MENDOCINO TRANSIT AUTHORITY
SHORT-RANGE TRANSIT DEVELOPMENT PLAN 2024 UPDATE

Technical Memorandum 3: Alternatives Analysis

Prepared for the

Mendocino Transit Authority

January 17, 2024

Prepared by LSC Transportation Consultants

Mendocino Transit Authority
Short Range Transit Development Plan
2023 Update

Technical Memorandum 3
Alternatives Analysis

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Chapter 1
INTRODUCTION

The Mendocino Transit Authority (MTA) has retained LSC Transportation Consultants, Inc., to prepare an update to the Authority's Short Range Transit Development Plan (SRTDP). The first component of the SRTDP, *Technical Memorandum One: Existing Conditions* (TM1), reviewed Mendocino County's demographic and economic factors affecting transit demand, as well as existing MTA services and recent operations. The second component of the SRTDP, *Technical Memorandum Two: Initial Public Outreach* (TM2), summarized public and stakeholder input received during the onboard passenger survey, stakeholder interviews, and the first public workshop.

This document, *Technical Memorandum Three: Alternatives Analysis* (TM3) presents an evaluation of potential changes to MTA's services. First, Chapter 2 reviews the MTA's current policies and recommends new performance standards. In Chapter 3, service options are evaluated which 1) address the strengths and weaknesses of the transit program, as identified in TM1, and 2) address concerns identified through public outreach, as discussed in TM2. The recommended performance standards presented in Chapter 2 are then used to evaluate the effectiveness of the service alternatives presented in Chapter 3.

Chapter 4 presents the anticipated five-year capital needs for the MTA. The need for replacement vehicles is discussed, as well as vehicle size requirements by service. MTA's recently adopted zero-emission fleet strategy is incorporated into the discussion regarding vehicle needs. Potential facility and passenger amenity improvements are also evaluated.

Chapter 5 compares the MTA fixed route fares to those of peer systems in California. Then, different scenarios are presented for simplifying the MTA fixed route fare structure to increase ridership and reduce administrative requirements.

Chapter 6 reviews the MTA's current marketing materials, and then identifies potential marketing strategies to strengthen the community's perception of the transit program and further increase ridership.

After TM3 is presented to the public, the three technical memorandums will be compiled into the MTA SRTDP, with the preferred service alternatives recommended for implementation.

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Chapter 2

GOALS, OBJECTIVES, AND STANDARDS

Goals and objectives are important organizational tools used to guide an agency's decision-making. An agency can determine how well it is meeting its goals with performance measures. Setting goals, and then developing performance standards, is particularly important for public transit agencies for several reasons:

- Transit goals are often contradictory. For instance, the goal of maximizing cost effectiveness tends to focus services on the largest population centers, while the goal of maximizing service availability tends to disperse services to outlying areas. Therefore, to best meet its overall mission, a public transit agency must continually balance the trade-offs between goals. Adopting policy statements encourages broader discussions of community values regarding transit compared to what is possible when considering issues case-by-case.
- Public transit agencies expend public funds and therefore have a responsibility to provide transparent information on how funds are being spent and whether or not the agency is meeting community goals. Funding partners also have a responsibility to ensure funds provided to the transit program are being used appropriately.

Note: MTA vehicle [Photo], sourced from MTA

MTA GOALS, OBJECTIVES, AND POLICIES

The 2016 MTA SRTDP set forth goals, objectives, and policies to guide MTA decision-making. These policies are summarized below, along with recommendations on how the previously adopted goals and policies should be modified for the current 2024 SRTDP. If nothing is listed below the goal, then no changes are recommended at this time.

Mission Statement

The MTA's mission statement is "To provide, safe, courteous, reliable, affordable and carbon-neutral transportation service."

- *Recommendation:* No change. This mission statement continues to exemplify the type of service the MTA strives to provide.

Goals

MTA has five adopted goals:

1. Provide affordable, reliable, efficient, and user-friendly transit service that effectively meets the local mobility needs of those residents of, or visitors to, the MTA service area who have limited mobility options. Where practical, also serve the needs of those who choose mobility for some, or all, of their local travel needs for environmental or lifestyle reasons.

2. Provide a regional link to local destinations as well as to intercity transportation alternatives and destinations outside Mendocino County.

3. Operate as efficiently, economically, and environmentally friendly as possible, so as to maximize the amount of service provided in a carbon-neutral manner. Ensure the financial stability of MTA.

4. Adopt procurement, management, and building practices that minimize environmental impacts and achieve a carbon-neutral operation, with a long-term fleet goal of zero emissions.

   - *Recommendation:* Rephrase the goal to say, "*Adopt procurement, management, and building practices that minimize environmental impacts and achieve a carbon-neutral operation. Continue to implement the vehicle procurement plan presented in the MTA Zero-Emission Bus Rollout Plan so as to achieve a 100 percent zero-emissions fleet by 2040 or earlier.*"

5. Strongly support:

   - County and local land use planning that encourages compact growth and transit access;
   - Local economic development that provides good-paying jobs without long commutes;
   - Travel demand management that minimizes the carbon footprint of Mendocino County's mobility system;
   - Congestion mitigation that reduces idling; and
   - Environmental goals that support sustainable living.

Objectives and Policies

The MTA has ten adopted objectives. Each of the objectives has related policies to help the MTA achieve its objectives. This section lists the MTA's objectives and policies, with any recommended changes mentioned below the specific policy.

Objective A: Maximize service availability, reliability, and convenience.

- Policies:

1. Priority should be given to serving the general mobility needs of low-income households, youth, seniors, students, and persons with disabilities. These are the primary transit markets that currently, and will in the future, use public transit in Mendocino County.

2. In Mendocino County communities where fixed route, flex route, and Dial-a-Ride services cannot maintain minimum productivity and farebox recovery standards, mobility management strategies such as e-Ride (volunteer driver program), vanpools, carpools, taxi ride subsidies will be considered to provide needed mobility options for both priority target market segments and riders desiring an alternative to driving as a means of saving money or reducing their carbon footprint.

➢ *Recommendation:* Add microtransit to the list of mobility management strategies.

3. In Mendocino County communities where fixed route or demand response services are meeting productivity and farebox recovery standards, mobility management strategies may be implemented if they complement existing mobility services, are not in competition with MTA routes or services, and do not deteriorate the productivity and farebox recovery standards of existing services.

➢ *Recommendation:* Delete service-specific farebox recovery standards.

4. Increase visibility and awareness of available transit services through effective branding and signage on vehicles and at bus stops.

5. Enhance ease of use for new and existing riders by ensuring that information about services and how to use them is provided in easy-to-understand, easily accessible formats – in printed materials, on the internet, and at bus stops. Passenger information will be available in Spanish, as well as English.

6. Actively market fixed route services to Mendocino County populations with high levels of potential for transit ridership, including college and secondary students, the Latino Community, low-income families and workers, seniors, and persons with disabilities.

7. Ensure sufficient capacity to maximize service availability to all priority transit markets throughout the service day. Although service capacity is ultimately determined by funding, ensure that a reasonable level of service is available.

8. Adopt a zero-tolerance policy for the cancellation of scheduled service due to a lack of in-service vehicles or driver availability.

- *Recommendation:* Add a service delivery standard of 100 percent of scheduled trips for paratransit and on-demand services.

9. Provide an adequate number of vehicles in each overnight vehicle storage location to meet all bus pullout requirements.

10. Ensure the availability of sufficient bus capacity to avoid passenger pass-ups on each fixed route. This can be accomplished by increasing bus size or service frequencies.

11. Ensure adequate bus capacity to accommodate passenger loads within the adopted maximum load standards established for MTA services.

12. Ensure sufficient round-trip travel time for all fixed route services to facilitate on-time performance within an adopted on-time performance standard.

13. Ensure on-time performance by scheduling adequate recovery time into all fixed route and flex route schedules.

14. Establish timed transfers between local South Coast, North Coast, and Inland services and MTA regional services.

15. Establish schedules around critical arrival or departure times for the customers served by MTA local fixed routes and regional routes, where possible.

16. Operate clock face schedules on local fixed routes and intercity services, where practical.

- *Recommendation:* Re-word to: "*Operate fixed route and intercity services on regular time intervals (i.e. same minutes every hour).*"

17. Scheduled fixed route buses will not depart a time point before the published departure time in the schedule.

18. Ensure adequate ADA complementary paratransit wheelchair and ambulatory capacity to meet all confirmed ADA-eligible trips within the adopted ADA service area, wait time, maximum travel, and on-time performance standards and with a zero-trip denial rate. ADA Paratransit Dial-a-Ride trips have priority over non-ADA Paratransit Dial-a-Ride trips. Reservation policies should be clear that individuals who are not ADA Paratransit individuals can be bumped by a registered ADA Paratransit individual.

➢ *Recommendation:* Replace "*bumped*" with "*re-scheduled in favor of.*"

19. MTA can exceed ADA Paratransit service criteria for service area, wait time, hours of operation, and reservation policies if financial resources allow. MTA can also reduce the service area, wait time, hours of operation, and reservation policies if financial conditions require such reductions.

Objective B: Maximize operating efficiency without negatively impacting service quality.

- Policies:

1. Establish minimum productivity performance policies for fixed route transit, flex route, and Dial-a-Ride services. A minimum fixed route productivity standard as measured by the number of passengers carried per revenue hour should be based on achieving an MTA systemwide 15 percent farebox recovery ratio. Minimum productivity policies are established by MCOG as part of the Transit Productivity Committee process and shall be incorporated in MTA service performance and design standards and be subject to annual review as operating costs change. Services that fall below minimum productivity standards should be considered for cancellation, reduction, or adjustment when funding is insufficient to meet full program requirements.

➢ *Recommendation:* Modify farebox recovery ratio to 10 percent systemwide, including local support.

2. Evaluate and consider requests for the extension of service hours, the expansion of service area coverage, and the introduction of additional services based on the potential of the new services to achieve minimum productivity performance policies. MTA shall introduce or implement new services on a pilot project basis for a trial period not to exceed 24 months. During this period the new service will be evaluated and adjusted to improve performance. Productivity expectations shall be established for the evaluation of new services during the pilot project period.

3. Bus specifications will be developed with input from both operating and maintenance staff. The Management/Supervisory Committee provides a good forum for the review and development of bus specifications, based on driver and mechanic feedback.

4. Maximize ride-sharing, linked trip, and productive Dial-a-Ride vehicle utilization by using scheduled trip assignment parameters and procedures that ensure the achievement of the minimum productivity policy for Dial-a-Ride service.

Objective C: Operate a productive service that remains affordable to the priority transit markets.

- Policies:
  1. Maintain adopted farebox recovery ratio standards by operating productive and efficient services to minimize fare increases.

  2. Maintain affordable fares for youth, seniors, and persons with disabilities on fixed route services. MTA shall provide discounted fare media for procurement by social service agencies.

  3. Fare discount percentages for fare media should increase the longer time commitment a passenger makes in procuring a fare media (e.g. a month pass should have a higher discount percentage than a 16-ride punch pass).

  4. Offer lower fixed route fares than Dial-a-Ride fares to encourage a shift in ridership to fixed route service. Maintain a base Dial-a-Ride fare for ADA-eligible registrants that is double the base adult cash fare for local fixed route service to comply with ADA regulations. This fare policy should also apply to seniors and disabled persons who, while not ADA certified, are eligible for MTA senior and disabled Dial-a-Ride. The general public Dial-a-Ride fare shall be at least four times the base adult cash fare for local fixed service.

  5. For individuals who can utilize fixed route or flex route services, discourage the utilization of Dial-a-Ride through fare incentives and reservation policies.

  - *Recommendation:* Eliminate # 4 and 5. Maintain a fare structure which is easy to understand, equitable and encourages ridership.

Objective D: Promote the coordination of service with other intercounty and intercity transportation services.

- Policies:
  1. Maintain good connections with Lake County Transit in Ukiah (currently Pear Tree Mall and Mendocino College), where feasible.

  2. Maintain good connections with Greyhound in Willits, Ukiah, and at the Santa Rosa Greyhound depot, where feasible.

  3. Maintain good connections with the SFO Airporter at the Sonoma County Airport, where feasible.

4. Maintain good connections with the Amtrak Thruway Bus at the Santa Rosa Courtyard by Marriott, where feasible.

5. Provide riders with user-friendly information about connecting transit services in printed materials, at transfer points, and on the Internet.

➢ *Recommendation:* Adopt a new standard of "*Maintain good connections with the Humboldt Transit Authority Redwood Coast Express at the Pear Tree Center and other Ukiah locations, where feasible.*"

Objective E: Promote public/private partnerships to increase transit revenues and ridership thereby reducing the carbon footprint of Mendocino County transit users who choose to utilize MTA for their mobility needs.

- Policies:
  1. Continue to foster partnerships with Mendocino County's Senior Centers to provide door-through-door transportation where cost-effective to do so. Coordinate with Senior Centers on the provision of Dial-a-Ride services to ensure overall mobility service delivery meets the needs of seniors and the disabled in the most cost-effective manner possible.

  2. Provide technical assistance to Senior Center Transportation Programs as needed to assist in meeting farebox recovery, passengers per hour, cost per passenger, and cost per hour performance standards.

  3. Leverage available demand response financial resources such that efforts are made to provide needed demand response services, including ADA paratransit services, most effectively.

  4. Explore joint promotions and partnerships with retailers and services for the production of MTA information brochures, and weekend and evening service hour sponsorship.

  5. Assist major employers, tribal councils, or community organizations in seeking and/or establishing mobility services for needs that MTA cannot effectively serve within the approved minimum service productivity standards.

  6. Provide capital procurement support to partners if feasible.

  7. Partner with gatekeeper organizations including colleges, schools, social service agencies, employment agencies, and other community organizations to educate and promote transit usage among specific target constituencies.

Objective F: Ensure ongoing service monitoring, evaluation, and planning.

- Policies:
  1. MTA will actively monitor service performance through the monthly and quarterly review of operating and cost performance reports, and regular field spot checks.

  2. MTA will continue to coordinate a management, maintenance, and operations staff forum for the ongoing review and resolution of operations and service quality issues; monitoring achievement of carbon neutral operations; the development and amendment of vehicle specifications that reduce emissions below the 2008 baseline with the trend line towards the long-term goal of zero fleet emissions.

➢ *Recommendation:* Rephrase the goal to say, "*…. the review of progress towards implementing the MTA Zero Emission Bus Rollout Plan, with the goal being a 100 percent zero-emissions fleet by 2040 or earlier.*"

  3. MTA management and supervisor staff will regularly ride service in their respective service areas to develop a firsthand understanding of who uses the service, operating issues, and key destinations.

  4. MTA will work with Mendocino County to join ICLEI and adopt their measurement tool to annually measure the impacts of MTA operations on carbon emissions, measuring the impacts of fleet, office, and facility practices as well as the net benefit of new riders that were previously utilizing an automobile for the trips that are now taken on MTA.

Objective G: Establish a formal role in the local and county development process.

- Policies:
  1. MTA should actively participate in the development review process to ensure that transit operations are considered as part of new developments at the initial planning stages.

  2. Actively participate and attend working sessions and provide comments on city and County general plan updates and specific plans and development proposals in order to achieve the carbon-neutral MTA goal.

Objective H: Adhere to prudent budgeting and financial practices.

- Policies:
  1. Develop and maintain a five-year financial plan covering operating and capital financial needs and revenue sources preceding the annual budget process.

  2. Use realistic and fiscally conservative estimates of costs and revenues in preparing the five-year financial service plan. Utilize a range of financial scenario assumptions to account for the uncertainty of financial outcomes.

3. When feasible, MTA shall accumulate a minimum of a 3-month cash reserve and a target of a 6-month cash reserve. This will facilitate a planned and strategic response to sudden drops in revenue and minimize a "reactive" response.

4. Develop balanced annual budgets. Report financial performance and anticipated service adjustments to the MTA Board of Directors every month.

5. Deficit spending should be avoided. Unforeseen overruns should be offset by reserve funds.

Objective I: Adopt fleet procurement practices that contribute to a carbon-neutral goal and meet CARB Fleet Rule for Transit Agencies.

- *Recommendation:* Rephrase goal to say, "*…. and meets the minimum standards set forth in the CARB Innovative Clean Transit regulation.*"

- Policies:
  1. Conduct a life cycle benefit/life cycle cost assessment of future fleet procurements to determine the cost per unit of emissions reduced compared to a 2009 fleet baseline. Purchase vehicles that are cost-effective and move MTA towards a zero-emissions fleet, and at a minimum meet CARB fleet rules for emissions.

- *Recommendation:* Rephrase goal to say, "*…. and meets the minimum standards set forth in the CARB Innovative Clean Transit regulation.*"

2. The MTA vehicle retirement program shall recognize the effective life cycle of the various MTA vehicle types according to Federal Transit Administration standards. Adopt a five-year or 150,000-mile life cycle for light-duty buses, a seven-year or 200,000-mile life cycle for medium duty, and a 12-year or 500,000-mile life cycle for heavy-duty buses.

3. Consider bus refurbishment before bus replacement as part of environmental and financial sustainability policies.

4. Procure fuels that minimize carbon dioxide, particulate matter, nitrogen oxide, and sulfur emissions.

- *Recommendation:* Add a standard to maintain a systemwide fleet spare ratio of 40 percent.
- *Recommendation:* Add a fleet preventive maintenance policy of 80 percent of preventive maintenance performed within 10 percent of the scheduled mileage interval, or at least every 3 months.

Objective J: Adopt site development practices that contribute to a carbon-neutral goal.

- Policy:
  1. Future site and facility development should achieve LEED sustainable building practices and LEED certification should be considered in the early stages of development. MTA can go through the LEED certification process or decide to design facilities to LEED sustainable building standards, practices, and principles without going through the formal certification process.

MTA PERFORMANCE STANDARDS

MTA's performance standards are established by MCOG through the Transit Productivity Committee (TPC). The TPC meets annually to review and amend performance standards. MTA prepares and submits monthly, quarterly, and annual performance reports to MTA and MCOG staff, the MTA Board, and the MCOG Board. MTA FY 2022-23 performance was analyzed using the current MCOG performance standards in Chapter 4 of the Existing Conditions Memo.

This section presents recommended performance standards for both the MTA and the senior center Dial-a-Ride programs to be used for the SRTDP planning period (FY 2024-25 through FY 2028-29). Any proposed changes to the current performance standards are explained briefly. The performance standards are meant to be adaptable and should be revised if merited.

TDA-Required Performance Standards

MCOG has adopted four performance standards to measure the efficiency of transit services. These four standards are also evaluated every three years as part of the the Transportation Development Act (TDA) Triennial Performance Audit. The newly recommended efficiency standards are shown in Table 1 and discussed below.

- Passenger-Trips per Vehicle Service Hour – It is recommended that the MTA reduce its standards for passenger-trips per vehicle service hour to better reflect the transit environment post-pandemic. The standards presented in Table 1 are based on standards recently adopted by peer transit systems in northern California as well as recent MTA performance.
- Operating Cost per Vehicle Service Hour – Table 1 presents recommended standards for operating cost per vehicle service hour. No changes are recommended to the fully allocated cost standards, however, it is recommended that MTA also adopt standards for the marginal operating cost per vehicle service hour. Marginal costs exclude fixed costs, which will not change if service is increased or decreased. Examples of fixed costs include administrative staff time, utilities, marketing, etc. The recommended marginal cost standards presented in Table 1 were calculated by multiplying the fully allocated standards by 50.9 percent. 50.9 percent is equal to the ratio of the systemwide marginal cost per hour to the systemwide fully allocated cost per hour. It is recommended that the operating cost per hour standards continue to be updated annually based on the Consumer Price Index (CPI) Adjusted Rolling Average.

Table 1: Recommended MTA Performance Standards - Productivity and Efficiency

Passenger-Trips Per Vehicle Service Hour			
		Recommended Standards	
Service Type	Current MCOG Standard	Minimum	Target
Short Distance Bus Routes	10.2	6.0	8.0
Long Distance Bus Routes	3.2	3.0	4.0
Senior Centers	2.2	1.5	2.0
Dial-a-Ride / On-Demand	3.3	2.0	2.5

Cost Per Vehicle Service Hour			
		Recommended Standards	
Service Type	Current MCOG Standard	Fully Allocated	Marginal
Short Distance Bus Routes	$176.53	$176.53	$89.92
Long Distance Bus Routes	$194.76	$194.76	$99.21
Senior Centers	$86.02	$86.02	--
Dial-a-Ride / On-Demand	$124.08	$124.08	$63.20

Cost Per Passenger-Trip			
		Recommended Standards	
Service Type	Current MCOG Standard	Fully Allocated	Marginal
Short Distance Bus Routes	$38.65	$38.65	$19.38
Long Distance Bus Routes	$60.86	$60.86	$30.51
Senior Centers	$46.03	$46.03	--
Dial-a-Ride / On-Demand	$37.60	$37.60	$18.85

Farebox Recovery Ratio		
Service Type	Current MCOG Standard	Recommended Standards
Short Distance Bus Routes	10%	--
Long Distance Bus Routes	10%	--
Senior Centers	10%	10%
Dial-a-Ride / On-Demand	10%	--
MTA Systemwide	--	10% with local support

Note 1: Short distance routes include Routes 1, 5, 7, and 9.

Note 2: Long distance routes include Routes 20, 60, 65, 75, and 95.

Note 3: Senior Centers refers to the paratransit services operated by local senior centers using TDA funding.

Note 4: MCOG uses "CPI Adjusted Rolling Average" figures for financial performance standards. The CPI Adjusted Rolling Average is calculated using the Consumer Price Index Annual Average, All Urban Consumers, California. In this table, the standards for the cost per vehicle service hour and cost per passenger-trip represent recommended values for FY 2023-24; these standards should be updated annually per the CPI Adjusted Rolling Average.

Note 5: Fully allocated cost values include all fixed costs (administrative costs, utilities, etc.), while marginal cost values excludes these costs .

Source: MCOG, MTA

- Operating Cost Per Passenger-Trip – Similar to the standards for the operating cost per vehicle service hour, this SRTDP also recommends the MTA adopt both fully allocated and marginal cost standards for operating cost per passenger-trip. No changes are recommended to the current fully allocated cost standards. The recommended marginal cost standards, presented in Table 1, were developed by multiplying the fully allocated cost standards by 50.1 percent, or the ratio of the systemwide marginal cost per passenger-trip to the systemwide fully allocated operating cost per passenger-trip. The standards for operating cost per passenger-trip should continue to be adjusted throughout the planning period based on the CPI Adjusted Rolling Average.
- Farebox Recovery Ratio – The California Transportation Development Act (TDA) previously required that all funding recipients achieve minimum farebox recovery standards, although these requirements have not been enforced since the COVID-19 pandemic. It is recommended that the MTA and senior center programs strive to achieve system/program farebox recovery ratios of 10 percent, the previous minimum standard for rural transit agencies. MTA and the senior centers should include local support (which includes FTA funds) when calculating farebox values.

Carbon Neutrality Standards

The MTA has previously adopted standards to help support the agency's goal of carbon-neutral transportation operations. These standards are shown in Table 2 and listed below. No changes to the MTA's carbon neutrality standards are recommended at this time.

- Reduction in gallons of diesel fuel and gasoline consumed – MTA should strive to continuously reduce the amount of diesel fuel and gasoline consumed compared to the agency's FY 2007-08 baseline.
- Reduction in fossil fuels consumed for electricity and heating – MTA should strive to continuously reduce the number of fossil fuels used to provide electricity and heating to its various facilities compared to the agency's FY 2007-08 baseline.

Service Reliability Standards

It is recommended that MTA adopt and track seven performance standards to ensure the agency is upholding its policies regarding service reliability, safety, and capital upgrades. These performance standards are shown in Table 2 and summarized below.

- Service Delivery Rate – The MTA should strive for at least 95 percent, preferably 100 percent, of scheduled trips to be completed. Scheduled trips include fixed routes, paratransit, and on-demand trips.
- ADA Paratransit Trip Denial Rate – The MTA should continue to have a zero percent ADA paratransit trip denial rate. This means the MTA should continue to maintain enough resources to be able to complete every requested ADA trip.

Table 2: Recommended MTA Performance Standards - Reliability and Carbon Neutrality

Reliability		
Measure	Recommended Standards	
	Minimum	Target
Service Delivery Rate [1]	95%	100%
ADA Paratransit Trip Denial Rate	0%	0%
On-Time Performance [2]	80%	90%
Road Calls [3]	7.5 per 100,000 vehicle service miles	<5 per 100,000 vehicle service miles
Preventable Vehicle Collisions	1 per 100,000 vehicle service miles	0 per 100,000 vehicle service miles
Fleet Preventive Maintenance Ratio [4]	80%	90%
Bus Spare Ratio [5]	40%	50%

Carbon Neutrality	
Measure	Recommended Standards
Reduce gallons of diesel and gas consumed for operations compared to FY 2007-08	No Change
Reduce fossil fuels consumed for electricity and heating for facility operations compared to FY 2007-08	No Change

Note 1: Service delivery rate refers to the percentage of scheduled trips across all services that were completed.

Note 2: On-time performance refers to the percentage of fixed route trips that leave timed stops between 0 to 5 minutes after the time shown on the published schedule and the percentage of paratransit or on-demand pick-ups made within 30 minutes of the passenger's requested ride time.

Note 3: Road Calls refer to incidents where service is interrupted longer than 5 minutes due to mechanical failure.

