>
</tr>
</tbody>
</table>

Based on the above projections, initial farebox recovery would increase to between 13%-13.5%, which would be an increase of 14%-16% over 2019 levels (including the upcoming loss of Suisun City transit ridership). The ridership drop on the low end would be negligible versus 2019 levels.

Based on the microtransit system peer review completed as part of FAST Forward, this report recommends a $2.00 fare for microtransit with no discounts for youth and Senior/Disabled/Medicare (SDM) eligible riders. The average fare for microtransit is higher than that for local service because there would be no discounts for youth and SDM riders. This fare consistency would also minimize complications when riders transfer between the fixed route system and the microtransit system.
FAST FLEET ELECTRIFICATION

To ensure California’s transportation sector reduces greenhouse gas emissions, the California Air Resources Board’s (CARB) adopted an Innovative Clean Transit (ICT) regulation in December 2018. The ICT has mandated all public transit agencies to reduce greenhouse gas emissions by gradually transitioning to a 100 percent zero-emission bus (ZEB) fleet. Beginning in 2029, 100% of new purchases by transit agencies must be ZEBs with a goal of full transition by 2040. In addition to FAST Forward’s initial service and financial sustainability recommendations already outlined, FAST’s electrification initiative will be the most critical for FAST to successfully implement during the next decade.

Prior to the ICT, FAST had already initiated electrification of its fleet. In 2016, the Fairfield City Council adopted FAST’s Alternative Fuels and Fleet Replacement Policy. FAST concurrently began competitively applying for grants to offset electrification infrastructure improvement costs and ZEB purchases. These efforts resulted in FAST successfully being awarded two competitive Federal Transit Administration (FTA) electrification grants totaling $2.4 million dollars, which provided further impetus for FAST to begin electrifying its fleet.

FAST houses and maintains its fleet at the City of Fairfield’s Corporation Yard. FAST shares use of the Corporation Yard with the City of Fairfield Public Works’ Operations and Fleet Divisions. The age of both the City’s Corporation Yard that houses FAST’s fleet and its vehicle maintenance facility have complicated and delayed FAST’s electrification implementation. Because CARB is also mandating the transition of medium- and heavy-duty vehicles to zero-emission, FAST has closely coordinated with City Public Works Operations, Fleet, and Engineering Divisions to develop a layout of how the Corporation Yard can accommodate all Public Works’ future growth and electrification infrastructure upgrades as shown below in Figure 48.

![Figure 48 - Fairfield Corporation Yard Site Plan](image-url)
In spring 2020, Fairfield and Suisun Transit (FAST) began work on the Fairfield Transit Electrification Plan (FTEP) to continue moving towards fleet electrification. The FTEP will take FAST’s initial efforts a step further by developing a business plan to transition FAST’s transit fleet to an all-electric zero-emission fleet before 2035. When the current draft is finalized in late 2022, the Fairfield Transit Electrification Plan will provide a comprehensive road map that will include phased implementation and fleet replacement plans. The FTEP will also include short-, medium-, and longer-term cost estimates for FAST to effectively plan for transition to an all-electric fleet in less than fifteen years.

Part of the FTEP planning process will include an analysis of the following areas:

- Technology of battery electric vehicles (BEVs),
- Infrastructure upgrades,
- Maintenance facility expansion, and
- Funding needs.

The first phase will lay the necessary groundwork for the City to continue expanding and converting its transit fleet to BEVs. The FTEP draft plan recommends Phase I of Fairfield and Suisun Transit Electrification include the following project elements:

- Replacement of five (5) fixed-route diesel buses and four (4) cutaway gasoline paratransit vehicles with fully electric zero-emission vehicles,
- Site improvements and supporting infrastructure upgrades that allow for the operation of battery electric transit vehicles,
- Procurement and installation of six (6) dual port 150kW chargers, and
- Expansion and modernization of the vehicle maintenance facility by four (4) additional service bays to ensure City of Fairfield’s Fleet Division can safely maintain BEVs onsite.

In August 2022, FAST was awarded $12,016,400 from FTA for transit electrification. Along with other anticipated state funding commitments, this competitive grant award should provide enough funding for the City of Fairfield to complete the first phase of transit electrification.

During FAST Forward’s implementation, FAST will need to take the steps outlined below to move forward seamlessly with this mandated transition.

- Apply for Pacific Gas & Electric’s (PG&E) Electric Fleet Program to fast track needed utility infrastructure, upgrades and subsidize the cost of behind-the-meter upgrades,
- Complete full design of the Corporation Yard civil and electrical upgrades,
- Complete design of maintenance facility upgrades,
- Redesign routes as needed to maximize charging,
- Receive and place into service its first BEBs,
- Install charging stations, and
- Plan for and apply for additional funding opportunities for future phases.
Many of these steps will be completed concurrently. For example, the Fairfield City Council authorized FAST’s purchase of its first three Gillig BEVs in July 2022, and FAST staff placed the order in August 2022. While these vehicles are being built over the next 18 months, the PG&E application and design work will be completed for the infrastructure, civil, and electrical upgrades, and then implementation will begin. There is a need to move forward timely as the first electric vehicles will be placed into service in early 2024. FTA and Transportation Development Act (TDA) funding will be used for these purchases. The most important element for FAST to successfully electrify its fleet will be to plan for enough electrical capacity to support future technology and to use some form of electrical load management to maximize control of ongoing utility costs. FAST will also continue to outreach to other peer agencies to continue learning from other agencies’ electrification experiences.