Note 4: Fleet preventive maintenance ratio refers to the percent of maintenance within 10% of the scheduled mileage interval, or at least every 3 months

Note 5: Bus spare ratio refers to how many spare vehicles are needed compared to the size of the active fleet.

Sources: MCOG, MTA, LSC

- On-Time Performance – The MTA should work to achieve a minimum standard of 80 percent of trips being made on time, with a target standard of 90 percent. On-time trips, for fixed routes, refer to buses that leave timed stops at 0 to 5 minutes after the published scheduled time. On-time trips, for paratransit or on-demand, refer to pick-ups made within 30 minutes of the passenger's requested pick-up.
- Road Calls for Mechanical Failures – The recommended minimum standard for road calls, or incidents where operations are interrupted for more than five minutes due to a mechanical failure, is 7.5 per 100,000 vehicle service miles. The target standard is less than 5 per 100,000 vehicle service miles.
- Preventable Vehicle Collisions – The recommended minimum standard for preventable vehicle collisions is 1 per 100,000 vehicle service miles. The target standard is 0.
- Fleet Preventive Maintenance – It is recommended the MTA work to complete 80 percent of vehicle maintenance requirements within 10 percent of the scheduled mileage interval, or at least every 3 months. The target standard is to complete 90 percent of maintenance within the scheduled mileage intervals.
- Bus Spare Ratio – MTA should maintain a spare vehicle fleet equal in size to 40 percent of the active vehicle fleet. The target standard is 50 percent.

Chapter 3

SERVICE ALTERNATIVES

INTRODUCTION

This chapter presents potential alternatives to modify MTA services so that they better meet the mobility needs of Mendocino County residents, or so that services operate more efficiently. The service elements presented in this chapter are designed "a la carte"; each alternative is evaluated as a stand-alone option, though when combined, the overall impacts may vary. The combined impacts of the various service elements included in the final five-year plan will be presented in the Draft SRTDP.

The service alternatives discussed in this chapter are organized by geographic area. First, alternatives impacting Ukiah are discussed. This is followed by an evaluation of potential options for Willits transit services, then a discussion of service alternatives for the rural inland communities of Brooktrails, Covelo, Hopland, Laytonville, and Potter Valley. Alternatives for the coastal communities are presented thereafter, then options for inter-county services.

Note: MTA bus in Fort Bragg [Photo]. Credit: J. Orth

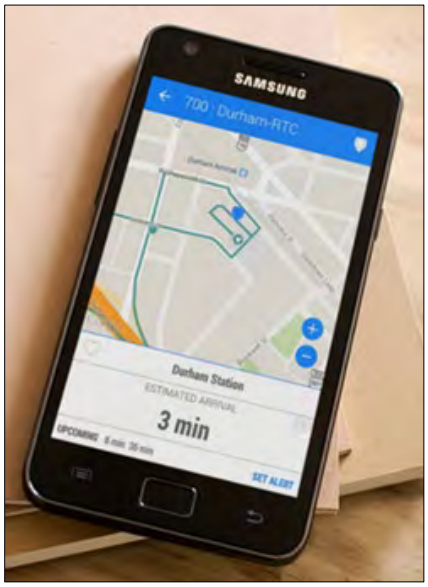
For each service alternative, the likely impacts on MTA ridership and operating costs are estimated. Ridership and cost estimates are based on the following parameters:

1. To estimate the likely operating costs and fare revenues, the MTA draft operating budget for Fiscal Year (FY) 2023-24 and the MTA cost model (developed in TM1) were used to estimate the FY 2023-24 cost per vehicle service hour and vehicle service mile. These costs were then increased by 4 percent to account for expected inflation by FY 2024-25, the first year covered by this SRTDP. The resulting equation to assess FY 2024-25 operating cost impacts is as follows:

   Change in Marginal Operating Cost = $78.25 X Change in Vehicle Hours
   + $2.30 X Change in Vehicle Miles

2. It is assumed that there is no significant room in the operating budget to increase service levels without associated service reductions.
3. Service was assumed to include 261 weekdays, 52 Saturdays, and 52 Sundays, unless otherwise noted.
4. Ridership estimates were based on MTA FY 2022-23 ridership, data from peer systems, and standard transit demand elasticity factors, depending on the alternative.

The Concept of Microtransit



Several of the alternatives presented in this chapter propose introducing microtransit. Microtransit has become an increasingly popular service option for providing transit coverage over areas not served efficiently by fixed routes. Microtransit has also been found to be an effective service option in areas with high demand for short trips.

Microtransit applies the app-based technology developed for transportation network companies (such as Uber and Lyft) to provide real-time, on-demand service. Most microtransit passengers typically request rides and pay their fares through an app downloaded on their smartphone or computer. Once a ride has been requested, a routing algorithm assigns the ride request to a specific driver/vehicle, and the passenger is provided with an estimated service time. Microtransit is a shared-ride service, therefore multiple passengers may ride the vehicle at the same time. Examples of other microtransit programs, including operating parameters and ridership, are provided in Appendix A.

To ensure equitable accommodation, most agencies allow microtransit rides to be requested directly over the phone as well. Requirements of the Americans with Disabilities Act (ADA) are met by ensuring enough accessible vehicles are available to serve those who need them. Microtransit can be operated as a "comingled" service, with the general public and paratransit passengers sharing rides in the same vehicles. Comingling can reduce costs by serving additional people in periods when paratransit demand is low. Comingling meets the requirements of the ADA by prioritizing persons with disabilities, yet allows for the expansion of general public service without the cost of operating a separate service. The benefits of this type of service model can be seen in Fort Bragg, where the MTA operates a general public Dial-a-Ride (DAR) service.

For the MTA, the cost of obtaining and maintaining microtransit software would be determined through an RFP process. Based on other programs, it is estimated that offering microtransit would incur an annual cost for the MTA of $25,000 to upwards of $100,000, depending on the number of vehicle licenses. To account for the annual cost of the individual vehicle licenses, an additional $4,500 has been added to the marginal operating cost estimates of all alternatives considering microtransit. Microtransit start-up costs will be accounted for in the five-year MTA financial plan if microtransit is recommended for the SRTDP.

UKIAH SERVICE ALTERNATIVES

The City of Ukiah runs in a mostly north/south direction and is about 2 miles across at the widest point. The MTA operations facility is at the southern end of town, while Mendocino College, a significant transit generator, is at the northern end. Other major transit generators within Ukiah include Walmart and the Pear Tree Center. The Pear Tree Center currently serves as a transfer hub for MTA local and intercommunity routes, as well as for services operated by the Lake Transit Authority. The Humboldt Transit Authority's Redwood Coast Express service, which will run from Eureka to Ukiah, will also stop at the Pear Tree Center once service is initiated in the near future.

Currently, Ukiah is served by two local fixed routes, Routes 7 and 9, which interline with Route 20 (Willits to Ukiah) for efficiency purposes. A total of 6 driver shifts are generally used to provide local service in Ukiah, with another 3 shifts providing service on Routes 20 and Route 1 (local Willits service). A maximum of four vehicles are in service at one time in Ukiah for Routes 7, 9, and 20. Within Ukiah, Route 7 (Jitney) is more direct and serves fewer stops, while Route 9 provides more local service, stopping at a variety of commercial, residential, and social service activity centers. With the current route configuration, half-hourly service is provided to most Ukiah stops during the majority of weekdays, and hourly service is provided on Saturdays. Some stops, however, are only served by Routes 7/9 once a day, such as the Plowshares food distribution site. Routes 7/9 have the greatest ridership of all MTA fixed routes and carry around 5.2 one-way passenger-trips per hour. Route 7 makes four roundtrips per day while Route 9 makes 20.

Challenges and Considerations

Although Routes 7/9 serve most commercial and residential transit activity centers in Ukiah, the current routing structure results in transit travel times being much longer compared to taking a private vehicle. For example, it currently takes a bus passenger 41 minutes to travel from the Montclair Apartments in the southern portion of Ukiah to Mendocino College, but the same trip takes less than 15 minutes by car. A benefit of the current routing structure, however, is the combined Routes 7/9 provide consistent half-hourly headways to most stops. Any Ukiah service alternatives that would increase headways will have a negative impact on Routes 7/9 ridership.

As Route 7 (Jitney) provides more direct service compared to Route 9, Route 7 does not serve as many activity centers. For instance, Walmart is a significant transit trip generator with 28 average daily boardings, however, it is not served by Route 7. Additionally, Route 7 only serves the Pear Tree Center once a day in each direction out of four daily roundtrips, minimizing opportunities for transfers.

There are several service alternatives considered for Ukiah, including routing changes, span of service changes, and the introduction of new service types. All of the Ukiah alternatives presented assume that routes will continue to serve the existing Pear Tree Center transfer point. Once a site is chosen for the future Ukiah Transit Center and development is underway, minor changes to the MTA fixed routes will be required to serve the new facility. Table 3 presents possible Ukiah service alternatives, as well as the anticipated impacts of each alternative on service levels, operating costs, and ridership.

Table 3: Ukiah - Service Alternatives Summary

	Change In Annual Service						
	Ridership	Service Hours	Service Miles	Marginal Operating Cost	Fare Revenues [3]	Operating Subsidy	Additional Buses Needed
Status Quo[1]							
Route 7/9	57,300	10,900	148,800	$1,194,500	$59,800	$1,134,700	
Route 20	18,200	4,340	79,400	$521,900	$19,000	$502,900	
Route 65	9,100	4,100	126,000	$610,100	$9,500	$600,600	
Route 75	6,300	2,000	62,500	$300,000	$6,600	$293,400	
Ukiah Service Alternatives - Change from Status Quo[2]							
Local Circulator Loops (Net Impact)	2,600	400	3,400	$36,900	$2,700	$34,200	
Ukiah Microtransit Service [4]							
Ukiah Microtransit Service - Mon - Fri, 6:00 AM - 6:00 PM Sat, 10:00 AM - 5:00 PM	11,200	3,500	52,500	$398,900	$26,400	$372,500	1
Ukiah Microtransit Service and Reduced Route 9 Service Hours [4]							
Ukiah Microtransit Service - Mon - Fri, 6:00 AM - 6:00 PM Sat, 10:00 AM - 5:00 PM	11,200	3,500	52,500	$398,900	$26,400	$372,500	1
Route 9 - Mon - Fri, 7:30 AM - 5:20 PM, Sat, 8:00 AM - 5:00 PM	-1,500	-400	-8,700	-$51,300	-$1,600	-$49,700	0
Net Impact	*9,700*	*3,100*	*43,800*	*$347,600*	*$24,800*	*$322,800*	*1*
Ukiah Microtransit Service and 90 Minute Loop [4]							
Replace Route 7/9 with 90-Minute Loop - 2 Buses	-5,800	-5,000	-76,500	-$569,200	-$6,000	-$563,200	0
Ukiah Microtransit Service - Mon - Fri 6:00 AM - 6:00, Sat 10:00 AM - 5:00 PM	11,200	3,500	52,500	$398,900	$26,400	$372,500	0
Net Impact	*5,400*	*-1,500*	*-24,000*	*-$170,300*	*$20,400*	*-$190,700*	*0*
Deviated State Street Express	1,200	-568	-11,040	-$69,800	$1,300	-$71,100	0
Evening Service Options							
Route 9 - Mon - Fri, 6:00 PM - 11:00 PM	3,300	1,300	16,500	$139,600	$3,400	$136,200	1
Route 20 - Mon - Fri, 6:30 PM - 8:30 PM	1,600	500	13,200	$69,400	$2,500	$66,900	1
Ukiah Evening Microtransit Service - Mon -Fri, 6:00 PM - 11:00 PM [4]	2,600	1,300	19,500	$151,000	$6,100	$144,900	1
Saturday Service Options							
Route 20 - 10:00 AM - 4:00 PM	1,200	300	7,900	$41,600	$1,300	$40,300	1
Ukiah Microtransit Service - 10:00 AM - 4:00 PM [4]	600	300	4,500	$38,300	$1,400	$36,900	1

Note 1: Status Quo operations are based on 2022-23 operating parameters and the FY 2024-25 cost model. This table only includes status quo data for the routes that serve Ukiah.

Note 2: Parameters and costs represent change over existing services. Estimates represent marginal costs and do not include fixed costs.

Note 3: Assumes an average fare per boarding of $1.04 per passenger on Routes 7/9, $1.57 per passenger on Route 20, $4.76 per passenger on Route 65, and $2.21 on Route 75.

Note 4: Assumes a general microtransit fare of $4.00 per one-way trip, or an average fare of $2.36 per passenger. Costs include $4,500/year for app license for one vehicle.

Make Plowshares, River Oak School, and Ukiah High School On-Demand Stops

There are three stops in the MTA published schedules for Routes 7 and 9 which are only served once or twice a day: Plowshares, River Oak School, and the Ukiah High School. As these stops represent a food distribution site and schools, there is no need to serve them other than the particular times per day when people are actively traveling to/from these sites. Although it is desirable to know exactly when these stops are going to be served, setting a specific time for these stops has the impact of shifting the times for the following stops along that run to be different minutes after the hour than other runs. Schedule consistency could be improved if Plowshares, River Oak School, and the High School were designated as on-demand stops with the ability to be served every run. In this case, a time stop would not be identified in the schedule for these stops. In the event that a stop was requested, the bus would likely be a couple of minutes late for that particular run, but this could be made up on the next run.

Serve Walmart and the Pear Tree Center with Route 7 (Jitney)

Route 7 could be redesigned to serve Walmart and a central transfer point in Ukiah (assumed to be the Pear Tree Center) each run, adding two major stops to the "express" route. Although this service change would likely cause Route 7 ridership to increase by serving popular stops, adding Walmart and the Pear Tree Center to the Jitney would add about 20 minutes per roundtrip, thereby extending Route 7's run time beyond one hour. This would have the impact of requiring additional buses to maintain the half-hourly service and would not be in line with the idea of a "Jitney" service. Therefore, this alternative was not considered any further.

Local Circulator Routes

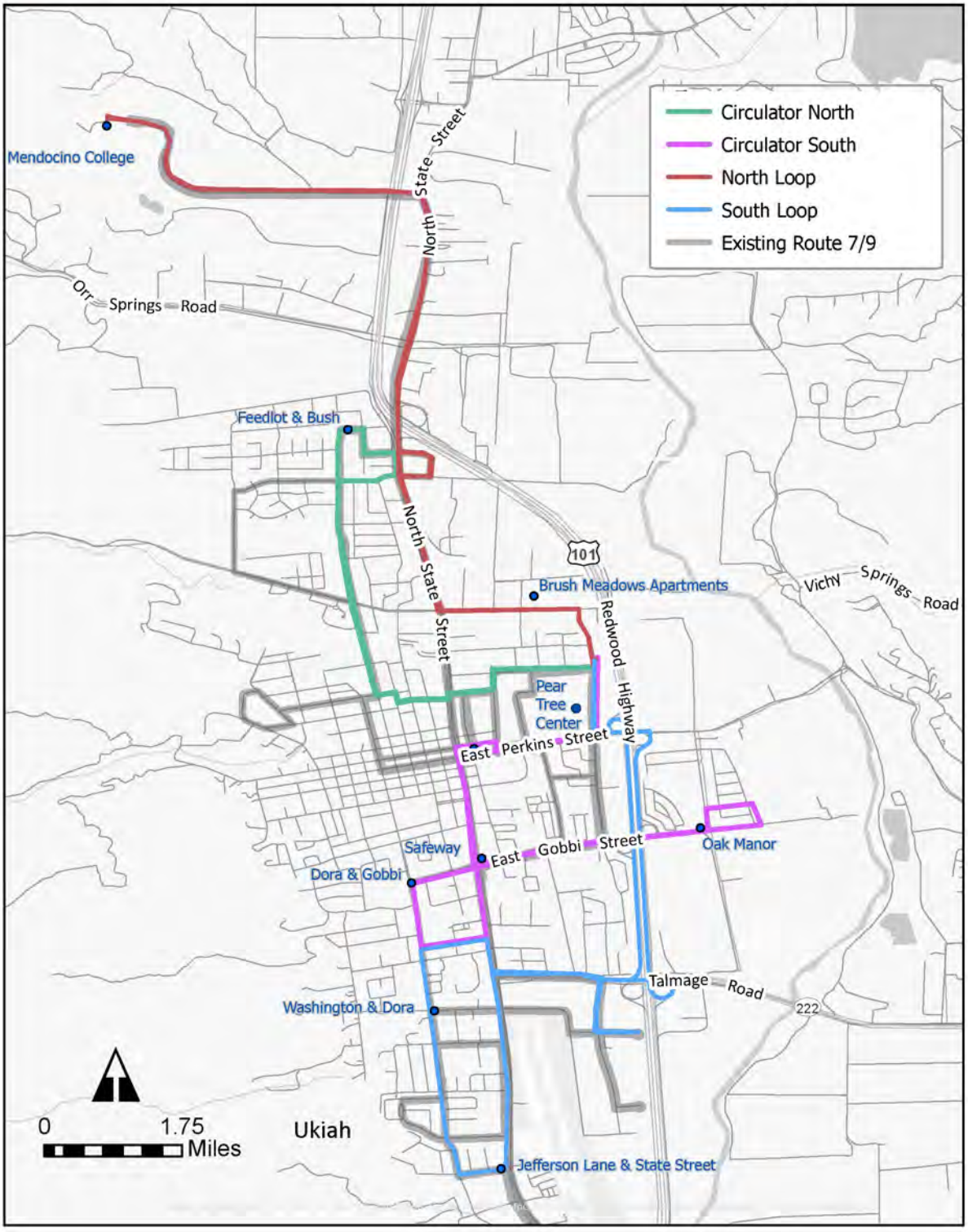
Routes 7/9 could be redesigned to instead consist of multiple loops beginning and ending at the transit center. Smaller circulator loops have the benefit of providing shorter travel times between certain destinations as well as providing service to a larger portion of the city. The idea of circulator routes has recently been considered by MTA outside of the SRTDP effort as well. A potential circulator route network is shown in Figure 1:

- The North Loop (blue) would travel between the Pear Tree Center and Mendocino College via Brush Street and State Street with a stop at Raley's. This loop would take about 26 minutes to complete and follow the same path in both the north and south directions.

- The Circulator North (green) would exit the transit center via Clara Street and travel over to Bush Street, where it would serve the popular Feedlot & Bush stop and neighborhoods in the northwestern portion of the city. The bus would then make a loop to State Street and Empire Drive before retracing the route back to the Pear Tree Center. This loop would only take around 20 minutes to complete. This loop could also serve Todd Grove Park and the High School as on-demand stops.

- Travelling south from the Pear Tree Center, the South Loop (pink) would use US 101 and exit on Talmage to serve Walmart before driving a loop around State Street and Dora Street as far south as Jefferson Lane. The bus would return via Talmage and Walmart before getting on US 101. This loop would take around 28 minutes to complete. Note that travel time along State Street to Walmart is not significantly longer than using the freeway.

Figure 1:
Ukiah Local Circulator Loops Alternative



- The Circulator South (red) would travel west on Perkins from the Pear Tree Center and serve the library before traveling south on State Street and making a small loop on Luce, Dora, and Gobbi. Next, the bus would serve the Oak Manor neighborhood. The bus would then return to State Street and retrace the route back to the Pear Tree Center. This loop would take roughly 28 minutes to complete.

With each of these loops taking around 30 minutes to operate (except for the Circulator North, which would take 20 minutes), the total cycle length of all four loops would be 2 hours, including a 10-minute driver break after the operation of the Circulator North. 30-minute headways could be provided if 4 buses were used. With a service span of 6:00 AM to 6:00 PM, 20 round trips of the combined four loops could be offered on weekdays and 8 round trips on Saturdays. The Local Circulator Loops would increase the MTA operating subsidy by around $34,200 per year, assuming an average fare of $1.04 per passenger. Considering that the Circulator Loops would serve new areas of Ukiah, decrease travel times for some, and require timed transfers for those traveling longer distances, it is estimated that this alternative would increase ridership by 2,600 passenger-trips annually, or 8 to 9 trips per day.

The impacts of the Four Loop Route 9 configuration would be as follows:

Pros

- Reduces travel time. Most significant for travel between the northern to the southern portion of Ukiah (up to 15 minutes faster); however a timed transfer would be required.
- Maintains half-hourly service for all stops on a predictable schedule
- Serves the Manor Oaks area east of US 101 and Brush Street apartments (currently unserved by transit)
- Overall increase in ridership of around 2,600 trips per year or 8 – 9 trips per day.

Cons

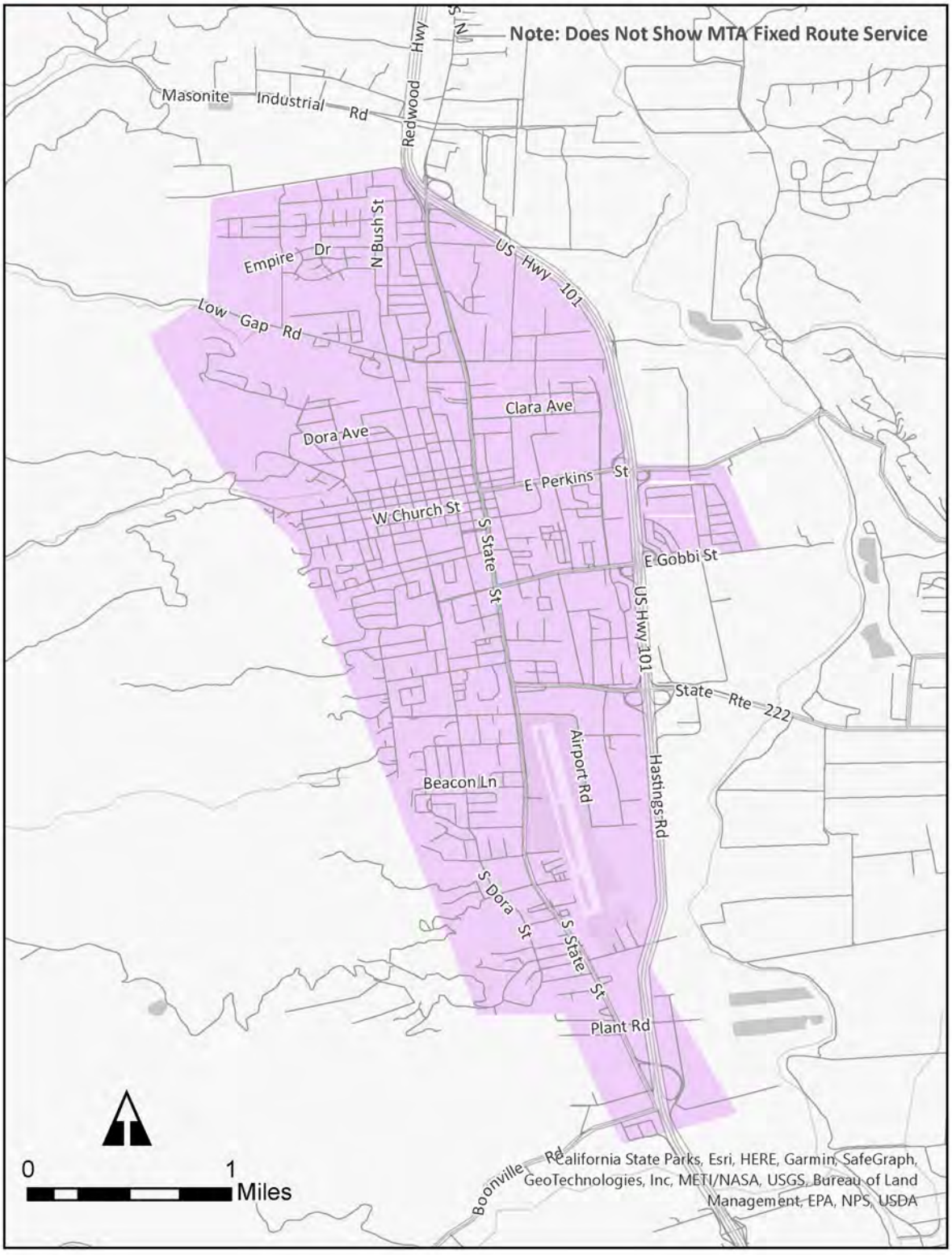
- Does not serve Costco directly (within 1/3 mile)
- Does not travel as far south as Plant Road (few boardings occur here)
- Would increase the MTA operating budget.

Ukiah Microtransit Service

Offering a citywide, Ukiah microtransit service would provide a new transit option in addition to the existing fixed route and paratransit services. The Ukiah microtransit service would have the following characteristics:

- Figure 2 shows the recommended service area. This area covers nearly all major developments and neighborhoods in Ukiah.
- Service hours would be from 6:00 AM to 6:00 PM on weekdays and 10:00 AM to 5:00 PM on Saturdays.

Figure 2:
Potential Ukiah Microtransit Service Area



- The general public fare is assumed to be $4.00. The discounted fare for senior adults ages 62 and older and passengers with disabilities would be $2.00, or the equivalent of a 50 percent discount (consistent with the discount received for fixed route fares). Based on boardings by passenger-type during FY 2022-23 and the proposed fare values, the average fare generated per passenger would be $2.36.
- To request rides, passengers would either submit their request through a phone app, or they would call dispatch.
- As the intention of the Ukiah microtransit zone would be to complement the existing fixed route services rather than replace them, only one vehicle would be used.

Different possible scenarios for a Ukiah microtransit service are discussed below.

Ukiah Microtransit Service and No Changes to Fixed Routes

To estimate the potential ridership that would be generated by the Ukiah microtransit service, ridership data for other microtransit services was reviewed (Appendix A). This analysis found that the average number of microtransit trips completed per capita, per year, by residents within the existing microtransit zones was 0.55. Applying this per capita rate to the population of Ukiah, along with an additional factor to account for the higher relative transit dependency of Ukiah residents compared to the other areas considered, generates an annual ridership estimate for the Ukiah microtransit service of 11,200 passenger-trips (Table 3). This estimate equates to 3 passenger-trips per hour, which is a reasonable productivity level for microtransit.

The Ukiah microtransit service would operate 3,500 vehicle service hours annually based on the service hours presented above. Assuming an average travel speed of 15 miles per hour, 52,500 vehicle service miles would be operated annually. These service levels, plus $4,500 for one microtransit software license, would result in an annual marginal operating cost of $398,900. Considering fare revenues, the annual operating subsidy would be $372,500.

Ukiah Microtransit Service and Reduced Route 9 Service

Implementing the Ukiah microtransit service and simultaneously reducing Routes 7/9 service during non-peak, weekday hours would lessen the cost impact of introducing microtransit. Excluding buses that are interlined with Route 20, reducing the Routes 7/9 service schedule to 7:30 AM to 5:45 PM would eliminate three one-way trips per weekday (the 6:45 and 7:00 AM northbound buses and the 5:25 PM southbound bus).

Introducing a microtransit service to Ukiah and reducing Routes 7/9 service by three one-way trips each weekday would result in annual service levels increasing by a net of 3,100 vehicle hours and 43,800 vehicle miles. Implementing the two service modifications simultaneously would result in a subsidy increase of $322,800 per year. Although some ridership would be lost by reducing Routes 7/9 service, implementing the new microtransit service alongside the service reduction would result in a net increase in ridership of 9,700 passenger-trips per year.

Ukiah Microtransit Service and 90-Minute Loop Route Structure

Ukiah microtransit service could be paired with less frequent and streamlined versions of Routes 7/9 as a way of directly serving more homes in Ukiah with a lower impact on the operating budget. This alternative is presented in Figure 3. In this scenario, two buses would be used to operate 45-minute headways on a loop that serves all of the high-activity bus stops on the existing Routes 7/9.

To preserve 30-minute headways on weekdays, 3 buses could be operated; however, this would increase operating costs by around $170,000.

Pros

- Consistent fixed route service to all high-activity boarding stops.
- Expands transit service to new portions of Ukiah for riders not eligible for paratransit.
- Increases ridership by 5,400 trips annually, or 17 trips per day.
- Decreases annual operating subsidy by $190,700.

Cons

- Increases 30-minute fixed route headways to 45 minutes.
- Stops no longer served by the fixed route would need to use the on-demand app; however, data collected during the boarding and alighting counts and onboard survey show that there are few boardings made at these stops.

Deviated State Street Express

One of the key downsides of microtransit is that passengers need to request a new ride every time they need to go somewhere. This could be seen as an inconvenience for passengers using the bus to go to work, school, or social service programs on a daily basis. Microtransit services also have variable wait times, making it more challenging for passengers to rely on microtransit to get to regular commitments. Of the passengers who completed the on-board survey, about one-quarter were traveling to/from work and 12 percent were riding the bus to/from college, suggesting that many MTA passengers may prefer regularly scheduled transit services.

The idea of a deviated fixed route was explored to provide more direct service throughout Ukiah while still following a predictable schedule. In this scenario, Route 9 would be streamlined significantly (similar to Route 7) and travel up and down State Street from Jefferson Lane to Mendocino College, with a detour to serve the transit center. Travel times from north to south Ukiah on this “State Street Express” would be only 30 minutes, compared to 45 minutes on the existing Route 9, as long as there are no deviation requests. Passengers would be able to request deviations to most places in the city, as shown in Figure 4. If a passenger wanted to ensure a pickup at a certain time, 24-hour advance reservations would be suggested. Otherwise, same-day requests would be accommodated on a space-available basis. At a minimum, passengers would need to call dispatch at least 10 minutes before the start of the State Street Express run for which they would like a deviation.

Figure 3:
Potential Ukiah Microtransit + 90 Minute Loop Service Scenario

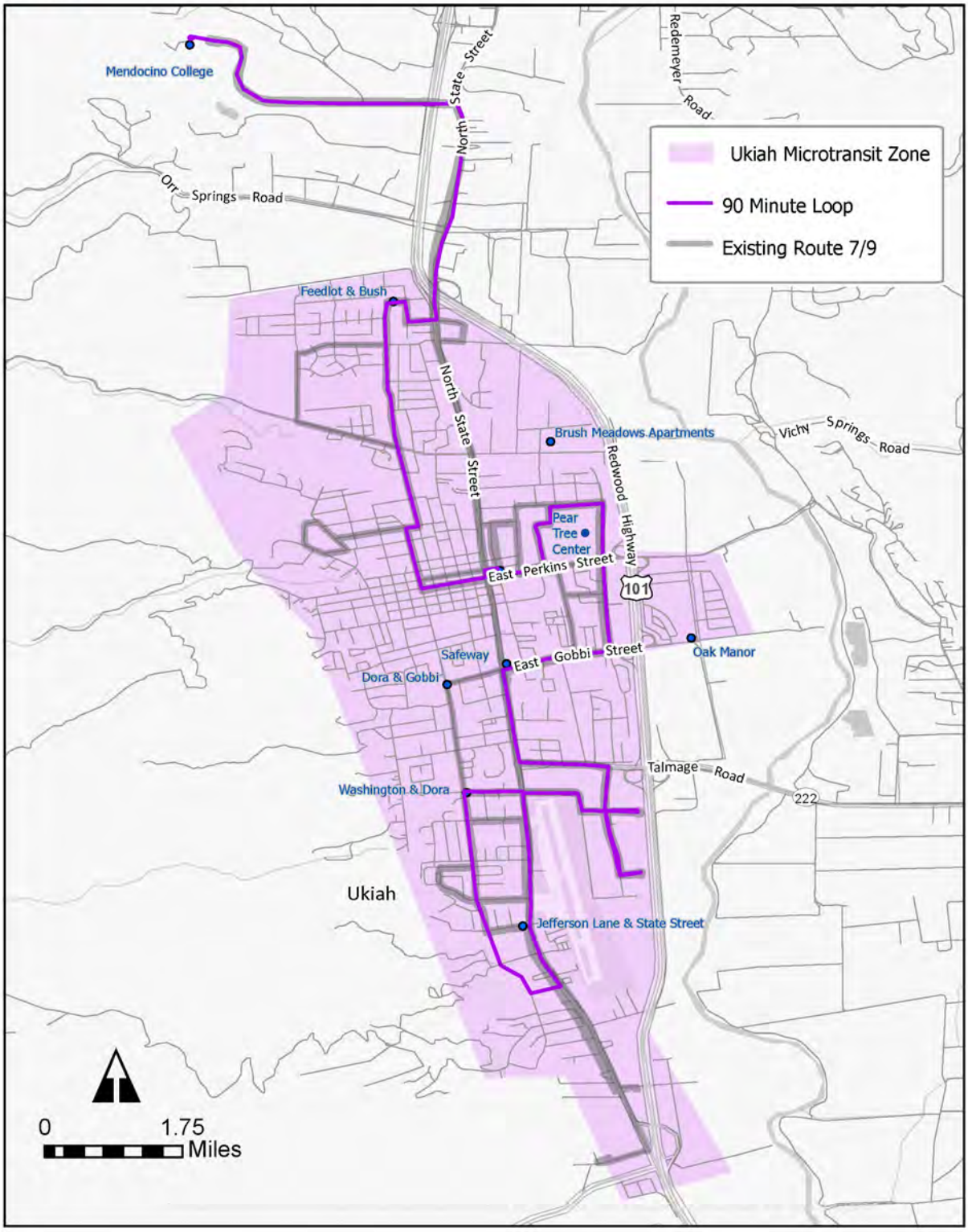
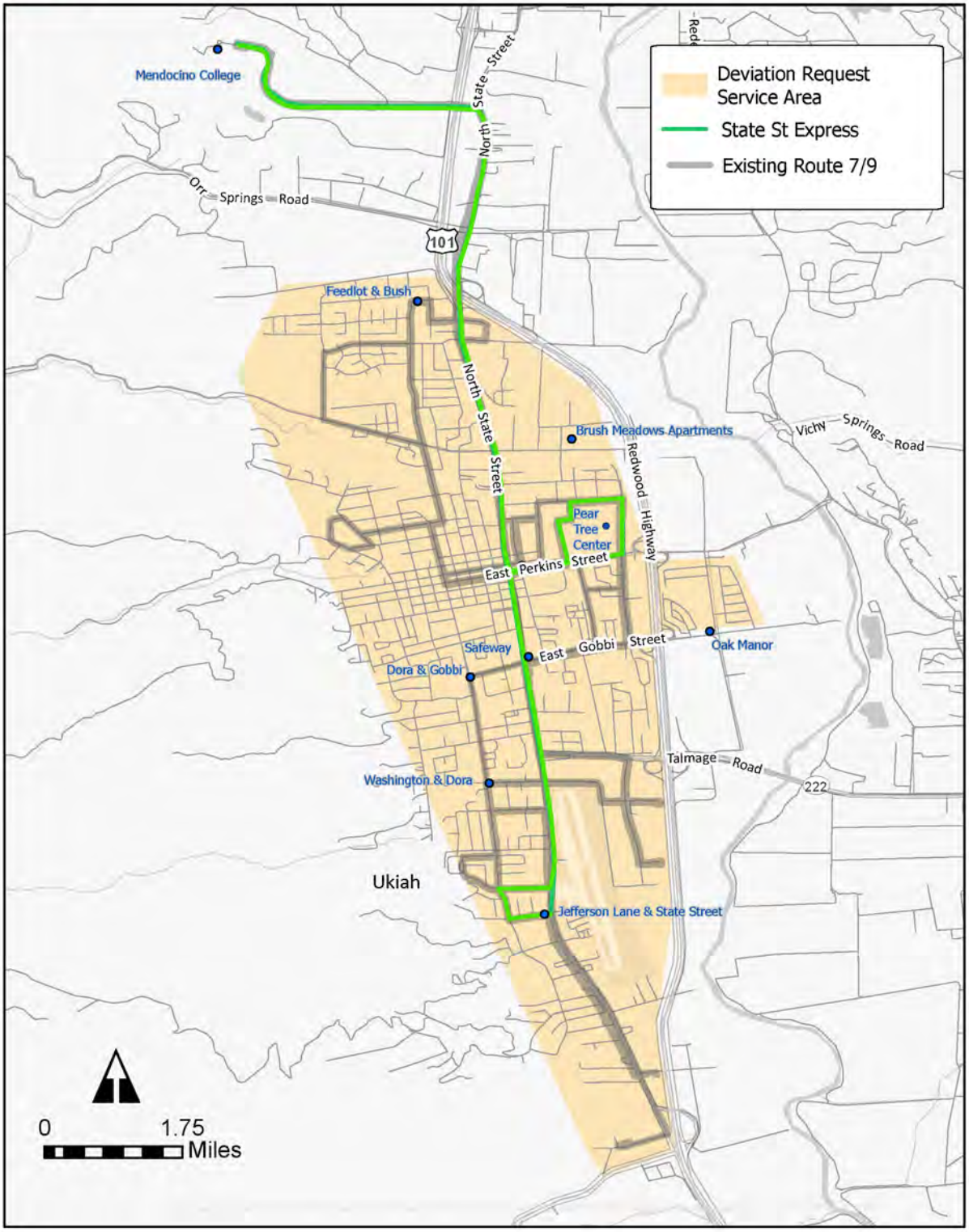


Figure 4:
Potential Deviated State Street Express



The State Street Express could provide half-hourly service from roughly 6:00 AM to 6:30 PM on weekdays. On Saturdays, one bus would operate every 45 minutes between 8:00 AM and 5:00 PM. Local Ukiah ridership would likely increase due to the shorter travel time between north and south Ukiah, direct service being provided to more areas, and the increased frequency; however, some passengers would likely now be required to call in advance for a pick-up/drop-off would ride less frequently. Overall, it is estimated that this option will increase ridership by 1,200 passenger-trips per year, but also reduce the MTA operating subsidy by $71,100. This alternative would have the following advantages and disadvantages:

Pros

- Maintain half-hourly service on weekdays.
- Reduced travel times.
- Slightly increased frequency on Saturday.
- A greater number of homes served directly.
- Increase in ridership.
- Decrease in operating costs.

Cons

- Requirement for advance reservations for deviations off of State Street.

Evening Service

The most popular service improvement requested during the onboard passenger survey discussed in TM2 was for later weekday service (58 percent of all respondents). Based on this community input, three options for providing evening transit service in Ukiah were evaluated.

Route 9 – 6:00 PM –11:00 PM

Route 9 service could be extended from 6:00 PM to 11:00 PM each weeknight. Given reduced transit demand in the evening, service would be provided with only one bus. Based on the existing route length and service time, the bus would complete about three round trips during the five additional evening hours. Potential ridership on an evening Route 9 service was estimated by calculating the ratio of daytime ridership to evening ridership on peer transit systems that offer services during similar hours. This ratio was applied to Route 9's annual weekday ridership levels, then an elasticity factor was applied to reflect the loss of ridership that would be expected by decreasing the service frequency compared to the daytime schedule. These calculations yielded an annual ridership estimate for Route 9 evening service of 3,300 passenger-trips. Evening service would cause MTA service levels to increase by 1,300 vehicle service hours and 16,500 vehicle service miles annually, resulting in an operating subsidy increase of $136,200 (Table 3).

Route 20 – 6:30 PM – 8:30 PM

Operating one additional Route 20 roundtrip each weeknight evening would provide an extra opportunity for workers and students to get between Ukiah and Willits (and within the communities) at the end of the day. To estimate ridership on this potential evening Route 20 trip, the same methodology that was utilized to estimate ridership on an evening Route 9 service, described above, was applied to Route 20.

It is estimated that operating evening Route 20 service on weekdays would increase ridership by 1,600 passenger-trips per year (Table 3). Route 20 evening service would require 500 vehicle service hours and 13,200 vehicle service miles, increasing MTA's marginal operating cost by $69,400. Fare revenues would be expected to be $2,500, meaning the annual marginal operating subsidy would be $66,900.

Ukiah Microtransit Service – 6:00 PM – 11:00 PM

Rather than extending Route 9 fixed route service, Ukiah could instead be served in the evening with microtransit. This evening microtransit option would be provided within the service area shown in Figure 2 from 6:00 PM to 11:00 PM, after fixed route service is completed for the day, with the parameters described previously. To estimate potential ridership for this service, the ratio of evening to daytime ridership on peer systems was applied to the estimated daytime Ukiah microtransit ridership. It is reasonable to assume, based on peer systems, that the one microtransit vehicle could carry four passenger-trips per hour, therefore the initial ridership estimate was reduced based on this productivity constraint. In all, it was estimated that 2,600 passenger-trips would be carried on a Ukiah evening microtransit service per year. The service would operate 1,300 vehicle service hours and 19,500 vehicle service miles annually, for a marginal operating cost of $151,000. If the general microtransit fare were $4.00, the evening Ukiah service would generate $6,100 in fare revenues annually, leaving a marginal operating subsidy of $144,900.

Expanded Saturday Service

Another common request heard during public outreach was for additional Saturday service, with 34 percent of respondents requesting earlier hours and 46 percent of respondents requesting later hours. Currently, Route 9 is the only Saturday service in Ukiah, operating from approximately 8:00 AM to 5:00 PM. This section discusses two alternatives for further expanding Saturday transit service in Ukiah, dependent on driver availability.

Route 20 – 10:00 AM – 4:00 PM

Route 20 could be operated on Saturdays from 10:00 AM to 4:00 PM. Based on the current route structure and running time, this span of service would allow for three roundtrips between Ukiah and Willits per Saturday, resulting in MTA service levels increasing by 300 vehicle service hours and 7,900 vehicle service miles per year (Table 3). The service would carry about 1,200 passenger-trips per year, based on existing weekday ridership, the typical ratio of Saturday to weekday ridership observed on the MTA and other peer transit systems, and the typical proportion of passenger-trips occurring during the proposed service hours. The annual marginal operating cost would be $41,600, but given expected fare revenues of $1,300, the annual operating subsidy would be $40,300.

Ukiah Saturday Microtransit Service – 10:00 AM – 4:00 PM

A Saturday microtransit service could be offered in Ukiah to supplement Saturday fixed route service from 10:00 AM to 4:00 PM using one vehicle. Typically, Saturday transit ridership is half of weekday ridership. However, Saturday ridership on Routes 7/9 is only 10 percent of weekday ridership. Given that microtransit can serve more homes and passengers typically have more flexibility with travel time on Saturdays, it was estimated that microtransit ridership on Saturdays would be 40 percent of weekday ridership. Ridership estimates also considered the proportion of Route 9 trips typically made during the 10:00 AM to 4:00 PM window. Based on these various considerations, is estimated that operating a

Saturday Ukiah microtransit service would increase ridership by 600 passenger-trips annually. About 300 vehicle service hours and 4,500 vehicle service miles would be operated per year, for a total annual marginal operating cost of $38,300 (Table 3). The service would generate $1,400 of fare revenues per year, meaning the annual marginal operating subsidy would be $36,900.

WILLITS SERVICE ALTERNATIVES

Service alternatives designed to either improve transit access or the operational efficiency of transit services in the City of Willits are discussed in this section. The impacts of the various alternatives are presented in Table 4.

Willits/Brooktrails Microtransit Service

As a way to bring alternative forms of public transit to the region and directly serve more homes in Willits and Brooktrails (currently unserved), the MTA could operate a combined Willits/Brooktrails microtransit service with the following characteristics:

- Figure 5 shows the potential Willits microtransit service area. The Willits zone would serve nearly all residential and commercial developments within the city, including the Sherwood Rancheria. The Brooktrails zone, shown in Figure 6, would include most of the Brooktrails population.
- Service hours would be weekdays from 9:00 AM to 4:00 PM.
- Like the Ukiah microtransit service, it is assumed the general public fare would be $4.00. The discounted fare for senior adults ages 62 and older and passengers with disabilities would be $2.00. The average fare revenue generated per passenger would therefore be $2.36, based on systemwide boardings by passenger-type in FY 2022-23.
- To request rides, passengers would either submit their request through a phone app, or they would call dispatch.
- Based on demand, only one vehicle would be used.
- Given the dispersed nature of Brooktrails and the potentially long travel times necessary to serve homes in the community, service to Brooktrails would be limited to the first 15 minutes of the hour. This policy would require the app to restrict ride requests either starting or ending in Brooktrails to the eligible service windows. While this policy would result in Brooktrails passengers having longer wait times, it would benefit overall service productivity.

Various alternatives for implementing microtransit in Willits/Brooktrails are discussed on the following pages.

Table 4: Willits - Service Alternatives Summary

	Change In Annual Service						
	Ridership	Service Hours	Service Miles	Marginal Operating Cost	Fare Revenues [3]	Operating Subsidy	Buses in Operation
Status Quo[1]							
Route 1	5,700	2,900	32,200	$300,800	$5,900	$294,900	
Route 20	18,200	4,340	79,400	$521,900	$19,000	$502,900	
Route 65	9,100	4,100	126,000	$610,100	$9,500	$600,600	
Total	33,000	11,340	237,600	$1,432,800	$34,400	$1,398,400	
Willits Service Alternatives - Change from Status Quo[2]							
Willits/Brooktrails Microtransit Service [4]							
Combined Willits/Brooktrails Microtransit Service - Mon - Fri, 9:00 AM - 4:00 PM	5,800	1,800	34,800	$225,200	$13,700	$211,500	1
Willits/Brooktrails Microtransit and Eliminate Route 1							
Combined Willits/Brooktrails Microtransit Service - Mon - Fri, 9:00 AM - 4:00 PM	5,800	1,800	34,800	$225,200	$13,700	$211,500	1
Elimate Route 1	-5,700	-2,900	-32,200	-$300,800	-$5,900	-$294,900	-1
Ridership Switch to Route 20	800	0	0	$0	$1,800	-$1,800	0
Net Impact	*900*	*-1,100*	*2,600*	*-$75,600*	*$9,600*	*-$85,200*	*0*
Evening Service Options							
Route 1 - 6:30 PM - 8:30 PM	500	500	5,900	$52,700	$500	$52,200	1
Serve the Sherwood Rancheria On-Demand							
Make the Sherwood Valley Rancheria an On-Demand Stop	0	0	-2,700	-$6,200	$0	-$6,200	0
Saturday Service Options							
Route 1 Service - 10:00 AM - 4:00 PM	440	300	2,500	$44,200	$500	$43,700	1
Combined Willits/Brooktrails Microtransit Service - 10:00 AM - 4:00 PM	500	300	5,700	$41,100	$1,200	$39,900	1

Note 1: Parameters and costs represent change over existing services. Estimates represent marginal costs and do not include fixed costs.

Note 2: Status Quo operations are based on 2022-23 operating parameters and the FY 2024-25 cost model. This Table only includes status quo data for the routes that serve Willits.

Note 3: As there is no local Saturday transit service in Willits, an additional $50 per service hour was added to the operating cost estimates to account for additional staffing requirements

Note 4: Fare revenues are assumed to be equal to the average fare collected per passenger during FY 2022-23, or $3.24 per passenger on Route 1 and $3.51 per passenger on Routes 20 and 65.

Note 5: Assumes a general microtransit fare of $4.00 per one-way trip. Costs include $4,500/year for app license for one vehicle.

Figure 5:
Potential Willits Microtransit Service Area

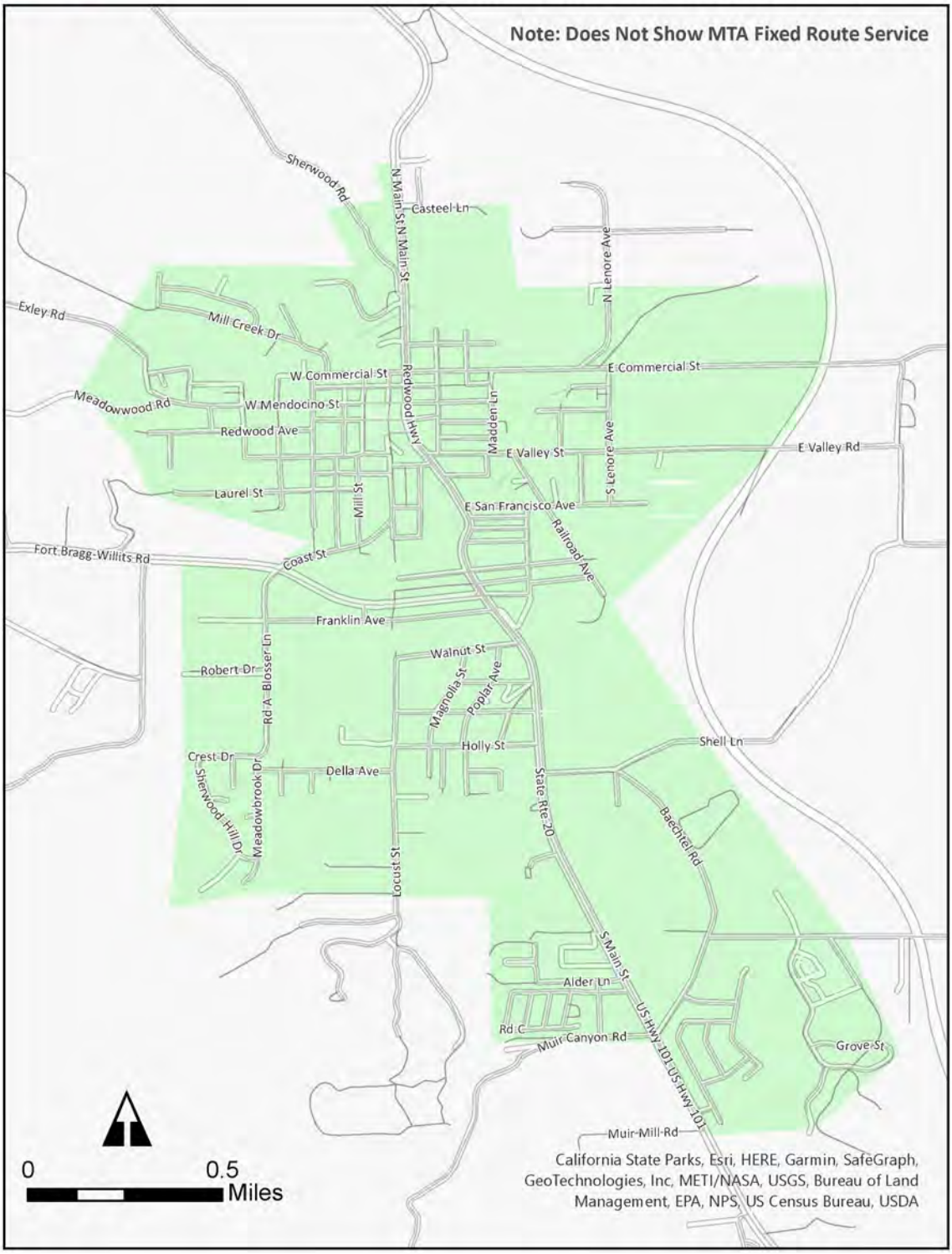
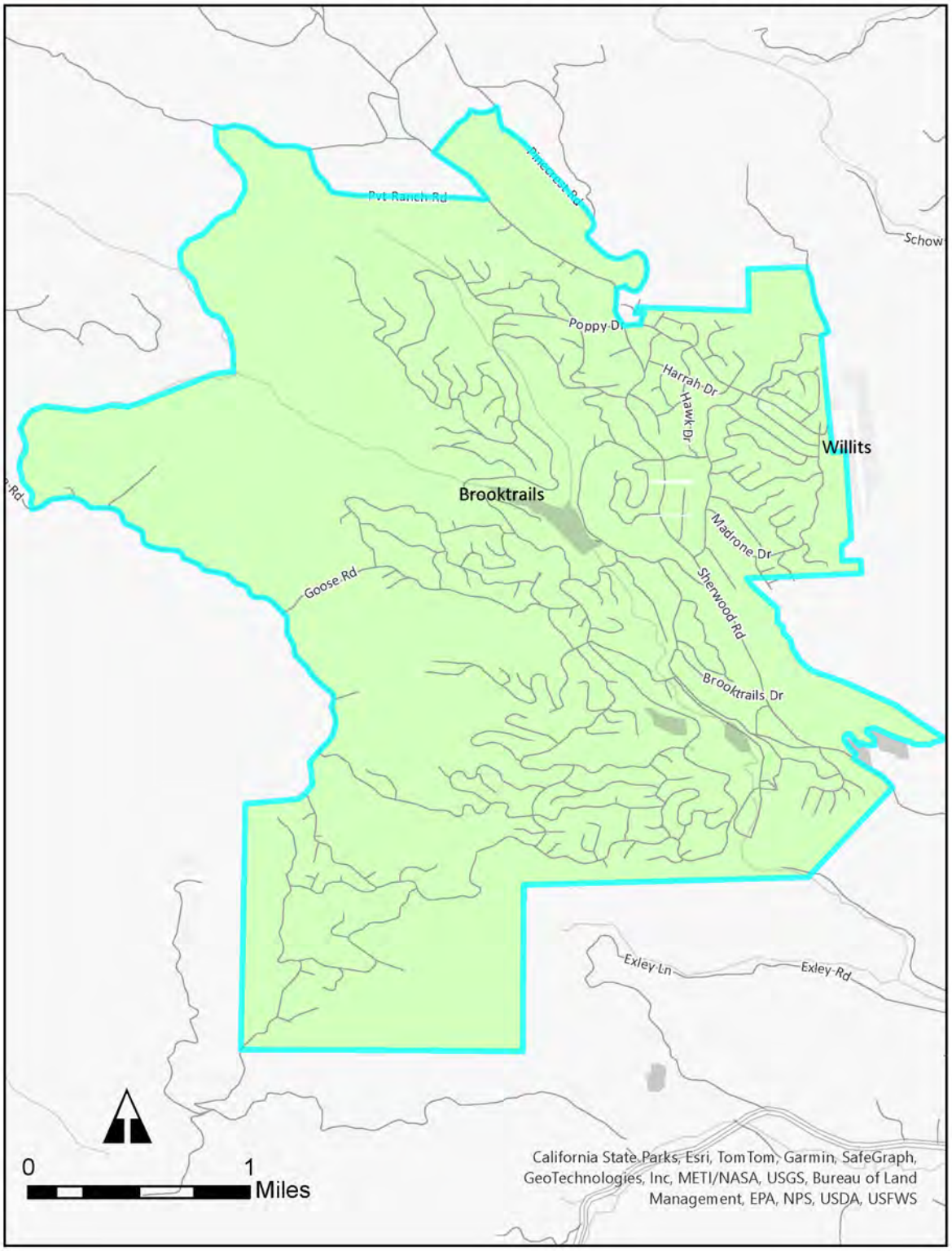


Figure 6:
Potential Brooktrails Microtransit Service Area



Willits/Brooktrails Microtransit Service and No Changes to Fixed Routes

MTA could offer the new Willits/Brooktrails microtransit service with no additional changes to its fixed routes. The potential ridership of this new service was estimated by applying the per capita microtransit ridership rate observed in peer regions (Appendix A), or 0.55 trips per resident per year, to the Willits and Brooktrails population sizes. Then, additional factors were applied to reflect the high proportion of Willits homes and the low proportion of Brooktrails homes that are likely transit-dependent. Based on this analysis, it is estimated that the Willits/Brooktrails microtransit service, if implemented with the parameters described above, would carry 5,800 passenger-trips annually (Table 4). This ridership level would yield a productivity rate of 3 passenger-trips per hour.

Operating microtransit on weekdays from 9:00 AM to 4:00 PM would require 1,800 vehicle service hours per year. Assuming the vehicle maintains an average speed of 15 miles per hour (except for the trips to Brooktrails during which the vehicle travels faster), 34,800 vehicle service miles would be operated annually. These service levels would generate a marginal operating cost of $225,200 per year, including a $4,500 cost for obtaining a microtransit software license for the vehicle. Accounting for fares, the annual operating subsidy would be $211,500.

Replace Route 1 with Willits/Brooktrails Microtransit Service

Route 1, the local Willits deviated fixed route, has performed poorly in recent years, carrying only 2 passenger-trips per hour in FY 2022-23 at a high operating cost of $79.11 per passenger-trip. Rather than operating two different local services in communities with relatively low transit ridership, the introduction of a Willits/Brooktrails microtransit service could coincide with eliminating Route 1. The microtransit service would only require one van, meaning operating costs would not substantially increase by providing microtransit rather than fixed route service. The Willits service area, as shown in Figure 5, spans only 2.1 square miles, meaning the driver would be able to respond to trip requests quickly, except for the few times daily the vehicle goes up to Brooktrails.

Under this alternative, Willits would continue to be served by Routes 20 and 65 as normal, and microtransit would be introduced. Eliminating Route 1 would reduce service levels by 2,900 vehicle service hours and 32,200 vehicle service miles annually, resulting in substantial operating cost savings of $300,800 annually. As there is some overlap between Route 1 and Route 20, it is assumed that some passengers would instead use Route 20 to meet their travel needs. Boarding-by-stop data was considered to determine what proportion of Route 1 passengers board and alight at stops served by Route 20. Then, an elasticity analysis was applied to determine how many passengers would still ride Route 20 despite the slower service frequency. This analysis found that 800 passenger-trips would switch to Route 20, therefore the net impact of eliminating Route 1 would be an annual loss of 4,900 passenger-trips.

The net impacts of implementing a new Willits/Brooktrails microtransit service, eliminating Route 1, and some Route 1 riders switching to Route 20 are presented in Table 4. As shown, the net ridership impact would be a gain of 900 passenger-trips per year. There would be a decrease of 1,100 vehicle service hours and an increase of 2,600 vehicle service miles operated each year, resulting in a net $75,600 in annual marginal operating cost savings. The average microtransit fare would be higher than the average Route 1 fare, meaning there would be a net increase of $9,600 in fare revenues. In all, the net financial impact would be a $85,200 reduction to MTA's annual marginal operating subsidy.

Evening Service Options

Expanding evening transit service in Willits was considered to meet passenger needs, as expressed during public outreach.

Operate Route 1 From 6:30 PM to 8:30 PM

Route 1 service currently ends at 6:33 PM at the Integrated Service Center. Service could be extended by two hours, until approximately 8:30 PM. As it takes 51 minutes for Route 1 to complete a full roundtrip, two roundtrips would be completed during the extra evening hours. It is estimated that the additional Route 1 evening hours would increase ridership by 500 passenger-trips annually, based on daytime ridership levels and the ratio of daytime ridership to evening ridership on peer services. Annual service levels would increase by 500 vehicle service hours and 5,900 vehicle service miles. MTA's marginal operating subsidy for this alternative would be $52,200 (Table 4).

Serve Sherwood Valley Casino On-Demand

Currently, Route 1 serves the Sherwood Valley Casino on all trips, requiring 11 minutes and 2.6 miles per roundtrip through the city. Despite the significant mileage and time required to serve the stop, ridership is typically quite low, with only one boarding and three alightings (daily) observed during the boarding and alighting counts conducted for the SRTDP. As this stop is in the middle of the route, moreover, serving it adds often unnecessary travel time to the larger majority of riders traveling past this point.

Route 1 service to the Sherwood Valley Casino could be modified to be on-demand, as shown in Figure 7. In this scenario, passengers would call dispatch to request a pickup at the location and would request a drop-off upon boarding. Based on current ridership levels, it is estimated that serving the Sherwood Valley Casino on demand would reduce ridership by 500 passengers per year at the casino stop, however, this would be offset by a similar increase in other riders generated by the shorter travel times, yielding no net change in ridership. This alternative would not change annual vehicle service hours but would reduce service-miles by 5,400 per year (Table 4). This service modification would yield marginal operating cost savings of $6,200 per year, with a parallel reduction in annual operating subsidy.

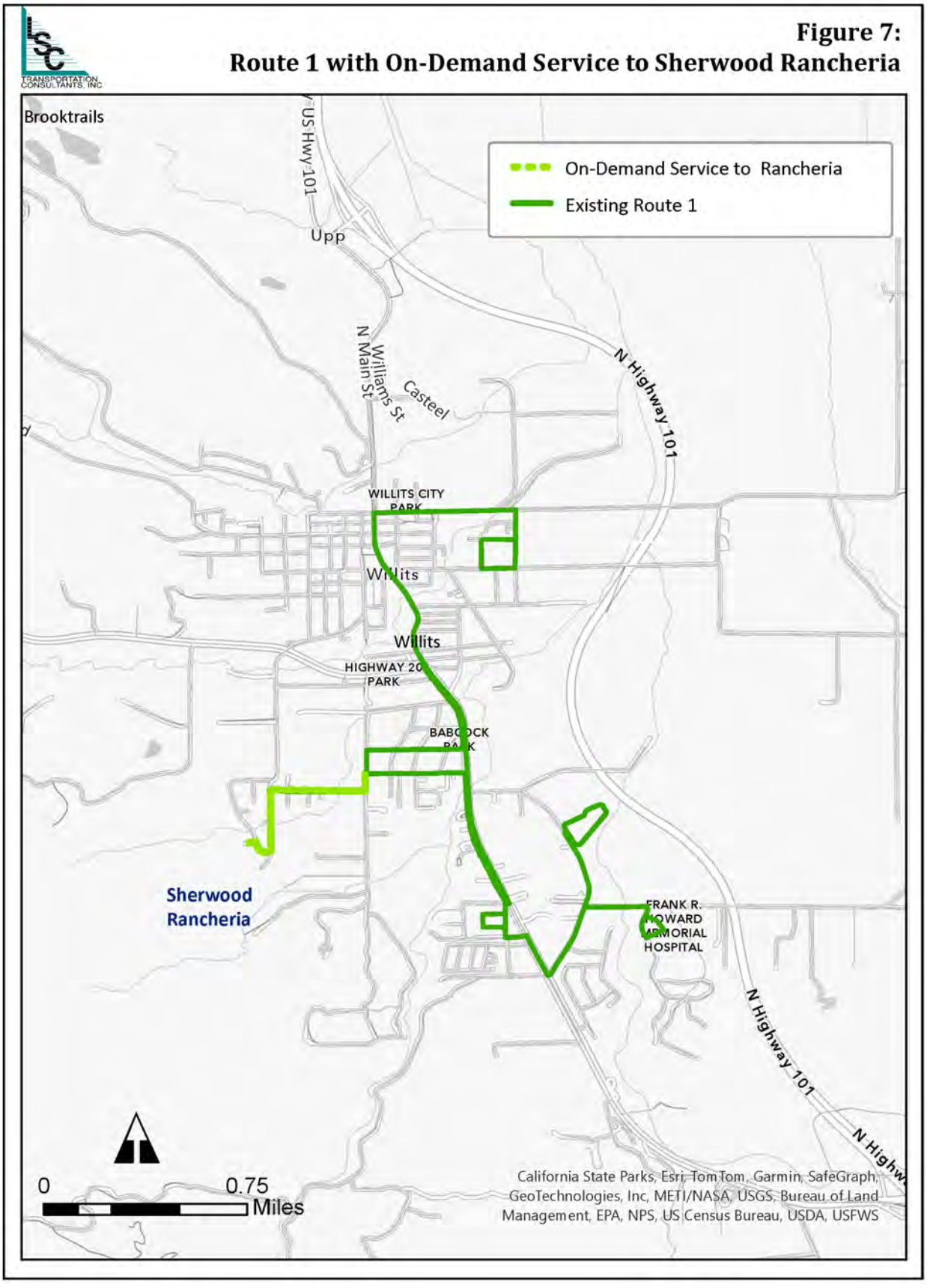
Saturday Service Options

This section discusses two alternatives for providing Saturday service in Willits.

Route 1 Service

MTA could operate Route 1 on Saturdays from 10:00 AM to 4:00 PM. As Route 1 completes one roundtrip per hour, six roundtrips would be completed per Saturday. Ridership would increase by 440 passenger-trips per year, resulting in $500 in additional fare revenues (Table 4). This estimate is based on Route 1 weekday ridership levels, the nationwide trend of Saturday ridership being half of weekday ridership, and the proportion of Route 1 weekday ridership that occurs within the equivalent service hours. In all, providing Route 1 Saturday service would add 300 vehicle service hours and 3,500 vehicle service miles per year at an annual cost of $44,200. Given the expected fare revenues and operating costs, the annual marginal operating subsidy would be $43,700.

Figure 7:
Route 1 with On-Demand Service to Sherwood Rancheria



Willits/Brooktrails Microtransit Service

A microtransit service could be provided on Saturdays in Willits/Brooktrails, with the parameters outlined previously, from 10:00 to 4:00 PM. Given the estimated weekday ridership levels, the typical ratio of Saturday to weekday ridership, and the proposed service hours, it is estimated that a Saturday Willits/Brooktrails microtransit service would carry 500 passenger-trips per year. Service levels would increase by 300 vehicle service hours and 5,700 vehicle service miles per year, increasing the MTA's annual marginal operating cost by $41,100 (Table 4). Ridership would generate $1,200 in fare revenues, meaning the annual operating subsidy for the service would be $39,900.

RURAL INLAND COMMUNITIES SERVICE ALTERNATIVES

In 2022, MCOG and Caltrans commissioned the development of the *Mendocino County Rural Inland Communities Mobility Solutions (*Mobility Solutions) study to analyze innovative ways to improve transit service to the communities of Brooktrails, Covelo, Hopland, Laytonville, and Potter Valley. These communities are collectively home to nearly 7,500 residents and are located primarily along the US 101 corridor, as shown in Figure 8.

After extensive analysis and outreach, the Mobility Solutions study proposed a "*mix of vehicle-based service and other programs to supplement rural residents' transportation choices*." This section analyzes the estimated impacts on costs and ridership of the various transit-focused solutions recommended in the Mobility Solutions study, as shown in Table 5. Proposed programs that could be implemented by community-led groups, rather than the MTA, are discussed later in this chapter.

Brooktrails

Brooktrails is home to approximately 4,500 residents, per the American Community Survey (ACS) 2021 Five-Year Estimates, making it the fourth largest community in Mendocino County. Located about 3 miles northwest of Willits on land that previously served as a forestry operation, the current community structure consists of dispersed, single-family development along a circuitous road network.

There are no public transportation services available in Brooktrails besides the Willits Senior Center paratransit service, which is limited to senior adults and persons with disabilities. Active transportation from Brooktrails into Willits is also not accessible for many residents, as it is not safe to walk or bicycle along Sherwood Road due to the lack of sidewalks and limited curb space. Brooktrails service alternatives were built off of the recommendations of the Mobility Solutions study, except for the previously discussed Willits/Brooktrails microtransit service.

Deviated Fixed Route Service

The Mobility Solutions study proposed the MTA operate a deviated fixed route service to Brooktrails two days a week, four times per day. Based on expected demand, this SRTDP study instead evaluated the potential of operating a deviated fixed route service to Brooktrails two days a week, two times per day. A possible schedule for this service is shown in Table 6. A possible route is shown in Figure 9. Per the Mobility Solutions study, three deviations up to 0.75 miles would be allowed per trip.

Figure 8:
Mendocino County Rural Inland Communities

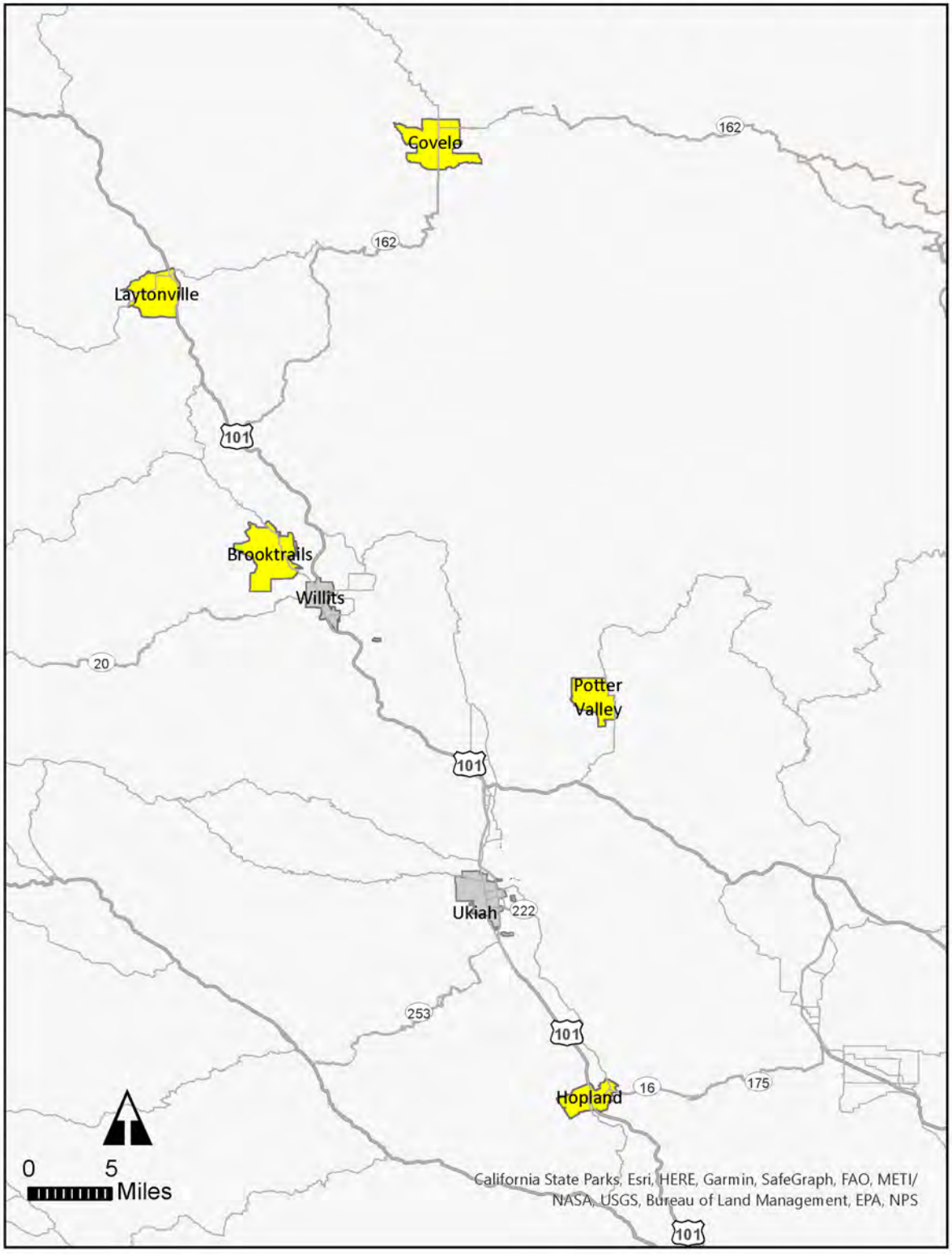


Table 5: Rural Inland Communities - Service Alternatives Summary

	Change In Annual Service						
	Ridership	Service Hours	Service Miles	Marginal Operating Cost	Fare Revenues	Operating Subsidy	Buses in Operation
Rural Inland Service Alternatives - Change from Status Quo [1,2]							
Brooktrails Alternatives							
Deviated Fixed Route Service - 2 Days/Week, 2 Trips/Day [3]	800	300	3,600	$31,700	$800	$30,900	1
Brooktrail Extension [3]	700	500	8,400	$58,400	$700	$57,700	0
Covelo Alternatives							
Deviated Fixed Route Service to Willits - 1 Day/ Week [4]	200	400	6,400	$46,000	$500	$45,500	0.5
Hopland							
Rt 65 Hopland Tripper (2 Round Trips/day, 3 Days per Week)	200	300	6,000	$35,900	$1,000	$34,900	1
Laytonville Alternatives							
Deviated Fixed Route Service to Willits - 1 Day/ Week [4]	400	400	4,600	$41,900	$900	$41,000	0.5
Potter Valley Alternatives							
Deviated Fixed Route to Ukiah - 1 Day/Week, 1 Trip/Day [4]	100	300	3,900	$32,400	$200	$32,200	0.5
Community Van Service to Ukiah Operated by the Family Resource Center	--	--	--	$7,500	--	--	0

Note 1: None of the five subject communities are currently served by the MTA, therefore all values shown in the Table represent increases over the MTA's status quo.

Note 2: Estimates represent marginal costs and do not include fixed costs.

Note 3: Average fare assumed to be equal to the average fare collected per Route 1 passenger during FY 2022-23, or $1.04 per passenger.

Note 4: Microtransit general fare assumed to be $4, or an average fare of $2.36 per passenger.

Table 6: Example Brooktrails Deviated Fixed Route Schedule

Tuesday, Thursday			
Safeway (Willits)	--	12:15 PM	4:15 PM
Post Office	--	12:16 PM	4:16 PM
Willits City Hall	--	12:18 PM	4:18 PM
Mendocino College (Willits Center)	--	12:20 PM	4:20 PM
Creekside Drive	--	12:23 PM	4:23 PM
Sherwood Market	--	12:33 PM	4:33 PM
Brooktrails Community Services District	8:00 AM	12:40 PM	4:40 PM
Buckeye Road and Tulip Drive	8:06 AM	12:46 PM	4:46 PM
Sherwood Market	8:25 AM	1:05 PM	5:05 PM
Mariposa Market	8:35 AM	1:15 PM	--
Safeway (Willits)	8:37 AM	1:17 PM	--

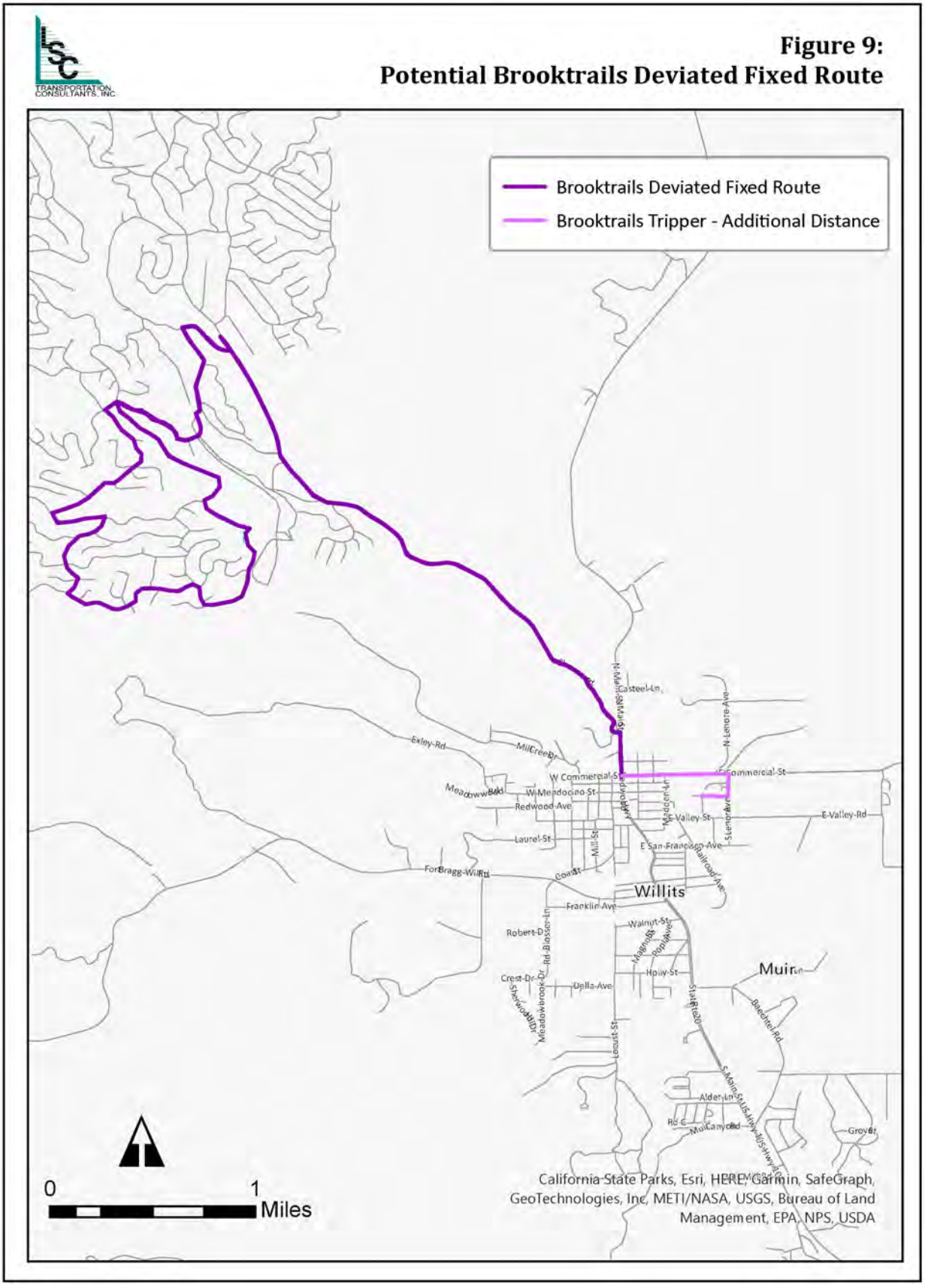
Note 1: The service would be able to make up to three deviations per trip within Brooktrails within 0.75 miles of the fixed route.

The ridership estimate for the Brooktrails deviated fixed route is based on the observed ridership on other rural lifeline transit services in California and the relative transit dependency of Brooktrails compared to the other service areas. Factors were also considered to account for the proposed service being available only two days per week. In sum, it is estimated that a Brooktrails deviated fixed route would carry 800 passenger-trips per year. Assuming a similar service schedule to what is presented in Table 6 and only three deviations being allowed per trip, 300 additional vehicle service hours and 3,600 vehicle service miles would be required per year, at a marginal operating cost of $31,700. These service level estimates account for additional driver time to deadhead the vehicle to and from the Willits operations facility. Charging the same fares as Route 1 would generate $800 in fare revenue meaning the annual operating subsidy would be $30,900.

Brooktrails Extension Service

Rather than implement a separate service for Brooktrails, Brooktrails could be served with additional runs of Route 1. These special trips could be referred to as the "Brooktrails Extension" bus. As outlined in the Mobility Solutions study, this alternative would consist of the Route 1 bus going out to Brooktrails and picking passengers up at a few key stops before starting regular service at 7:12 AM. There would then be a return, afternoon bus sometime between 5:00 PM and 6:30 PM. The benefits of this service model are that no additional drivers would be required and that the service could be designed to get folks to work or school at traditional times. Service would also be provided five days a week, which is a benefit over the Deviated Fixed Route option above. On the other hand, as there would only be two Extension buses per day, one in the morning and one in the evening, the restricted schedule may limit potential ridership, particularly for older adults needing to go shopping or to appointments in Willits. There would also be no deviations, meaning passengers would have to get themselves to and from the designated stops.

Figure 9:
Potential Brooktrails Deviated Fixed Route



Offering a Brooktrails Extension service five days per week would increase MTA's annual ridership by 500 passenger-trips per year. The service would require approximately two vehicle service hours per day, one hour per trip, meaning service levels would increase by 500 vehicle service hours per year. Assuming the bus would follow a similar route to the possible deviated fixed route service shown in Figure 9, 8,400 vehicle service miles would be operated annually. The Brooktrails Extension would likely have the same fare structure as Route 1, therefore $700 in fare revenue would be generated annually, resulting in an operating subsidy of $57,700 per year.

Covelo

Covelo is located off of State Route 162 (SR 162) in the northwest portion of Mendocino County (Figure 8) and is home to 1,394 residents (2020 Census), including most of the Round Valley Indian Reservation. Currently, there are no transit services in Covelo. The Mobility Solutions study found through public outreach that the most common transportation needs in Covelo were for transportation to shopping and medical appointments.

Deviated Fixed Route Service to Willits

The MTA is planning to implement a deviated fixed route service from Covelo to Willits one day per week. A sample schedule for this type of service is shown in Table 7. As shown, the bus would pick up passengers with reservations from their homes. The bus would then wait at the Round Valley Library for any additional passengers without reservations, then leave and head south to Willits. Once in Willits, passengers would get dropped off at their intended destination, then the bus would have a layover period. During the layover, passengers who need to visit multiple destinations could transfer to other MTA services to get around. At the end of the layover period, the bus would pick passengers up at an established stop, and then drive back to Covelo. The driver would later drop off passengers at their homes or the library.

Given Covelo's population size, the proposed service frequency, and ridership on other rural lifeline transit services across the state, it is expected that the Covelo deviated fixed route will carry about 200 passenger-trips per year. The proposed schedule would require 400 vehicle service hours and 5,600 vehicle service miles per year at an annual cost of $44,200. If a $4 general fare was implemented, the annual operating subsidy would be $43,700.

The MTA is planning to implement this alternative as a three-year pilot project using funding allocated to the Authority by Senate Bill (SB) 125. SB 125 funds will be used to cover both capital and operations costs. During the first year, the MTA intends to procure one or more zero-emission vehicles for the service. During the second and third years, the MTA will initiate the service. As the Covelo route would be operated only one day per week, the driver and vehicle used will also be used to operate the pilot service to Laytonville, discussed below. It should be noted that MTA will need to secure additional funding to continue operating the Covelo deviated fixed route after the initial three-year pilot.

Table 7: Example Covelo and Laytonville Hybrid Service Schedule

Tuesday		
On Demand Service in Covelo	*Start Time*	7:00 AM
	End Time	7:45 AM
Round Valley Library		*8:00 AM*
Alder Lane - Lumber Jacks		*9:25 AM*
Layover in Willits	*Start Time*	9:30 AM
	End Time	1:00 PM
Alder Lane - Lumber Jacks (Willits)		*1:15 PM*
Round Valley Library		*2:40 PM*
On Demand Service in Covelo	*Start Time*	2:45 PM
	End Time	3:30 PM

Thursday		
On Demand Service in Laytonville	*Start Time*	8:00 AM
	End Time	8:45 AM
Savings Bank		*9:00 AM*
Alder Lane - Lumber Jacks (Willits)		*9:40 AM*
Layover in Willits	*Start Time*	9:45 AM
	End Time	2:00 PM
Alder Lane - Lumber Jacks (Willits)		*2:15 PM*
Savings Bank		*3:05 PM*
On Demand Service in Laytonville	*Start Time*	3:05 PM
	End Time	3:45 PM

Source: LSC Transportation Consultants, Inc.

Hopland

Hopland is located south of Ukiah along US 101 (Figure 8). Hopland was estimated to be home to 922 residents as of the ACS 2021 Five-Year Estimates. Transit demand in Hopland is generated by the high proportion of transit-dependent residents, including youth and seniors, as well as an estimated 1,000 commuters traveling south to Hopland from Ukiah. It should be noted that according to the US Census, there are only 5 zero vehicle households in the census tract encompassing Hopland, which is significantly less than the number of zero-vehicle households in Covelo or Laytonville, suggesting there is likely less transit demand.

Increase Route 65 Frequency

Hopland is currently served by the MTA's Route 65 bus twice per day in both directions, Monday through Saturday. Route 65 also serves Hopland once in each direction every Sunday. However, the schedule is designed so that Hopland residents can get to Santa Rosa in the morning and return in the afternoon. Hopland residents are not able to make a day trip to Ukiah and back. Hopland is located closer to Ukiah than Santa Rosa. As both Ukiah and Hopland are within Mendocino County, Ukiah is an important

destination for county-related services such as Health and Human Services. However, Santa Rosa is a major urban area and has more options for medical care and commercial services. The Mobility Solutions study recommended that the MTA increase service frequency on Route 65 to better serve Hopland residents, people living on the Hopland Band of Pomo Indians' tribal lands, and commuters. Any additional Route 65 service should be designed so that residents can make day round-trips to Ukiah.

In this scenario, a Route 65 Hopland Tripper would depart Ukiah around 7 AM and pick up passengers in Hopland around 8 AM. This would allow Hopland residents to be in Ukiah around 9 AM and transfer to Route 65 northbound to Willits at 9:25 AM. The Hopland Tripper would follow the stops of the regular Route 65 bus. In the afternoon, the last Route 65 run (Run #4) would continue beyond Ukiah at 5 PM to drop off passengers on request in Hopland around 5:45 PM, then deadhead back to Ukiah. As this would be a request-only service, this run would not need to be operated each time. The Hopland Tripper would only be operated three days a week as the primary purpose would be to give access to county-related services to Hopland residents. On other days of the week, Hopland residents have two round trips per day to Santa Rosa on the existing Route 65.

This alternative would require on the order of $34,900 in annual operating subsidy. Using similar ridership techniques described above and considering the low number of zero-vehicle households in Hopland, it is estimated that this service would only carry around 200 passenger-trips per year.

Laytonville

Laytonville is located in northern Mendocino County along US 101 (Figure 8) and is home to 1,152 residents (2020 Census). Currently, there are no formal transit services to or from Laytonville, however, Laytonville will soon be served by the Humboldt Transit Authority's Redwood Coast Express service, which is set to begin in January 2024. The Redwood Coast Express will help residents of California's north coast get to Ukiah and onward to the San Francisco metropolitan area. It will consist of one round-trip per day from Arcata to Ukiah and return, with a 47-minute driver lunch break in Ukiah. As such, the Redwood Coast Express will not provide a useful stay in Ukiah for Laytonville residents wanting to make a one-day round-trip, but would provide roughly 1 hour 50 minutes in Willits for a short shopping trip or errand (but is likely not useful for other trip purposes with the need for longer stays, such as medical appointments). The Mobility Solutions study found that Laytonville residents have similar transit needs as Covelo residents, including the need for transportation for specialized medical appointments, shopping, social service appointments, and local community colleges.

Deviated Fixed Route Service to Willits

As previously mentioned, the MTA is planning to implement a deviated fixed route service from Laytonville to Willits as a component of the larger pilot program to expand MTA's rural services using SB 125 funds. Funds will cover both capital and operations requirements. During the first year of the program, MTA will procure the vehicle to be used for both the Covelo and Laytonville services. MTA will then initiate service in the second year of the pilot. The Laytonville deviated fixed route will use the same vehicle and driver as the Covelo service. A sample schedule for the Laytonville service is included in Table 7; as evidenced by the example schedule, the Laytonville service will provide a nearly identical service to the Covelo deviated fixed route.

It is estimated that the Laytonville deviated fixed route service would carry 400 passenger-trips annually, generating $900 in fare revenues. The service would operate 400 vehicle service hours and 4,600 vehicle service miles per year, resulting in a marginal operating cost of $40,000. The annual operating subsidy would be $39,100.

Potter Valley

Potter Valley is located northeast of Ukiah off of State Route 20. Home to approximately 600 residents (ACS 5-Year Estimates, 2021), the community has no formal transit services. The Mobility Solutions study found that the majority of Potter Valley residents travel to Ukiah for most of their needs, including groceries, work, school, and social services.

Deviated Fixed Route Service to Ukiah

Potter Valley could be served with a deviated fixed route similar to Covelo and Laytonville. A sample schedule for this service is shown in Table 8. Similar to the Covelo and Laytonville services, the route would operate one day per week. Passengers with reservations would be picked up at their homes in the morning, then the service would bring them to their destination in Ukiah. The driver would then take a layover, during which Potter Valley residents could use local Ukiah services to get between destinations. Everyone would then re-board the service at a set stop, then travel back to Potter Valley where they would be dropped off at their homes.

Table 8: Example Potter Valley Hybrid Service Schedule

Wednesday		
On Demand Service in Potter Valley	*Start Time*	8:00 AM
	End Time	8:45 AM
Potter Valley Post Office		*9:00 AM*
Pear Tree Center		*9:30 AM*
Layover in Ukiah	*Start Time*	9:30 AM
	End Time	1:30 PM
Pear Tree Center		*1:45 PM*
Potter Valley Post Office		*2:15 PM*
On Demand Service in Potter Valley	*Start Time*	2:15 PM
	End Time	3:00 PM

Source: LSC Transportation Consultants, Inc.

Due to Potter Valley's small population and the infrequent proposed service schedule, it is estimated a Potter Valley deviated fixed route would carry only 100 passenger-trips per year. The service would require 300 vehicle service hours and 3,900 vehicle service miles, increasing MTA's annual marginal operating cost by $35,300. Annual fares would total $200, assuming a general fare of $4.00, therefore the annual operating subsidy would be $35,100.

Community Van Service

In the past, the Potter Valley Family Resource Center (FRC) provided limited transportation services to local residents, which were unfortunately halted due to funding limitations. The Mobility Solutions study recommended reinitiating the formal FRC service. Initially, FRC staff would drive the community van, however, this responsibility could be shifted to a part-time driver depending on resources. The MTA would develop a subcontract with the FRC to support the program, which would take the form of providing an accessible vehicle and limited funding for fuel, insurance, and maintenance. The Mobility Study recommended that the FRC, MTA, and MCOG evaluate the future of the program after three years, including whether the service be continued, a part-time driver be hired, or an alternative, deviated fixed route service be implemented. The Potter Valley community van, excluding the costs for the actual vehicle, would cost MTA $7,500 the first year and up to $18,000 the latter two years of the pilot.

COASTAL SERVICE ALTERNATIVES

Service alternatives focused on improving transit access and service efficiencies along the Mendocino County coast are discussed in this section. These service alternatives are presented in Table 9.

Fort Bragg

Revise Route 65 Schedule to Reduce Travel Times between Willits and Fort Bragg

Route 65 vehicles are stored at the MTA facility in Fort Bragg, therefore service starts and ends in Fort Bragg. On weekdays, the first Route 65 southbound run serves Fort Bragg, then heads south to stop in the north coast communities of Caspar, Mendocino, and Caspar Beach, then heads back north to Highway 20, then east to Willits. Boarding and alighting data from the onboard surveys show that few Route 65 passengers board in the Caspar and Mendocino area. The more common trip pattern is between Fort Bragg and Willits. Fort Bragg residents could, however, board Route 65 at Boatyard before the bus heads to Willits after it has been to Mendocino. However, Route 5 does not connect with Route 65 for the early and later runs. Therefore, passengers without a vehicle would need to take the side trip to Mendocino. On the last two northbound runs each weekday, Route 65 similarly bypasses Fort Bragg to serve the north coast before returning to serve local Fort Bragg stops. While this current schedule minimizes deadhead time (time that the vehicle is not available to carry passengers), it also significantly increases travel time for the Fort Bragg passengers who board the Route 65 runs which serve the north coast.

To improve travel times for Route 65 passengers traveling between inland destinations and Fort Bragg, the Route 65 schedule could be modified to instead serve the north coast first (before Fort Bragg) on southbound runs and second (after Fort Bragg) on northbound runs. This would require Route 65 to deadhead to Mendocino in the morning and deadhead from Mendocino back to the yard in the evening. Sample schedules showing how this would impact both northbound and southbound Route 65 travel are presented in Tables 10 and 11.

Table 9: Coastal Services - Service Alternatives Summary

	Change In Annual Service						
	Ridership	Service Hours	Service Miles	Marginal Operating Cost	Fare Revenues	Operating Subsidy	Buses in Operation
Status Quo[1]							
Route 5	8,100	2,100	25,100	$221,900	$8,500	$213,400	
Route 60	6,400	1,700	36,600	$217,000	$8,400	$208,600	
Route 65	9,100	4,100	126,000	$610,100	$11,900	$598,200	
Route 75	6,300	2,000	62,500	$300,000	$8,200	$291,800	
Route 95	3,800	2,500	74,800	$367,300	$5,000	$362,300	
Total	33,700	12,400	325,000	$1,716,300	$42,000	$1,674,300	
Coastal Service Alternatives - Change from Status Quo[2]							
Revise Route 65 Schedule							
Serve Fort Bragg after Caspar and Mendocino on southbound runs	100	40	1,000	$5,400	$500	$4,900	0
Serve Fort Bragg before Caspar and Mendocino on northbound runs	100	200	2,800	$22,100	$500	$21,600	0
Net Impact	200	240	3,800	$27,500	$1,000	$26,500	0
Saturday Service Options							
Route 5 - 10:00 AM - 4:00 PM	800	300	3,700	$32,000	$800	$31,200	1
Sunday Service Options							
Route 5 - 10:00 AM - 4:00 PM	600	300	3,700	$32,000	$600	$31,400	1
Reduce Route 75 service to Mon, Wed, Fri, and Sat	-1,300	-700	-22,000	-$105,300	-$2,900	-$102,400	-0.5

Note 1: Status Quo is based on 2022-23 operating parameters and the FY 2024-25 cost model. Only includes routes that serve Willits.

Note 2: Parameters and costs represent change over existing services. Estimates represent marginal costs and do not include fixed costs.

Note 3: Fare revenues are assumed to be equal to the average fare collected per passenger during FY 2022-23, or $1.04 per passenger on Route 5, $1.31 on Route 60, $4.76 on Route 65, $2.12 on Route 75, and $2.66 on Route 95.

Table 10: Example Route 65 Northbound Schedule

Weekdays and Saturdays

		Trip 1	Trip 2	Trip 3	Trip 4
Santa Rosa	Coddingtown Mall - Amtrak	--	--	1:25 PM	3:35 PM
Santa Rosa	2nd Street Transit Mall	--	--	1:45 PM	3:55 PM
Santa Rosa	Sonoma County Airport	--	--	2:00 PM	4:10 PM
Santa Rosa	SMART Train	--	--	2:03 PM	4:13 PM
Hopland	Mendocino Savings Bank	--	--	2:50 PM	5:00 PM
Ukiah	Ukiah Municipal Airport	--	--	3:05 PM	5:15 PM
Ukiah	Pear Tree Center - Ross	9:25 AM	12:25 PM	3:39 PM	5:35 PM
Redwood Valley	West Road & Hwy 101	9:35 AM	12:35 PM	3:50 PM	5:45 PM
Willits	Alder Ln - Lumber Jacks	9:55 AM	12:55 PM	4:09 PM	6:05 PM
Willits	Hwy 101 at RR Xing	9:57 AM	12:57 PM	4:11 PM	6:07 PM
Fort Bragg	Boatyard Drive	10:57 AM	1:57 PM	5:11 PM	7:07 PM
Fort Bragg	Safeway	--	--	5:15 PM	7:11 PM
Fort Bragg	Franklin St - Rite Aid	--	--	5:16 PM	7:12 PM
Fort Bragg	FootLighters	--	--	5:19 PM	7:15 PM
Fort Bragg	Denny's	--	--	5:22 PM	7:18 PM
Fort Bragg	Boatyard Drive	--	--	5:29 PM	7:25 PM
North Coast	Caspar	--	--	5:35 PM	7:31 PM
North Coast	Caspar Beach	--	--	5:40 PM	7:36 PM
North Coast	Little Lake & Kasten St	--	--	5:45 PM	7:41 PM
North Coast	Main St & Lansing St	--	--	5:50 PM	7:46 PM

Table 11: Example Route 65 Southbound Schedule

Weekdays and Saturdays

		Trip 1	Trip 2	Trip 3	Trip 4
North Coast	Little Lake & Kasten St	6:40 AM	--	--	--
North Coast	Main St & Lansing St	6:42 AM	--	--	--
North Coast	Caspar Beach	6:47 AM	--	--	--
North Coast	Caspar	6:52 AM	--	--	--
Fort Bragg	Boatyard Drive	7:10 AM	--	--	--
Fort Bragg	Denny's	7:20 AM	10:15 AM	11:35 AM	3:05 PM
Fort Bragg	FootLighters	7:23 AM	10:18 AM	11:38 AM	3:08 PM
Fort Bragg	Rite Aid	7:27 AM	10:22 AM	11:42 AM	3:12 PM
Fort Bragg	Safeway	7:28 AM	10:23 AM	11:43 AM	3:13 PM
Fort Bragg	Boatyard Drive	7:30 AM	10:30 AM	11:50 AM	3:20 PM
Willits	Babcock Park	8:30 AM	11:30 AM	12:50 PM	4:20 PM
Willits	Alder Ln - Lumber Jacks	8:33 AM	11:33 AM	12:53 PM	4:23 PM
Redwood Valley	West Rd & Hwy 101	8:53 AM	11:53 AM	1:13 PM	4:43 PM
Ukiah	Pear Tree Center	9:20 AM	12:20 PM	1:20 PM	4:50 PM
Ukiah	Ukiah Municipal Airport	--	--	1:25 PM	4:55 PM
Hopland	Brutocao	9:38 AM	12:38 PM	--	--
Santa Rosa	2nd Street Transit Mall	10:35 AM	1:35 PM	--	--

These schedule changes would benefit people traveling between Willits/Ukiah and Fort Bragg but would negatively impact people traveling to or from the north coast. However, Route 60 provides four roundtrips per day between north coast destinations and Fort Bragg. As shown, rearranging the schedule would improve travel times for Fort Bragg passengers by 34 minutes in the northbound direction and 50 minutes in the southbound direction. For residents of the north coast, Route 65 travel times would increase by at least 20 minutes in the northbound direction and by 43 minutes in the southbound direction.

The net Impacts of revising the Route 65 northbound and southbound schedules are presented in Table 9. As shown, ridership would be expected to increase slightly on both northbound and southbound runs, resulting in Route 65 ridership increasing by 200 annual passenger-trips. However, the new schedule would result in increased deadhead time, increasing annual service levels by 240 vehicle service hours and 3,800 vehicle service miles. This increase in service levels would increase operating costs by $27,500, however after considering the additional fare revenue from the increased ridership the MTA's annual operating subsidy would only increase by $26,500.

Saturday Route 5 Service – 10:00 AM – 4:00 PM

Before the COVID-19 pandemic, the MTA operated Route 5 on Saturdays. Pending driver availability, Saturday Route 5 service could be resumed. Operating Route 5 from 10:00 AM to 4:00 PM would likely serve most trips, per the boarding and alighting counts conducted for the SRTDP. Considering Route 5 weekday ridership, the typical ratio of weekday to Saturday ridership observed by other transit systems, and the proportion of weekday Route 5 trips made between 10:00 AM to 4:00 PM, it is estimated that providing Saturday Route 5 service would increase ridership by 800 passenger-trips per year. Service levels would increase by 300 vehicle service hours and 3,700 vehicle service miles annually at a marginal operating cost of $32,000. Assuming $800 in fare revenue per year, the operating subsidy would be $31,200.

Sunday Route 5 Service – 10:00 AM – 4:00 PM

Fort Bragg hosts large numbers of tourists, especially during the summer months. To serve both tourists as well as year-round Fort Bragg residents more effectively throughout the entire week, MTA could operate Route 5 from 10:00 AM to 4:00 PM on Sundays as well. Operating Route 5 on Sundays with the same service schedule as the possible Saturday service expansion would increase MTA service levels by another 300 vehicle service hours and 3,700 vehicle service miles annually, at a marginal operating cost of $32,000. Ridership would be 600 passenger-trips per year, resulting in $600 in additional fare revenue. Considering both the expected operating cost and fares, the annual operating subsidy would be $31,400.

Add On-demand Technology to Fort Bragg Dial-A-Ride

If MTA procures microtransit software for one of the other service options discussed in this memo, it would be worthwhile to procure the additional licenses necessary to make the Fort Bragg general public DAR an on-demand service. Currently, MTA customers in Fort Bragg can reserve DAR up to two weeks in advance and a minimum of 24 hours in advance to have a guaranteed ride at the desired time. With the addition of the on-demand app, passengers would be able to request a same-day DAR trip through their mobile phone during service hours but may have to wait 30 or more minutes for a ride. A similar transition recently occurred in western Placer County for their DAR services; Placer County rebranded the

DAR as "Go South Placer" with the rollout of the new on-demand phone app. The Placer DAR services have seen a small increase in ridership since the launch of the app, however, this could also coincide with the ending of the pandemic. The cost of on-demand software is around $4,500 per vehicle in addition to initial set-up costs.

Route 60

Route 60 operates on weekdays, serving Fort Bragg south to Navarro River Junction. Route 60 makes four roundtrips each service day and helps residents in the region get to Fort Bragg as well as facilitates transfers to Routes 65 and 75. This service is well-designed, and no service modifications are recommended for Route 60 in this SRTDP.

Route 75

Route 75 provides an important connection between the Mendocino coastal and inland regions, completing one roundtrip from Gualala and Point Arena east to Ukiah Monday through Saturday. The Route 75 schedule has been designed to meet the needs of mobility-limited individuals along the coast as well as in the mountain towns of Boonville, Philo, and Navarro, helping people make regular medical appointments and shopping trips in Ukiah. There are no changes recommended for Route 75 at this time.

INTER-REGIONAL SERVICE ALTERNATIVES

The MTA operates two important inter-regional services: Route 65 and Route 95. Both routes serve Mendocino County communities, as well as provide service to Santa Rosa in Sonoma County. Alternatives impacting these routes are discussed briefly in this section.

Route 65

Revise the Route 65 Schedule to Facilitate Transfers with the Redwood Coast Express

The Humboldt Transit Authority (HTA) will begin operating a new regional transit service to Mendocino County beginning in January 2024. HTA was awarded a Transit and Intercity Rail Capital Program (TIRCP) grant to purchase a hydrogen fuel-cell bus with the intent of providing this new service, known as the Redwood Coast Express (RCX). The RCX bus will operate between Eureka (in Humboldt County) and Ukiah where passengers will be able to transfer to Route 65 and onward to Sonoma-Marin Area Rail Transit (SMART) trains in Cloverdale or Santa Rosa. SMART trains currently only travel as far north as the Santa Rosa Airport, with the extension to Cloverdale pending funding. Redwood Coast Transit (RCT) in Del Norte County also recently received a TIRCP grant to eventually extend the RCX from Eureka northwards to Crescent City. The RCX will continue to evolve as transit services to both the south and the north expand and is designed to improve the intercity transit network. MTA Route 65 schedules should align with the RCX schedule so that a trip from Del Norte County to San Francisco would be possible in one day. According to preliminary RCX schedules, this would require shifting the second southbound Route 65 run by one hour. Run#3 of the northbound Route 65 would also need to shift by one hour and 15 minutes.

Route 95

Route 95 serves the south coastal region of Mendocino County, completing one round-trip per day seven days per week from Point Arena to Santa Rosa and back. Other communities served along the route include Anchor Bay, Sea Ranch, Fort Ross, Bodega Bay, and Sebastopol, among others. While FY 2022-23

ridership was not very high, Route 95 continues to provide an important, interregional service for residents along the south coast of Mendocino County as well as residents in northern Sonoma County. At this time, no changes are recommended to Route 95.

OTHER MOBILITY ALTERNATIVES

Community-Wide Transportation Reimbursement

There are some unmet transportation needs, such as transportation to out-of-county medical appointments, that are not effectively met by regular public transportation services. The *Mendocino County Rural Inland Communities Mobility Solutions (*Mobility Solutions) study, mentioned previously under the discussion of rural service alternatives, recommended a communitywide volunteer driver mileage reimbursement program be established for Mendocino County. This program would be modeled after Riverside County's Transportation Reimbursement and Information Project (TRIP) program: residents in need of transportation would apply to the program, and if they are deemed eligible, they would then be able to receive reimbursements for rides provided by friends or family.

The Mobility Solutions Study recommended that this program be managed by a community-based organization, such as North Coast Opportunities or the Family Resource Center Network, rather than the MTA. This recommendation reflects that MTA staff and resources would be better utilized by providing larger-scale public transportation services. Therefore, the MTA has no responsibilities related to the future volunteer driver reimbursement program at this time.

ALTERNATIVES PERFORMANCE ANALYSIS

To evaluate the relative performance of the alternatives above, key impacts of each alternative were compared. The performance analysis considers impacts on ridership, marginal operating costs, the number of passengers carried per vehicle hour, and marginal operating cost per passenger-trip. The performance evaluation gives insight into the relative benefits of the various alternatives.

Comparison of Ukiah Service Alternatives

Table 12 and Figure 10 through Figure 13show the relative performance of the service alternatives considered for Ukiah. In terms of ridership, implementing a Ukiah microtransit service is anticipated to increase MTA ridership more than any other alternative; however, this alternative would come with a significant cost increase of nearly $400,000 annually.

The bottom portion of Table 12 shows the recommended performance productivity and cost efficiency standards, as presented in Table 1 of Chapter 2, for the various service types. Most of the alternatives considered would meet productivity standards, including the Local Circulator Loops alternative, adding a Ukiah microtransit service, adding a Ukiah microtransit service and reducing Route 9 service, adding a Ukiah microtransit service and a 90-minute loop fixed route, evening service on Route 20, and adding Saturday service on Route 20. The 90-Minute Loop with a Ukiah microtransit zone and the Deviated State Street Express alternatives would both meet standards by carrying more ridership than the status quo despite reducing service hours. In terms of financial performance, the recommended marginal operating cost per trip standard is no more than $19.40 per trip on short-distance routes and no more than $30.50 on long-distance routes. The best alternative, financially, would be the Local Circulator Loops, as the cost per added passenger-trip would be only $14.19. The Ukiah 90-Minute Loop and microtransit and the

Deviated State Street Express alternatives would also meet the cost standards by increasing ridership while decreasing costs.

Comparison of Willits Service Alternatives

Table 13 and Figures 12 and 13 show the relative performance of the Willits service alternatives.

Table 12: Mendocino Transit Authority Service Alternatives Performance - Ukiah
FY 2024-25

Service Alternative	Net Impact: Annual Ridership	Annual Service Hours	Annual Marginal Operating Costs [1]	Passenger-trips per Hour	Marginal Cost per Trip	Reduce or Increase Service Hours?
	Alternatives Meeting Minimum Standard Shaded in Green [2]					
Local Circulator Loops	2,600	400	$36,900	6.5	$14.19	Increase
Ukiah Microtransit Service	11,200	3,500	$398,900	3.2	$35.62	Increase
Ukiah Microtransit + Reduced Route 9 Service	9,700	3,100	$347,600	3.1	$35.84	Increase
Ukiah 90 Minute Loop with Microtransit	5,400	-1,500	-$170,300	-3.6	-$31.54	Small Decrease
Deviated State Street Express	1,200	-568	-$69,800	-2.1	-$58.17	Small Decrease
Evening Service - Route 9	3,300	1,300	$139,600	2.5	$42.30	Increase
Evening Service - Route 20	1,600	500	$69,400	3.2	$43.38	Increase
Evening Service - Microtransit	2,600	1,300	$151,000	2.0	$58.08	Increase
Saturday Service - Route 20	1,200	300	$41,600	4.0	$34.67	Increase
Saturday Service - Microtransit	600	300	$38,300	2.0	$63.83	Increase

Recommended Minimum Performance Standards >	Short Distance Routes (1, 5, 7, 9)	6.0	$19.38
	Long Distance Routes (20, 60, 65, 75, 95)	3.0	$30.51
	Dial-a-Ride / On Demand	2.0	$18.85

Note 1: Does not include fixed costs

Note 2: Meets standards by eliminating a service not meeting the standard, or by increasing ridership while decreasing costs.

Figure 10: MTA Service Alternatives - Impact on Annual Ridership

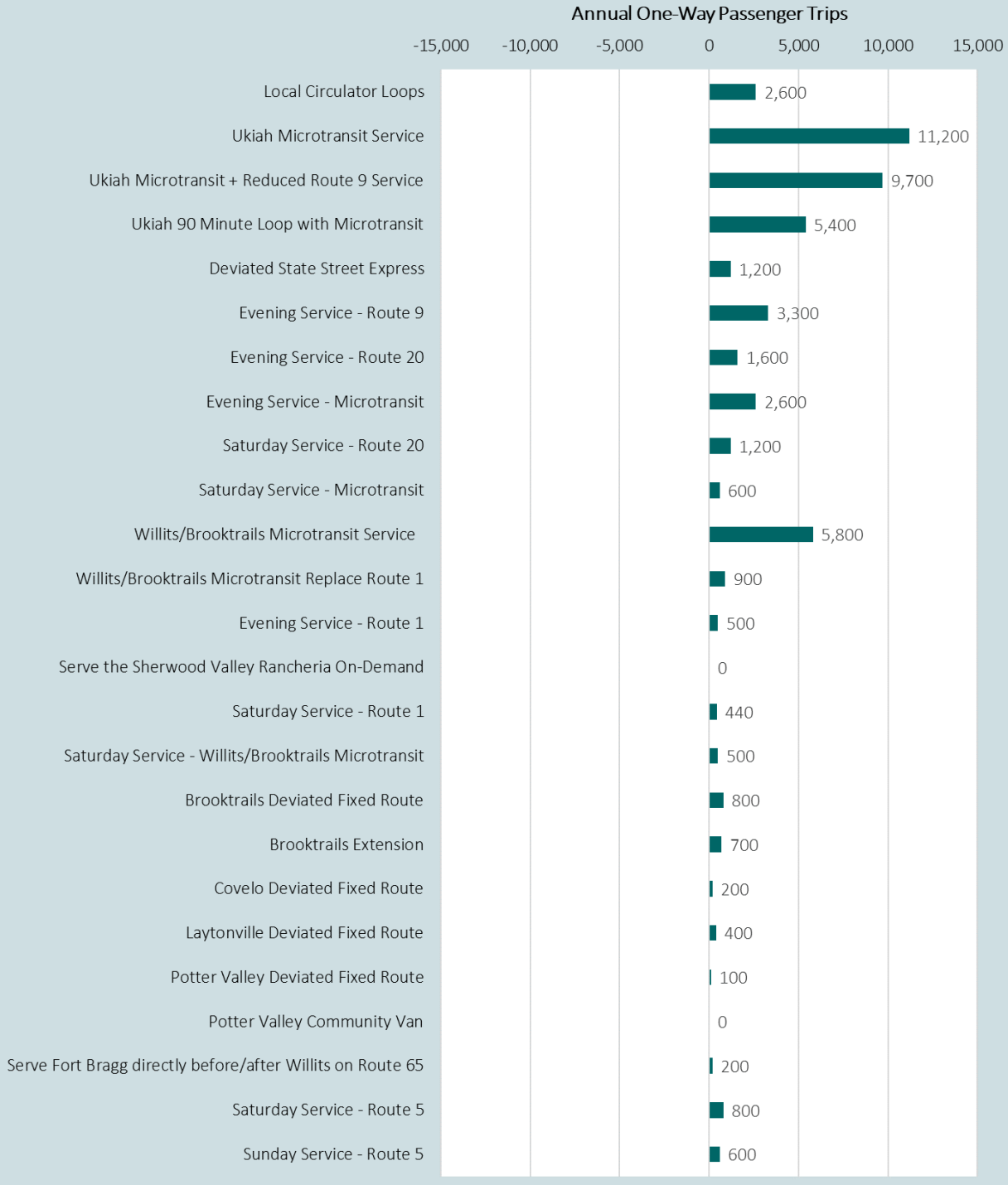


Figure 11: MTA Service Alternatives - Impact on Annual Marginal Operating Cost

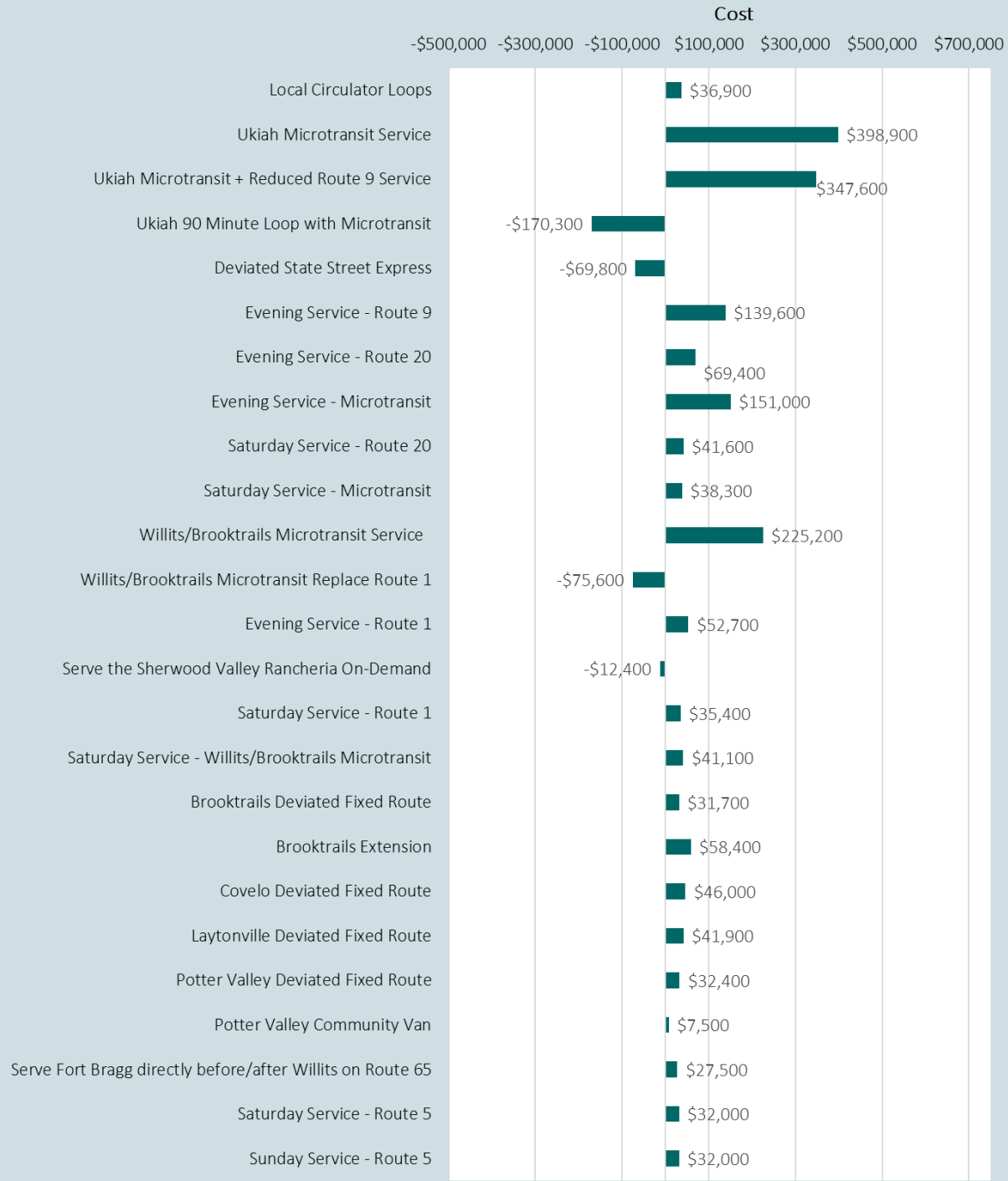


Figure 12: MTA Service Alternatives - Passenger-Trips per Vehicle Service Hour

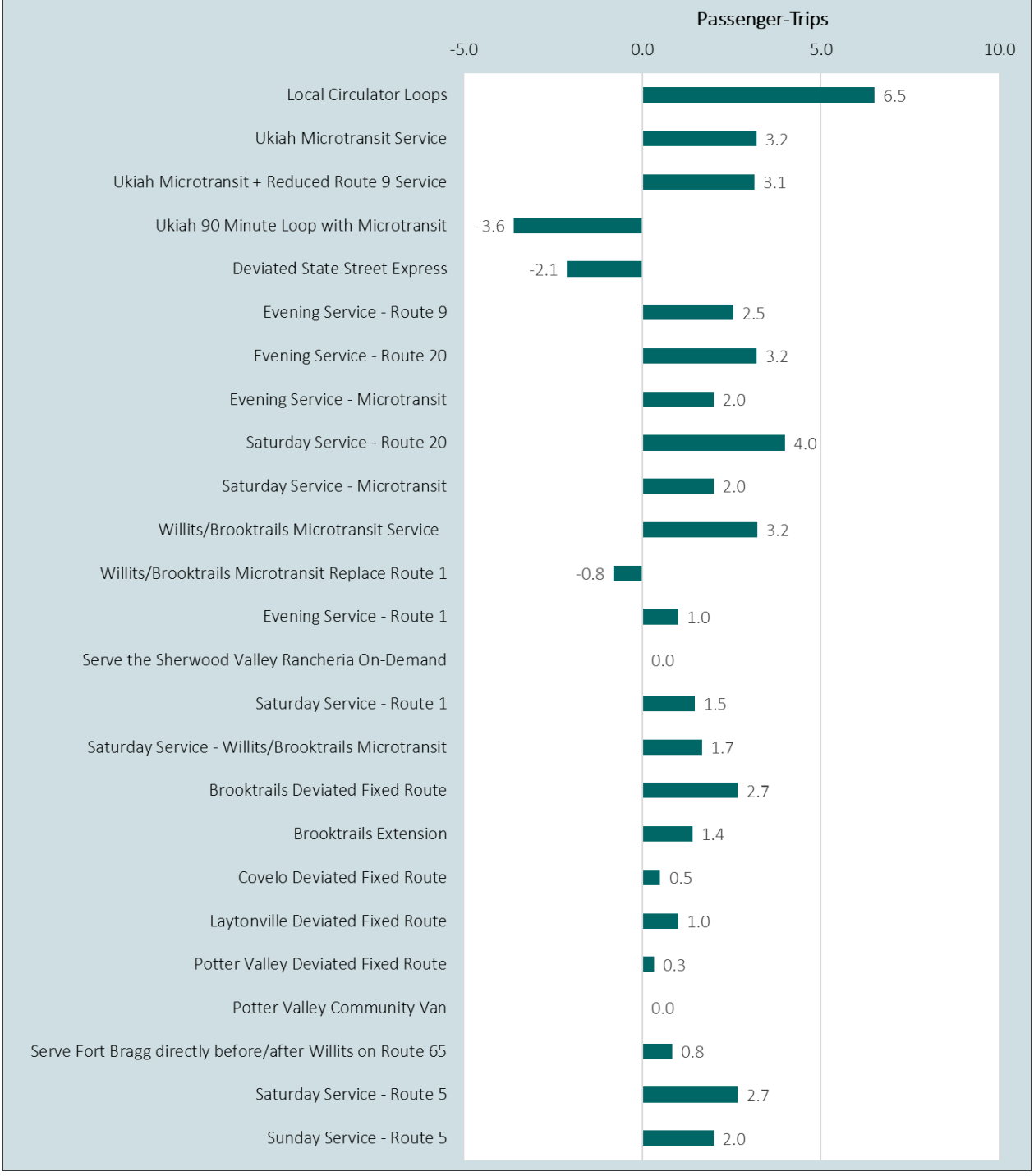
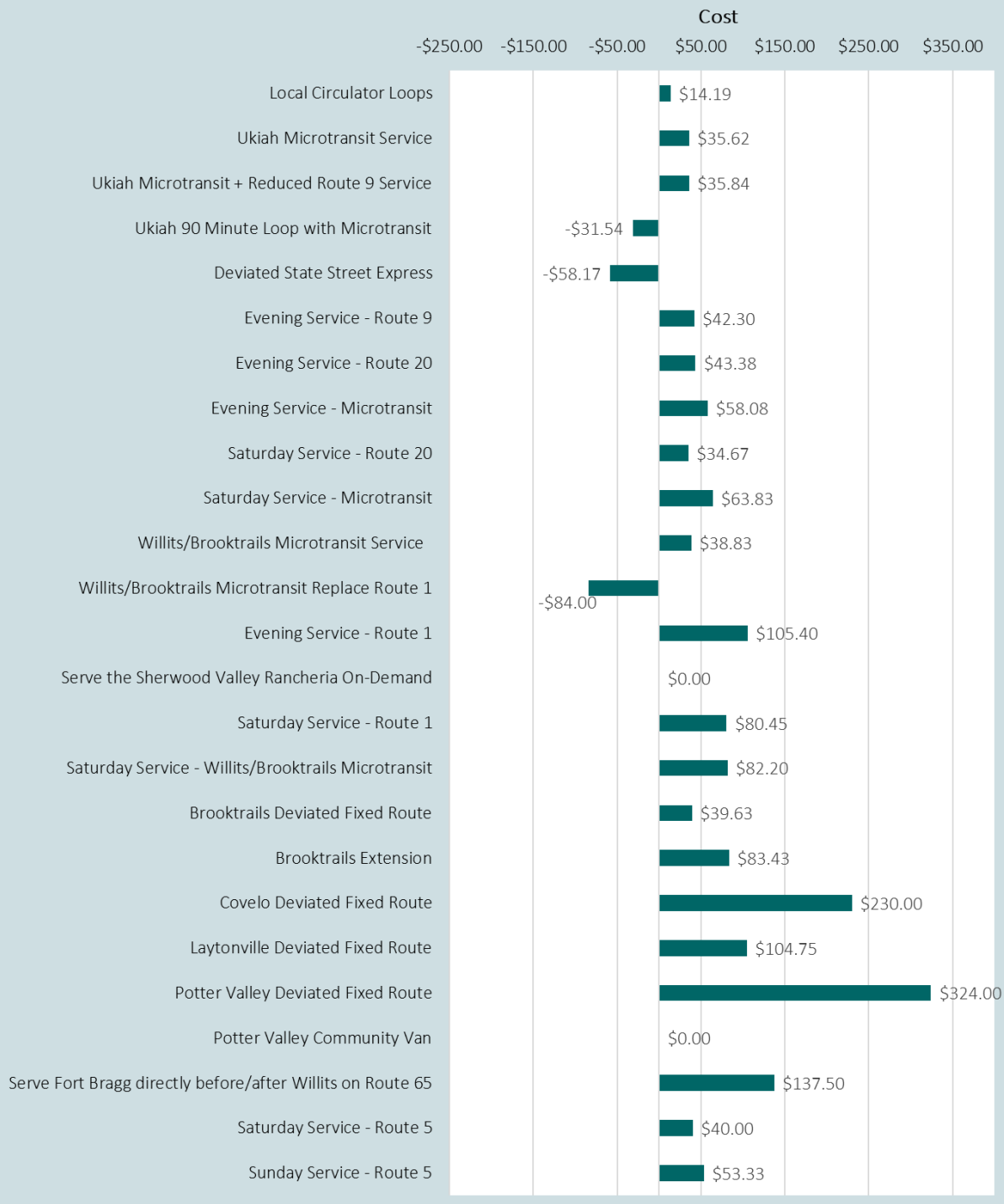


Figure 13: MTA Service Alternatives - Operating Cost per Passenger-Trip



Initiating a Willits/Brooktrails microtransit service would generate the greatest increase in ridership (5,800 annual passenger-trips) but at a significant cost of $225,200, which is more than the MTA budget will allow. If Route 1 is eliminated, the Willits/Brooktrails Microtransit option will save money and increase ridership. Serving the Sherwood Rancheria on-demand would not affect ridership but would reduce operating costs slightly.

The recommended performance standards for passenger-trips per vehicle service hour and marginal operating cost per passenger-trip are shown in the bottom portion of Table 13. As shown, two alternatives would meet standards for productivity: the Willits/Brooktrails microtransit service (3.2 passenger-trips for every additional service hour) and replacing Route 1 with the Willits/Brooktrails microtransit service (ridership would increase by 0.8 passenger-trips for every hour eliminated). The best alternative in terms of cost efficiency would be to replace Route 1 with the Willits/Brooktrails microtransit service, as this would save $84.00 for each additional passenger-trip carried. Service to the Sherwood Valley Rancheria On-Demand will also meet cost standards as it is anticipated to reduce operating costs with no net impact on ridership.

Comparison of Rural Inland Service Alternatives

As shown in Table 14, the rural inland service alternatives do not generate significant ridership in comparison to the service levels and costs required to operate them, which is typical of rural public transit services. As such, none of the alternatives in Table 14 meet performance standards for long-distance routes. The “best” of these alternatives is the Brooktrails Deviated Fixed Route service, generating 2.7 passenger-trips per vehicle-hour at a marginal cost of $39.63 per passenger trip. However, this is still not as effective as the microtransit options for Brooktrails service discussed above.

Comparison of Coastal Service Alternatives

Table 15 reviews the relative performance of the coastal service alternatives. All these options have relatively small impacts on MTA ridership and budget. Saturday service on Route 5 is close to the minimum marginal cost of $30.51 per trip standard for short-distance routes. Saturday service on Route 5 is overall the most effective of the alternatives considered for MTA’s coastal fixed routes

Table 13: Comparison of Willits Service Alternatives

Service Alternatives	Annual Impacts: Ridership	Vehicle Service	Marginal Operating Cost [1]	Passenger-trips per Veh-Hour	Marginal Cost per Passenger-Trip
	Alternatives Meeting Standard Shown in Green [2]				
Willits/Brooktrails Microtransit Service	5,800	1,800	$225,200	3.2	$38.83
Willits/Brooktrails Microtransit Service + Eliminate Route 1	900	-1,100	-$75,600	-0.8	-$84.00
Evening Service - Route 1	500	500	$52,700	1.0	$105.40
Serve the Sherwood Valley Rancheria On-Demand	0	0	-$12,400	NA	NA
Saturday Service - Route 1	440	300	$35,400	1.5	$80.45
Saturday Service - Willits/Brooktrails Microtransit	500	300	$41,100	1.7	$82.20

Recommended Minimum Performance Standards >	Short Distance Routes (1, 5, 7, 9)	6.0	$19.38
	Long Distance Routes (20, 60, 65, 75, 95)	3.0	$30.51
	Dial-a-Ride / On Demand	2.0	$18.85

Note 1: Does not include fixed costs

Note 2: Meets standards by eliminating a service not meeting the standard, or by increasing ridership while decreasing costs.

Table 14: Comparison of Rural Inland Service Alternatives

Service Alternatives	Annual Impacts: Ridership	Vehicle Service Hours	Marginal Operating Cost [1]	Passenger-trips per Veh-Hour	Marginal Cost per Passenger-Trip
	Alternatives Meeting Standard Shown in Green[2]				
Brooktrails Deviated Fixed Route	800	300	$31,700	2.7	$39.63
Brooktrails Extension	700	500	$58,400	1.4	$83.43
Covelo Deviated Fixed Route	200	400	$46,000	0.5	$230.00
Laytonville Deviated Fixed Route	400	400	$41,900	1.0	$104.75
Potter Valley Deviated Fixed Route	100	300	$32,400	0.3	$324.00
Potter Valley Community Van	--	--	$7,500	--	--
Increase Rt 65 service Tripper Hopland to Ukiah	200	400	$35,900	0.5	$179.50

Recommended Minimum Performance Standards >	Short Distance Routes (1, 5, 7, 9)	6.0	$19.38
	Long Distance Routes (20, 60, 65, 75, 95)	3.0	$30.51
	Dial-a-Ride / On Demand	2.0	$18.85

Note 1: Does not include fixed costs

Note 2: Meets standards by eliminating a service not meeting the standard, or by increasing ridership while decreasing costs.

Table 15: Comparison of Coastal Service Alternatives

Service Alternatives	Annual Impacts: Ridership	Vehicle Service Hours	Marginal Operating Cost [1]	Passenger-trips per Veh-Hour	Marginal Cost per Passenger-Trip
	Alternatives Meeting Standard Shown in Green[2]				
Serve Fort Bragg directly before/after Willits on Route 65	200	240	$27,500	0.8	$137.50
Saturday Service - Route 5	800	300	$32,000	2.7	$40.00
Sunday Service - Route 5	600	300	$32,000	2.0	$53.33
Recommended Minimum Performance Standards >	Short Distance Routes (1, 5, 7, 9)			6.0	$19.38
	Long Distance Routes (20, 60, 65, 75, 95)			3.0	$30.51
	Dial-a-Ride / On Demand			2.0	$18.85

Note 1: Does not include fixed costs.

Note 2: Meets standards by eliminating a service not meeting the standard, or by increasing ridership while decreasing costs.

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Chapter 4
CAPITAL ALTERNATIVES

INTRODUCTION

Capital investments include funding allocated for physical components of the transit system, such as vehicles, facilities, and passenger amenities. Capital investments are necessary to provide safe, dependable, and comfortable services, yet they also require substantial planning and funding on the part of the transit agency. While there is always a degree of uncertainty when planning capital improvements, as there may be unanticipated needs or product prices may change, it is still helpful to identify known capital needs to assist transit staff with securing funding.

This chapter presents capital projects for the MTA to implement throughout the five-year planning period. Ultimately, the recommended capital improvement program included in the SRTDP will enhance the passenger experience, improve the MTA's cost efficiency, and support the deployment of zero-emissions buses (ZEBs).

TRANSIT VEHICLES

Vehicle Capacity Needs

Table 16 presents an analysis of the minimum vehicle size needed for the various MTA fixed route services. The analysis is based on the boarding and alighting counts collected by LSC Transportation Consultants, Inc., during the week of May 15, 2023. First, the peak passenger load recorded on each fixed route during data collection was identified (peak passenger load at peak location). The peak passenger load data for each route was then factored by the ratio of the route's peak monthly ridership during FY 2022-23 to observed May 2023 ridership. The peak passenger load data was also factored by the ratio of the peak passenger load to the average ridership per run observed across all data samples. These calculations resulted in estimates for each route for total ridership at the peak location on the peak run in the peak month. This data was then reviewed based on the following considerations: transit vehicles appropriate for the MTA typically are available with seating capacities of 12, 16, 24, 30, or 36, MTA ridership may continue to rebound from the COVID-19 pandemic, and there is a desire to minimize transit vehicle size while still providing adequate seating capacity for the large majority of runs over the year.

Based on the analysis presented in Table 16, 30- to 36-passenger buses are recommended for three routes (Route 1, Route 9, and Route 20) and 24-passenger buses are recommended for three routes (Route 5, Route 60, and Route 75). Smaller vans are recommended for Routes 65 (16-passenger van) and 95 (12-passenger van). It should be noted that this analysis shows what vehicle sizes are needed in peak ridership scenarios and may not reflect what vehicle size is appropriate for typical service days. Also, this analysis does not consider any routing changes that may be implemented as a result of the SRTDP.

Table 16: Analysis of MTA Vehicle Size Requirements

Assuming No Change in Services

Fleet Seating Capacities

Capacity	*Example Model*
12	Glaval E450
16	Ford E350
24	Ford E450
30	Gillig GLFloor17
36	Gillig Low Floor

Route	Peak Psgr Load - Peak Location [1]	Peak Month to Sample Month Ratio	Peak Run to Avg Daily Run Ratio	Psgr Load - Peak Location, Run, Month	Recommended Vehicle Size (Seating Capacity)
Route 1- Willits	6	2.0	2.1	24	30
Route 5 - Fort Bragg	8	1.0	2.1	17	24
Route 9 - Local [2]	16	1.2	2.8	51	36
Route 20 - Ukiah / Willits	12	1.1	2.2	31	36
Route 60 - The Coaster	8	1.1	2.7	23	24
Route 65 - Cross County	8	1.1	1.4	13	16
Route 75 - South Coast / Ukiah	15	1.3	1.2	22	24
Route 95 - South Coast / Santa Rosa	3	1.0	1.0	3	12

Note 1: Based on boarding data collected by LSC Transportation Consultants during the week of May 15th, 2023.

Note 2: Runs carrying field trips not counted when determining peak load to avoid inflating ridership figures.

Vehicle Replacement Needs

Transit vehicles must be regularly replaced to maintain a safe and reliable fleet. As the vehicle procurement process can take multiple years, transit agencies must identify their vehicle needs well in advance. Additionally, the State of California's (CA) Innovative Clean Transit (ICT) regulation will begin impacting transit vehicle procurement in 2026, at which point 25 percent of small transit agency fleet bus purchases will be required to be ZEBs. By 2029, this purchasing requirement will increase to 100 percent. By 2040, all vehicles in the fleet will need to be ZEBs. To meet these standards, transit agencies can purchase either battery-electric buses (BEBs) or fuel-cell electric buses (FCEBs).

Currently, ZEBs are more expensive than gas or diesel vehicles, meaning the MTA will need to secure additional funding to meet local match requirements for capital grants. While ZEBs are more expensive at this point, the ZEB market is constantly changing as new models are released and older models are improved, making it hard to predict future pricing. The MTA vehicle replacement schedule presented in this report is subject to change as new ZEB technologies become available and costs stabilize.

The MTA has 39 vehicles that are 1 to 15 years old and hold 15 to 36 passengers. Table 17 presents the MTA's anticipated vehicle needs and purchasing schedule based on the agency's current fleet, the *MTA Zero Emission Bus Rollout Plan* (2023), the *Mendocino Transit Authority Five-Year Capital Plan* (2023), and the Useful Life Benchmark (ULB) of the different vehicle models, as identified by the Federal Transit Administration (FTA). Table 17 does not include any expansion vehicle purchases required to support the recommended service plan presented in this SRTDP.

Based on the schedule shown, the MTA will need to procure 11 fixed route buses and 19 cutaway/paratransit vehicles during the next five years. Given current market costs and anticipated inflation, it is expected that vehicle replacement needs will cost the MTA a total of $15.7 million over five years, of which the MTA will be responsible for $3.1 million in local matches (Table 17). The schedule shown in Table 17 reflects the MTA's intention to procure only BEBs beginning in FY 2023-24, as stated in the *MTA ZEB Rollout Plan*. While the MTA plans to procure BEBs at this time, the MTA may procure FCEBs sometime in the future depending on charging infrastructure needs and vehicle costs.

Source: Ukiah Daily Journal

Table 17: MTA Vehicle Replacement Schedule

Estimated Current Cost of Vehicles	
Gas/Diesel - 30'	$553,000
Electric - 30'	$952,000
Electric - 35'	$965,000

	Plan Period (by Fiscal Year) [2]					5-Year Plan Total
	24/25	25/26	26/27	27/28	28/29	
Fixed Route Buses						
Number of Buses (30 ' Gas/Diesel)	0	0	0	0	0	0
Number of Buses (30' Electric)	1	1	1	0	0	3
Number of Buses (35' Electric)	3	3	2	0	0	8
Total Number of Vehicles	4	4	3	0	0	11
Total Cost [1]	*$3,847,000*	*$4,160,500*	*$3,210,400*	*$0*	*$0*	$11,217,900

Estimated Current Cost of Vehicles	
Gas - Vans	$107,000
Electric - Vans [3]	$240,000
Electric - Cutaways [3]	$345,000

Demand Response/Cutaway Vehicles						
Number of Buses (Gas Vans)	0	0	0	0	0	0
Number of Buses (Electric Vans)	0	2	2	2	4	10
Number of Buses (Electric Cutaways)	1	4	2	2	3	9
Total Number of Vehicles	**1**	**6**	**4**	**4**	**7**	19
Total Cost [1]	*$0*	*$1,972,500*	*$1,248,600*	*$1,271,700*	*$2,183,100*	$4,492,800
Total Vehicle Needs	$3,847,000	$6,133,000	$4,459,000	$1,271,700	$2,183,100	$15,710,700

Note 1: All costs assume 3.0 percent annual inflation.

Note 2: Starting in 2026, 25% of new vehicle purchases in 2026 must be ZEBs.

Note 3: No Altoona tested electric cutaways are available as of the time of writing (November 2023).

Note 4: Presented schedule is based on the Mendocino Transit Authority Five-Year Capital Plan (June 2023), the Mendocino Transit Authority Zero-Emission Bus Rollout Plan (June 2023), and the Federal Transit Administration's Useful Life Benchmark. Future vehicle purchases are subject to change. Additional vehicle purchases necessary to implement service elements included in this SRTDP are not included in this table.

Source: LSC Transportation Consultants, Inc.

TRANSIT FACILITIES

Transit facilities refer to the sites and infrastructure that directly support administrative, operations, and maintenance functions. This section discusses capital improvements to MTA facilities.

Battery Electric Bus Charging Infrastructure

The MTA will need to install additional charging infrastructure to meet the midday and overnight charging needs of the agency's future BEB fleet. Currently, the MTA plans to install eight charging stations at the Ukiah facility, three charging stations at the Willits facility, and four charging stations at the Fort Bragg facility, per the *MTA Zero Emission Bus Rollout Plan*. MTA will also need to install new transformers at each of its facilities to power the charging stations.

MTA has already begun the process of installing the new transformers/generators with funding from MCOG. The MTA will continue to upgrade its facilities to meet charging requirements over the next three FYs. At this time, it is anticipated that completing the electrical upgrades at the MTA's three facilities will cost $7.4 million in total, most of which will be paid for with new Transit and Intercity Rail Capital Program (TIRCP) funding made available through California Senate Bill (SB) 125.

Administration Facility Upgrades

The MTA administrative offices are located at 241 Plant Road in Ukiah. The building is an older structure and in need of significant upgrades. The MTA plans to construct a new administration building to replace the current facility. As stated in the *2022 Regional Transportation Plan,* the new facility will be designed to Leadership in Energy and Environmental Design (LEED) standards and will include a solar roof and canopies. In all, designing and constructing the new MTA administrative facility will likely cost between $6.5 and $10.9 million. MTA expects to fund this project primarily with TIRCP funding, however, it is likely the MTA will seek other funding sources as well.

Facility Maintenance

The MTA will need to complete regular maintenance to each of its three facilities throughout the five-year planning period. Planned projects include resealing the yards at all three facilities, procuring new wash bay pumps, and procuring new laptops, among other projects. Overall, it is anticipated that regular facility maintenance projects will cost the MTA about $120,000.

MTA Maintenance Facility. Source: LSC Transportation Consultants, Inc.

PASSENGER FACILITIES AND AMENITIES

Passenger facilities and amenities, such as bus stop shelters, benches and signs, and transfer centers, benefit passengers by making the time spent before boarding the bus more comfortable. This section discusses projects to improve MTA passenger amenities throughout the five-year planning period. Once implemented, these projects will improve the experience of existing passengers as well as increase public awareness of the MTA and enhance community perceptions of the agency.

Ukiah Transit Center

Currently, the MTA does not have a transit center. In late 2022, MCOG undertook the *Ukiah Transit Center Feasibility Study* to assess potential locations within Ukiah to construct an MTA transit center. This study considered existing zoning codes and parcel sizes to identify potential sites. The study will ultimately recommend a preferred site based on the physical characteristics of the parcel as well as public and stakeholder input.

Once a site is selected, the MTA will need to purchase the land, and then develop the facility. It is anticipated that this project will cost the MTA $6.7 million, which the MTA plans to partially pay for with TIRCP funds. Once completed, the transit center will likely include a covered seating area, benches, landscaping, bicycle racks, bicycle lockers, and staff office space and restrooms. The MTA will need to modify both route structures and schedules to serve the new facility and facilitate transfers, impacting Routes 7/9, 20, 65, and 75.

Bus Stop Improvements

For most passengers, bus stop amenities are incredibly important to improving their waiting time. The desire for better bus stops was reflected in the onboard passenger survey results, as 21 percent of surveyed passengers requested the MTA improve its bus stops. Bus stop improvements consist of cleaning and fixing existing amenities as well as installing new amenities, such as benches, shelters, and bus stop signs.

The MTA has budgeted $17,500 per year for FY 2024-25 through FY 2027-28 for bus stop upgrades, including $60,000 for shelters, $6,000 for benches, and $4,000 for signs over the four-year period. It is recommended that the MTA continue to allocate a portion of its capital budget toward bus stop improvements during the final year of the planning period (FY 2028-29). MTA should also focus on posting updated schedules and agency contact information at its stops in addition to the amenities already budgeted for. Improvements should be prioritized for stops with high boarding activity.

Hospital Bus Shelter. Source: LSC Transportation Consultants, Inc.

Bus Passenger Facilities Plan

MCOG and the MTA could develop a Bus Passenger Facilities Plan to inventory existing bus stops throughout Mendocino County. Improvements would then be recommended for each stop based on the existing amenities, the condition of the existing amenities, and average boarding activity. The key benefits of the Bus Passenger Facilities Plan would be the resulting comprehensive inventory of MTA stops, as well as prioritized project recommendations to guide how to best use limited capital funds. Nearby, the Lake Transit Authority conducted a similar study that was completed in 2019. Since the study's completion, the Lake Transit Authority has implemented almost all of the recommended stop improvements, improving passenger comfort and satisfaction.

MCOG, as the Regional Transportation Planning Agency (RTPA) for Mendocino County, would likely be responsible for preparing this study, which would cost about $50,000. The MTA would then be responsible for implementing the recommended improvements. As previously discussed, the MTA would continue to dedicate capital funds for both regular bus stop maintenance as well as the bus stop enhancements recommended in the study.

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Chapter 5
FARE ALTERNATIVES

PEER FARE ANALYSIS

The current MTA fare structure is shown in Table 10 of TM1. Table 18 compares the fares for MTA Route 20 (the Ukiah to Willits Route) to the fares for five similar-length routes operated by other small- to medium-sized California transit agencies. The MTA and peer fare data was used to calculate average values for each of the fare categories/products, as seen on the right side of Table 18. Important takeaways from the analysis include:

- MTA's base fare for Route 20 passengers traveling one-way between Ukiah and Willits is $3.00, just below the peer average of $3.05.
- The Route 20 in-town base fare is $1.50, lower than the peer average of $2.08.
- Of the six transit systems, five offer a monthly pass. While these prices vary widely (from $30.00 to $85.00), MTA's monthly pass is the most expensive at $85.00.
- The MTA's discounted monthly pass ($42.50) costs more than the peer average ($40.94).

In summary, the MTA Route 20 monthly pass and discounted monthly pass cost more than the peer average for equivalent fare products. On the other end of the spectrum, the Route 20 one-way fares, both in-town and long distance as well as both regular and discount, all cost less than the peer average. The most notable deviation of MTA's fares from the peer averages is the cost of the monthly pass, which costs 43 percent more than the average.

The bottom of Table 18 shows the base fare per route mile for each of the six services considered. This metric is calculated to compare fares charged for different-length routes and therefore allows a better determination of whether a given fare is appropriate. The base fare per route mile for MTA's Route 20 ($0.12) is 14 percent greater than the peer average ($0.10).

Overall, the peer fare data indicates that MTA's fares are comparable to other similar transit systems. Given the similarity of the MTA fares to peer systems and the negative impact increasing fares has on ridership, no fare increases are recommended at this time.

FARE TECHNOLOGY

Contactless Payment Technology

It is becoming increasingly common for transit agencies to accept contactless fare payments. Research has found that agencies that accept contactless payments often see ridership increase and administrative expenses lower. The California Integrated Travel Project (Cal-ITP) is helping transit agencies procure contactless payment technology capable of accepting agency-specific passes, contactless bank card payments, and digital wallets.

The MTA has partnered with the Humboldt Transit Authority, Lake Transit Authority, and Redwood Coast Transit Authority to procure digital payment hardware and software through Cal-ITP.

Table 18: Peer Transit System Fares Analysis

Transit Program	MTA	Lake Transit	Humboldt Transit	Sonoma County	STAGE (Siskiyou Co.)	Yuba Sutter Transit	
Service Area - Route	Ukiah to Willits (Rte 20)[1]	Clearlake to Lakeport (Rte 1)[2]	Arcata to Fortuna (RTS)	Santa Rosa to Cloverdale[3]	Yreka to Mount Shasta	Susanville to Doyle[4]	Average
Fare Structure							
Base Fare - One Way	$3.00	$2.25	$3.50[6]	$3.00	$4.00	$3.00	**$3.05**
Discount - One Way	$1.50	$1.50	$3.15	$1.50	$2.75	$1.50	**$2.08**
In-Town Fare[5]	$1.50	$1.25	$2.10	$1.50	$1.75	$1.50	**$1.60**
Discount - In-Town Fare	$0.75	$0.75	$2.10	$0.75	$1.25	$0.75	**$1.06**
Monthly Pass	$85.00	$40.00	$50.00	$62.50	--	$30.00[7]	**$59.38**
Monthly Pass Discount	$42.50	$40.00	$50.00	$31.25	--	$15.00[7]	**$40.94**
Operating Statistics							
One-way Route Mileage	26	37	26	33	37	32	**32**
Base Fare per Route Mile	$0.12	$0.06	$0.13	$0.09	$0.11	$0.09	**$0.10**

Source: LSC Transportation Consultants, Inc.

Note 1: Represents travel between three fare zones.

Note 2: Represents Lake County regional travel between 2 or more 'local areas'.

Note 3: Represents travel between three fare zones.

Note 4: Represents travel on rural route.

Note 5: Represents local routes or single zone fare.

Note 6: Lower fare rates offered with card purchase.

Note 7: Yuba Sutter Transit is offering monthly passes for $10 and for $5 for discount-eligible passengers until June 2024.

MTA first installed contactless payment technology on its DAR vehicles (referred to as the TAP-N-RIDE program) in early 2023 and has since installed similar technology on the fixed route vehicles.[2] Throughout the remainder of the planning period, the MTA will need to maintain, upgrade, and expand its contactless payment technology, which will require that funds be allocated towards farebox technology each year.

Token Transit

One popular form of contactless payment accepted by other transit agencies is Token Transit. This app-based technology allows passengers to purchase passes on their phones. Tickets are then validated electronically upon boarding by the passenger tapping their phone on the onboard farebox. For passengers, the Token Transit app is free. For transit agencies, there are no startup, hardware, or software costs associated with the app; to get access to the service, MTA would enter into an agreement with Token Transit allowing Token Transit to retain a certain percentage of fares purchased through the app up to a set limit.

SIMPLIFIED FARE STRUCTURES

MTA's current fare structure is complicated, with varying fares depending on the passenger's age, disability status, and trip length. This complexity can dissuade potential riders and confuse passengers. A complex fare structure also adds to the driver's workload as well as the administrative need to track and report fare revenues. Considering that the MTA aims to increase ridership during the next five years, it is recommended that the MTA simplify its fare structure. This section presents three possible scenarios for simplifying the MTA fixed route fares.

Single Regionwide Fare

MTA could eliminate its current distance-based fare structure and instead charge one fare for all fixed route trips, regardless of the distance. To determine the potential impacts of charging the local fare, $1.50, for all trips, the FY 2022-23 average fares by route were calculated based on the proportion of fixed route boardings by passenger type, the percentage discount received by each passenger type, and the range of fares for the route. Then, the proportion of boardings by passenger type was applied to the new proposed fare of $1.50 to determine the projected average fare received per boarding by route. As the one-way fare would be the same on all fixed routes, the average fare under the single regionwide fare scenario would also be the same ($1.04). The projected average fare would equate to a fare decrease for passengers traveling intercity or inter-regional, therefore ridership would be expected to increase on Routes 20, 60, 65, 75, and 95. However, this ridership increase would occur in turn with a fare revenue decrease. In sum, implementing a single, one-way cash fare for all the MTA fixed routes would likely cause ridership to increase by 7 percent and fare revenues to decrease by 9 percent over FY 2022-23 levels (Table 19).

[2] California Integrated Travel Project (Cal-ITP). (2023, August 18). Four Northern California transit agencies joined forces to buy contactless open-loop fare payment systems off of California's purchasing agreements [Press release]. https://mendocinotransit.org/news/four-northern-california-transit-agencies-join-forces-to-buy-contactless-open-loop-fare-payment-systems-off-of-californias-purchasing-agreements/

Table 19: MTA Simplified Fixed Route Fare Structure - Single Regionwide Fare Scenario

Service	Existing General Fare	FY 2022-23 Average Fare [1]	Alternative Fare	Average Fare Per Boarding with Alt [2]	Fixed Route Ridership With Alt	Change in Annual Ridership	Fixed Route Fare Revenue with Alt	Change in Annual Revenue
Route 1- Willits	$1.50	$1.04	$1.50	$1.04	5,700	0	$5,900	$0
Route 5 - Fort Bragg	$1.50	$1.04	$1.50	$1.04	8,100	0	$8,500	$0
Route 7/9 - Ukiah	$1.50	$1.04	$1.50	$1.04	57,300	0	$59,800	$0
Route 20 - Ukiah / Willits	$1.50 - $3.00	$1.57	$1.50	$1.04	19,500	1,300	$20,400	-$8,100
Route 60 - The Coaster	$1.50 - $2.25	$1.31	$1.50	$1.04	6,900	500	$7,200	-$1,200
Route 65 - Cross County	$1.50 - $23.00	$4.76	$1.50	$1.04	13,000	4,000	$13,600	-$29,700
Route 75 - South Coast / Ukiah	$1.50 - $6.75	$2.21	$1.50	$1.04	7,600	1,300	$7,900	-$6,000
Route 95 - South Coast / Santa Rosa	$1.50 - $8.25	$2.67	$1.50	$1.04	4,800	1,000	$5,000	-$5,100
Total Change						8,100		-$50,100
Percent Change						7%		-9%

Note 1: Average fare values calculated by analyzing boardings by passenger type and determining how many passengers received a fare discount.
Note 2: Average fare values under alternative scenario calculated by applying proportion of discounted and free boardings to proposed fare. Assumes passengers eligible for reduced fares would continue to receive a 50 percent discount.

Three-Fare System

The MTA could implement a three-fare system, with one fare charged for local trips (within a community), one fare charged for intercity trips (such as Ft. Bragg to Ukiah), and one fare charged for inter-regional trips (such as to/from Santa Rosa). Table 20 shows how implementing a three-fare system would impact MTA ridership and fare revenues, assuming the local fare was $1.50, the intercity fare was $2.50, and the inter-regional fare was $15.00. The average fare per boarding under the alternative fare structure was calculated by applying the proportion of boardings by passenger type and the estimated proportion of passengers traveling local, intercity, and inter-regional on each of the various routes to the proposed fare values. Elasticity analyses were used to determine whether the new average fare per boarding on each route would result in an increase or decrease in ridership. As shown, the three-fare scenario would cause systemwide ridership to increase by 2 percent and fare revenues to decrease by 4 percent compared to FY 2022-23 levels.

Simplified Distance-Based Fares

A more minor change would be to consolidate the MTA's existing distance-based fare tables. Tables 21 through 25 show examples of simplified fare tables for the inland services (Routes 1, 7, 9, and 20), the coastal services (Routes 5 and 60), Route 65, Route 75, and Route 95. All of the example fare tables presented have fewer fare categories compared to the current fare tables, yet still charge varying fares based on trip origin and destination. It is expected that such small changes to the MTA fixed route fares would have minimal impacts on the average fare received per boarding, and therefore minimal impacts on either ridership or fare revenues.

Table 20: MTA Simplified Fixed Route Fare Structure - Three-Fare Scenario

	Local	$1.50	Intercity	$2.50	Inter-regional	$15		
Service	Existing General Fare	FY 2022-23 Average Fare [1]	Alternative Fare [2]	Average Fare Per Boarding w/ Alt [3]	Fixed Route Ridership With Alt	Change in Annual Ridership	Fixed Route Fare Revenue	Change in Annual Revenue
Route 1- Willits	$1.50	$1.04	$1.50	$1.04	5,700	0	$5,900	$0
Route 5 - Fort Bragg	$1.50	$1.04	$1.50	$1.04	8,100	0	$8,500	$0
Route 7/9 - Ukiah	$1.50	$1.04	$1.50	$1.04	57,300	0	$59,800	$0
Route 20 - Ukiah / Willits	$1.50 - $3.00	$1.57	$2.00	$1.39	18,800	600	$26,200	-$2,300
Route 60 - The Coaster	$1.50 - $2.25	$1.31	$2.35	$1.64	6,300	-100	$10,300	$1,900
Route 65 - Cross County	$1.50 - $23.00	$4.76	$3.60	$2.51	10,700	1,600	$26,800	-$16,500
Route 75 - South Coast / Ukiah	$1.50 - $6.75	$2.21	$2.35	$1.64	6,900	600	$11,300	-$2,700
Route 95 - South Coast / Santa Rosa	$1.50 - $8.25	$2.67	$3.60	$2.51	3,900	100	$9,800	-$400
Total Change						2,800		-$20,000
Percent Change						2%		-4%

Note 1: Average fare values calculated by analyzing boardings by passenger type and determining how many passengers received a fare discount.
Note 2: Proposed fare represents average cost based on the proportion of local, intercity, and inter-regional boardings occurring on the route.
Note 3: Average fare values under alternative scenario calculated by applying proportion of discounted and free boardings to proposed fare. Assumes passengers eligible for reduced fares would continue to receive a 50 percent discount.

Table 21: Simplified Fare Structure for MTA Inland Services

Routes 1, 7, 9, and 20

	Ukiah / Mendocino College	Redwood Valley / Calpella	Willits
Ukiah / Mendocino College	$1.50	$2.00	$3.00
Redwood Valley / Calpella	$2.00	$1.50	$2.00
Willits	$3.00	$2.00	$1.50

Source: LSC Transportation Consultants, MTA

Note 1: This table only presents the recommened regular cash fare values. Reduced fares would equal half of the regular fare.

Table 22: Simplified Fare Structure for MTA Coastal Services

Routes 5 and 60

	Fort Bragg / Mendocino	Little River / Albion / Navarro River Jctn.
Fort Bragg / Mendocino	$1.50	$2.00
Little River / Albion / Navarro River Jctn.	$2.00	$1.50

Source: LSC Transportation Consultants, MTA

Note 1: This table only presents the recommened regular cash fare values. Reduced fares would equal half of the regular fare.

Table 23: Simplified Fare Structure for MTA Route 75

	Albion / Elk / Navarro River Jctn.	Navarro / Philo / Boonville	Point Arena / Manchester	Gualala / Anchor Bay	Ukiah
Albion / Elk / Navarro River Jctn.	$1.50	$3.00	$3.00	$3.50	$4.00
Navarro / Philo / Boonville	$3.00	$1.50	$3.50	$4.00	$3.00
Point Arena / Manchester	$3.00	$3.50	$1.50	$3.00	$7.00
Gualala / Anchor Bay	$3.50	$4.00	$3.00	$1.50	$7.50
Ukiah	$3.50	$3.00	$7.00	$7.50	$1.50

Source: LSC Transportation Consultants, MTA

Note 1: This table only presents the recommened regular cash fare values. Reduced fares for seniors would equal half of the regular fare.

Table 24: Simplified Fare Structure for MTA Route 95

	Point Arena / Gualala / Anchor Bay / Sea Ranch	Fort Ross / Stewarts Point / Jenner	Bodega / Bodega Bay / Sebastopol / Freestone	Santa Rosa
Point Arena / Gualala / Anchor Bay / Sea Ranch	$1.50	$3.50	$6.00	$8.00
Fort Ross / Stewarts Point / Jenner	$3.50	$1.50	$3.50	$6.00
Bodega / Bodega Bay / Sebastopol / Freestone	$6.00	$3.50	$1.50	$3.50
Santa Rosa	$8.00	$6.00	$3.50	--

Source: LSC Transportation Consultants, MTA

Note 1: This table only presents the recommened regular cash fare values. Reduced fares for seniors would equal half of the regular fare.

Table 25: Simplified Fare Structure for MTA Route 65

	Fort Bragg	Hwy 20 West	Hwy 20 East	Willits	Redwood Valley / Calpella	Ukiah	Hopland	Santa Rosa
Fort Bragg	$1.50	$2.00	$2.50	$3.00	$4.00	$4.50	$5.00	$20.00
Hwy 20 West	$2.00	$1.50	$2.00	$2.50	$3.50	$4.00	$4.50	$19.50
Hwy 20 East	$2.50	$2.00	$1.50	$2.00	$3.00	$3.50	$4.00	$19.00
Willits	$3.00	$2.50	$2.00	$1.50	$2.50	$3.00	$3.50	$18.50
Redwood Valley / Calpella	$4.00	$3.50	$3.00	$2.50	$1.50	$2.00	$2.50	$17.50
Ukiah	$4.50	$4.00	$3.50	$3.00	$2.00	$1.50	$2.00	$17.00
Hopland	$5.00	$4.50	$4.00	$3.50	$2.50	$2.00	$1.50	$16.50
Santa Rosa	$20.00	$19.50	$19.00	$18.50	$17.50	$17.00	$16.50	--

Source: LSC Transportation Consultants, MTA

Note 1: This table only presents the recommened regular cash fare values. Reduced fares for seniors would equal half of the regular fare.

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Chapter 6

MARKETING RECOMMENDATIONS

INTRODUCTION

Transit marketing is critical for attracting new riders as well as establishing a reliable and recognizable brand. As the MTA serves the entirety of Mendocino County, multiple marketing strategies are necessary to effectively reach residents throughout the large service area. This chapter first summarizes the MTA's existing marketing strategies, then discusses newly recommended strategies aimed at maintaining existing riders, attracting new riders, and improving awareness of available services. As the MTA has a limited marketing budget and no dedicated marketing personnel, low-cost strategies are prioritized.

CURRENT MARKETING STRATEGIES

Branding

The MTA has an attractive, well-designed logo that includes the agency's abbreviated name and a decal reflecting Mendocino County's scenic landscape. The logo is consistently included on MTA's printed, virtual, and physical marketing materials.

One of the most important tools for marketing a transit system is the agency's physical presence in the community. Physical marketing includes branded buses, information posted at bus stops, and bus stop signage. As the MTA operates throughout Mendocino County, the MTA has a large physical presence, with the logo visible in many different communities on both passing buses and bus stop signs.

Website

The MTA maintains a website with a large array of valuable information on the Mendocino County public transit services. Information that can be found on the website includes:

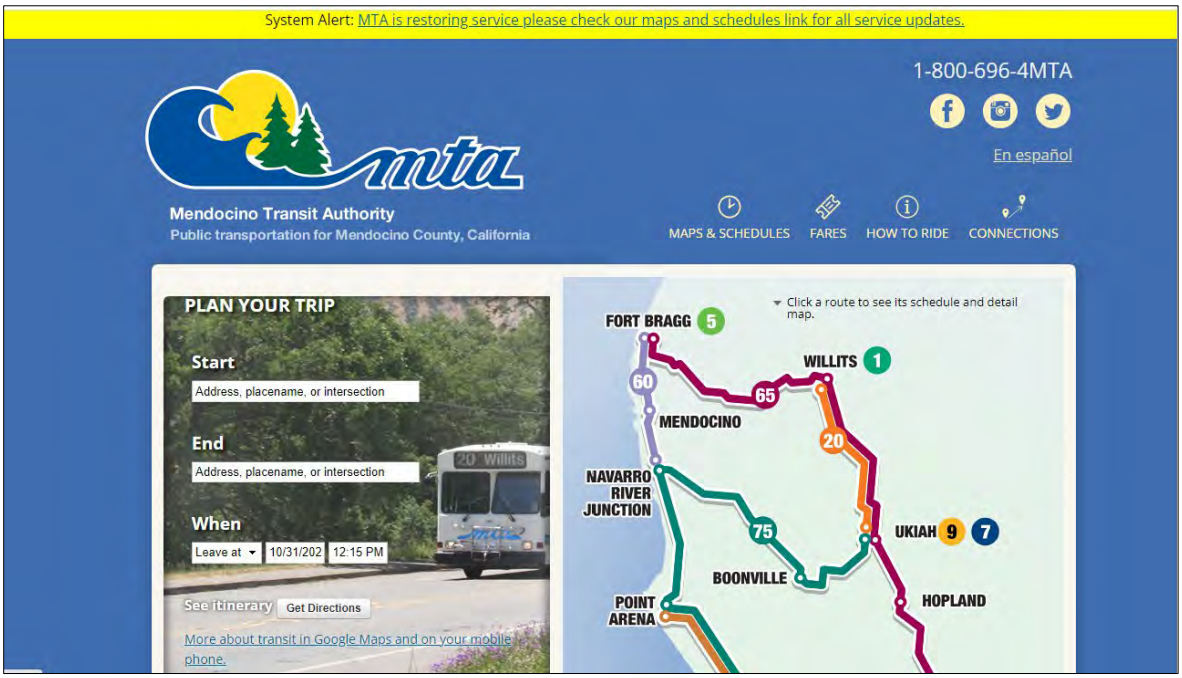
- Real-time trip planning (by destination and time of day) with Google Maps.
- Service alerts and recent news headlines.
- A page for each fixed route with schedule information and detailed route maps. Downloadable PDFs are also linked. Links are provided on the specific route pages to the route's fare table. Transfer opportunities to other regional providers are highlighted.
- A page summarizing both the Ukiah and Fort Bragg DAR services. The DAR page contains the schedule, eligibility, and fare information for both services. Details are also provided on how to reserve a ride. Maps showing both the Ukiah and Fort Bragg DAR zones are included.
- A "How to Ride" page with instructions on passenger guidelines, paying fares, and how to use the onboard bike racks.
- A fare page that details the fare tables for each service category (inland services, coastal services, Route 65, Route 95). There is also information on the MTA fare policies for children

6 years and younger, senior adults 62 years or older, persons with disabilities, and students. Pass products are summarized. The website lists where MTA passes can be purchased too.

- A page summarizing other regional services, including Amtrak, Greyhound, Golden Gate Transit, Lake Transit, and the Santa Rosa CityBus, among others. Links are provided to each of the respective agency's websites.
- At the bottom of the main page, there is a navigation menu with links to an "About" page, the MTA's career page, a general contact form, customer service information, information on the current Board of Directors and Board meetings, the Title VI Plan, and more.
- At the top of the MTA website's home page, there is a clear link labeled "En español." Clicking this link brings the web user to a page that presents almost all of the website information in Spanish, including information on passenger conduct, fares, holidays, flag stops, and regional connections. Summaries are included for each of the individual routes in Spanish, as well as links to the appropriate website page.
- Links to the MTA Facebook, Instagram, and Twitter pages.

As previously mentioned, information on the MTA DAR services is available through a link at the bottom of the website homepage. The DAR page also provides limited information on the Willits paratransit service operated by Willits Seniors Inc, however, the page does not include any information on the paratransit services provided by the Anderson Valley, Redwood Coast, South Coast, or Ukiah Senior Centers.

Of note is that while the Fort Bragg DAR service is available to the general public as well as paratransit riders, this difference is not clearly highlighted on the webpage. The overlap between paratransit and general DAR can be confusing for those who do not qualify for paratransit and may hinder potential new riders from taking advantage of the service.



Print Materials

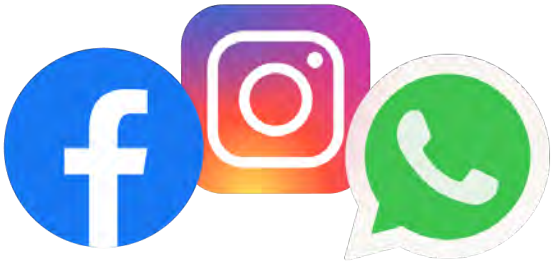
Printed rider's guides provide directions for riding the bus in addition to being promotional tools. Passenger guides are especially valuable for people who do not have a mobile device to access service information while on the go. The MTA does not currently have a comprehensive, printed rider's guide available. Printed maps, including schedule and fare information, are not regularly available throughout Mendocino County. That being said, people can download and print PDFs of each fixed route schedule from the website.

Travel Training

MTA offers individualized training to teach residents how to ride the MTA, including how to read bus schedules, pay fares, and a step-by-step walkthrough of the boarding process. The travel training program is helpful for individuals who are interested in using MTA but feel unsure of what services are available or how to ride. The travel training program is advertised via the News section of the MTA website and is offered in Ukiah, Willits, and Fort Bragg.

Social Media

Social media is an increasingly important part of transit marketing. A well-organized and regularly updated social media platform can effectively and quickly convey transit information to a broad audience. Transit agencies frequently use social media to provide real-time service alerts, as well as for general promotion of services and events. Social media posts can be designed to engage with the greater community or to recruit new passengers through "pushing" a post.



MTA has multiple social media accounts, demonstrating that the agency is already utilizing social media to reach riders and provide service updates. The MTA Facebook account has over 1,600 followers and includes a link to the MTA website and information on how to contact staff by phone, email, or in person. The MTA uses its Facebook to post news related to service changes, holiday information, weather impacts, MTA events, and job postings. The MTA Instagram has 410 followers and includes similar content to the Facebook account. Although the MTA website provides a link to Twitter, the MTA Twitter account no longer exists.

Phone Information

To ensure information is accessible to everyone, including the visually impaired and seniors, transit providers must continue to offer information over the phone. MTA has a phone number for passengers to schedule DAR reservations and another line for customer service inquiries. These phone numbers are posted on the MTA website under the "Contact" page. A phone number to hear transit information in Spanish is also provided.

Special Events, Promotions, and Partnerships

Special events and promotions reward current riders and encourage new residents to try transit. Common promotional events for transit include free fare days, discounted seasonal passes, and complimentary transit to and from popular local events. These types of promotions require dedicated funding sources, one example being LCTOP funds. MTA has held special promotions in the past, including a Summer Youth Pass in 2023 (advertisement shown to the right) and a fare-free fixed route service in November 2022.

Another, lower-cost option for promoting the transit system is to partner with local organizations with interests relevant to transportation and transit. MTA could provide Mendocino County companies and organizations with rider's guides and discounted passes to promote ridership and participation in planning efforts among the groups' members.

One ongoing partnership that continues to be successful is the MTA's service agreement with Mendocino College. Mendocino College pays the MTA to allow students to use their student IDs as complimentary bus passes, enabling them to ride for free on MTA fixed routes. This benefit is advertised by Mendocino College and by MTA both online and on social media.

Active Management

Active management refers to responsive and adaptive decision-making by transit directors/managers. A recent example of active management at the MTA was the reduction in service levels in response to the COVID-19 pandemic and then the subsequent increase as demand returned. The MTA also had to reduce services due to the nationwide driver shortage experienced in the years since the COVID-19 pandemic, prompting staff to make important decisions about which services to prioritize, as well as how to communicate service reductions to the public. MTA management is also responsible for communicating with neighboring transit providers and improving transfer opportunities between different systems. In sum, practicing active management has helped MTA staff convey important information to the public and enhance regional connectivity.

MTA MARKETING CHALLENGES

Overall, the MTA does an excellent job with marketing given limited staff time and funds. However, one area for improvement, based on the onboard survey results, would be to improve the quality and availability of service information. Low-cost strategies to improve the MTA's information resources include clarifying existing route schedules online and in printed materials, developing a rider's guide, distributing printed information to local organizations to further distribute, and posting more information at bus stops.

Attracting new riders has become critically important for the MTA. Every transit system experiences regular turnover in ridership as students graduate, residents move, and people acquire cars and/or driver's licenses. Additionally, MTA FY 2022-23 ridership indicated that many individuals who stopped using the MTA during the COVID-19 pandemic have still not returned. Reaching new riders with marketing is a challenge, however, and will likely require the MTA to deploy targeted marketing efforts.

MARKETING RECOMMENDATIONS

The following is a comprehensive list of recommended marketing strategies and improvements to be implemented by the MTA during the five-year planning period. These strategies reflect affordable options that will help maintain current ridership, attract new ridership, and improve existing information resources, ultimately benefiting existing passengers and increasing awareness of the MTA throughout the greater community. Marketing strategies should be implemented incrementally, as resources allow.

Physical Marketing

- Bus Stop Signage: It is recommended that the MTA continue to maintain signage at bus stops. Signs should be updated if necessary, and new signs should be added when funding allows. Bus stop signs should be installed simultaneously with other bus stop improvements when possible. Bus stop improvements are discussed in more detail in Chapter 4.
- Bus Branding: The MTA should continue to procure buses that clearly show the agency's logo. Both fixed route and DAR services should maintain similar branding.
- Bus Displays: Information on vehicle head signs and onboard bulletin displays is highly visible to passengers. The information contained within these displays should be attractive, accurate, and easy to read.
- Public Presentations: Public speaking is an opportunity to personalize the MTA and further educate the community about available transit services. Public speaking efforts should be customized for a specific audience, such as seniors, students, social service program clients, or employee groups, among others. Presentations to schools and colleges, businesses, employers, social service organizations, senior residences, senior centers, and neighborhood associations would be great opportunities to promote more specific benefits of the MTA.

Website

- DAR Webpage Improvements: The MTA should update the DAR service area maps. It would be beneficial for the MTA to update its DAR webpage to clarify eligibility requirements for the Ukiah and Fort Bragg services, prominently highlighting how the Fort Bragg DAR service is available to the general public. The DAR page should also be linked in the website's top menu for people to easily access.
- Add Information on Senior Center Services: The MTA website only has information on the Willits Seniors Inc. paratransit service. Information on the other four senior center paratransit services available in Mendocino County should be added as well.
- Modify Bottom Menu: The website's main page has a bottom menu with links to several other resources. This menu should be modified to be available on all pages of the website. If that is not possible, then the links included in the bottom menu should be made available through a drop-down menu that can be accessed at the top of the website.
- Clarify Bus Stop Location in Route Schedules: The route schedules on the MTA website provide only the bus stop name (e.g., Main St and Lansing St). Given that MTA provides transit services across many Mendocino County communities and to destinations outside of the County, the community name should be added to the stop name on the route schedules (e.g., Main St and Lansing St, Mendocino). This will alleviate confusion and provide a high-level overview of the route for riders unfamiliar with the service or locations.

Print Materials

- Update Printed Schedule Information: The printable PDFs of the fixed route schedules should be updated to reflect the most current service information. It would also be useful to include a route map on the PDF files of each route's timetable to provide a visual reference. Community names should be added to each stop name on the printed schedules as well.
- Develop a Rider's Guide: The MTA should develop a comprehensive, printed rider's guide with information on passenger policies, fares, and schedules for both the fixed routes and DARs. Once completed, the rider's guide could then be available on buses and at MTA offices. The rider's guide should also be available at the Ukiah Transit Center once the facility is developed. The MTA should distribute the guide to regional stakeholders to further share with their own clientele. The comprehensive rider's guide should be made in both English and Spanish.

Travel Training

- Further Advertise the Travel Training Program: The MTA's travel training program could have an even greater impact if the MTA further advertised the program on its website and social media. MTA should also partner with local organizations, such as nonprofits focused on aiding persons with disabilities and senior centers, to easily enroll residents in the program.

Social Media

- Increase Presence on Social Media: The MTA should collaborate with local partners, such as Mendocino College, to advertise the MTA on their own social media.

- **Remove References to MTA Twitter Account:** It is recommended that MTA remove any references to the previous Twitter account, including removing the link to the account from the MTA website homepage.
- **Social Media Campaigns:** The MTA should utilize Facebook advertising to increase awareness of the transit system among non-riders and to attract riders who may have stopped riding back to transit. These advertising campaigns should be done outside of the "holiday season" months of November and December when Facebook is flooded with advertisements.

Special Events and Promotions

- **Special Promotions:** When funding allows, the MTA should continue to hold promotional events as a way to thank current passengers, boost morale, and entice new riders to hop on the bus. It is recommended the MTA offer special events, such as free-fare days, and partner with local organizations to plan events, such as a "Ride the Bus to Work Day," whenever funding allows to increase ridership by both existing and new riders.
- **Promote New Technology and Projects:** New technologies, such as ZEBs, should be celebrated through concerted marketing efforts, including press releases, newspaper interviews, radio interviews, and social media posts. These campaigns should focus on informing the community about positive changes at MTA and emphasizing improvements that may encourage some non-riders to reconsider using transit.

LATEST HEADLINES

MTA debuts electric bus service: Two zero-emission buses now serve Willits

Dual chargers "fill the battery tank" of MTA electric buses overnight. (photos contributed)

By SUBMITTED
PUBLISHED: March 21, 2022 at 12:54 p.m. | UPDATED: March 21, 2022 at 12:55 p.m.

- **Testimonial Advertising:** A great way to highlight MTA's success is to let riders tell their stories. The MTA has used this strategy in the past by asking regular passengers on the transit system why they ride, what they like about the service, and how the MTA helps them, and then posting the stories on Facebook. Testimonial advertising can be done through newspaper articles, flyers or posters, social media, or the radio. The benefit of testimonials is they inspire the public and help to eliminate poor opinions of transit held by some community members.

Active Management

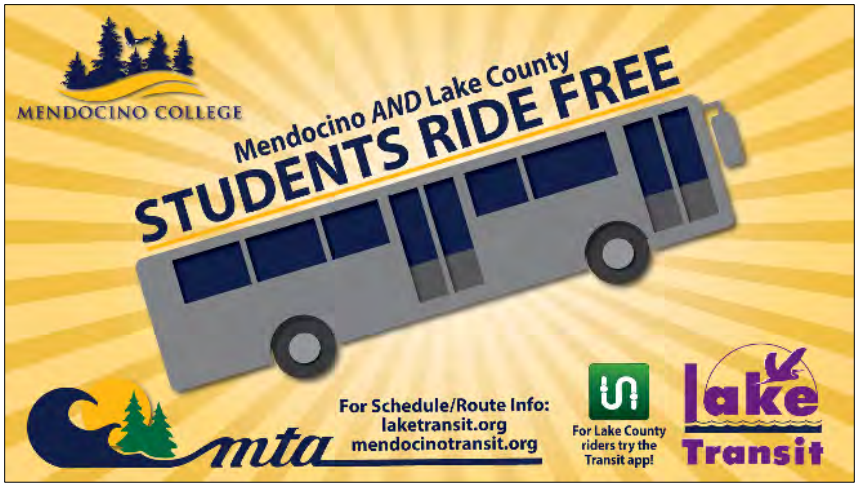
- **Regional Collaboration**: MTA directors/managers should continue to collaborate with regional partners to improve transit connections and facilitate increased ridership. As new regional services are initiated, such as the Humboldt Transit Authority's Redwood Coast Express service between Ukiah and Eureka, the MTA will need to communicate with regional partners to ensure transit connections are optimized and that accurate service information is available to both Mendocino County riders as well as transit passengers living in nearby regions. Successful regional efforts should be promoted.

MARKETING STRATEGIES FOR STUDENTS

Students have historically comprised a significant portion of MTA transit ridership. Specific strategies to attract high school and college students to transit include:

- Campus visits and presentations at the start of the school year on what services are available.
- Creating specific promotional materials describing the transit services to each campus and highlighting the student-geared pass products, such as the Mendocino College student pass.
- Requesting schools and campuses share promotional materials, through official email list-servs and social media.
- Partnering with student clubs and organizations interested in transit or that could benefit from learning more about transit services.

  Kiosks at the various Mendocino College campuses with rider's guides.



Appendix A

EXAMPLES OF MICROTRANSIT SERVICES

MICROTRANSIT PEERS REVIEW

Technological advancements and changing travel patterns in the wake of the COVID-19 pandemic have led many transit agencies across the United States (US) to embrace new forms of transit, one of which has been "microtransit." This appendix reviews the concept of microtransit before discussing policies, operations, and performance of peer microtransit programs in rural, suburban, and mid-size cities in California and Nevada.

The Concept of Microtransit Service

A growing number of public transit agencies across the United States now offer "microtransit" service. Microtransit has become a popular alternative for providing transit coverage over an area not served efficiently by fixed-route service. Microtransit has also been found to be an effective service option in areas with high demand for short trips.

Microtransit applies the app-based technology developed for transportation network companies (such as Uber and Lyft) to provide real-time, on-demand transit service. Typically, passengers use an app downloaded on their smartphone or computer to request and pay for a microtransit ride, then a routing algorithm assigns the ride request to a specific driver/vehicle. Microtransit is a shared-ride service, meaning multiple passengers may ride in one vehicle at any given time.

Background and Policies of Peer Microtransit Services

LSC Transportation Consultants, Inc., researched microtransit programs operated by transit agencies in suburban to mid-size cities in California and Nevada. These programs are listed in Tables 1 and 2. These programs were established between February 2018 (Sacramento Regional Transit's SmART Ride service) and April 2020 (City of Napa On-Demand). The City of Napa's On-Demand program, operated by Vine Transit, was the only microtransit service analyzed established specifically in response to the pandemic. Other peer transit services in California planning to implement microtransit in 2023 include Woodland (Yolobus), Fairfield (FAST Transit), and Placer County (Placer County Transit).

All of the peer microtransit services analyzed in this study have evolved since their initial pilot phases, with most of the transit agencies having either expanded or modified the service zones based on popularity and changing transportation needs during the COVID-19 pandemic. Passengers are only able to request rides between two destinations within the same microtransit zone, therefore modifying microtransit zones is an important process that may encourage or limit ridership.

Most of the programs analyzed provide curb-to-curb service, however the SmART Ride service provides either curb-to-curb service or corner-to-corner service depending on the zone. When rides are limited to a single service zone, passengers get to locations in other zones by requesting rides to central transfer points where they are able to transfer to a fixed route or different microtransit service.

There are a lot of possible vendors for microtransit technology and software, and the number of options continues to grow as the market expands. The vendors used by the microtransit programs discussed in this study include Transloc, Via, and Spare. Other microtransit technology vendors include The Routing Company (TRC), Goin, and TripSpark.

Microtransit Peers Operations Summary

Table A-1 presents a review of recent or projected operations data for the microtransit services in the Cities of Hanford, Napa, and Sacramento, California, and for Washoe County, Nevada. Statistics for the individual zones are provided for the FlexRide and SmART Ride services. The peer microtransit zones vary in size from 6 to 35 square miles. These zones cover areas of varying populations and population densities; the populations living in the service areas range from 16,200 (City of Napa) to 203,000 (Franklin SmART Ride Zone). Some of these zones, such as the Downtown SmART Ride Zone, cover areas which are also served by fixed route buses. Others, such as the FlexRide Zones, cover areas with no fixed route service.

Schedule information is summarized in Table A-1. The daily hours vary by service, and in some instances by zone, however it is worth noting that all of the peers offer microtransit throughout the entire "9 to 5" workday. Weekend microtransit service is provided by Vine Transit and Washoe RTC.

The operations data reflects the substantial ridership that can be served by a microtransit program and provides context for the number of vehicles needs for certain levels of service. For instance, the Rancho Cordova, Arden/Carmichael, and Elk Grove SmART Ride Zones all had two vehicles operating at peak hours to provide just upwards of 10,000 passenger-trips in Fiscal Year (FY) 2021-22. Average daily ridership ranged from 40 passenger-trips in the suburban cities of Carmichael and Elk Grove (Sac RT) to 144 passenger-trips in the dense, urban Downtown SmART Ride Zone.

Microtransit Peers Performance Summary

Performance indicators are useful tools for assessing and comparing different-sized transit services. Table A-2 presents a summary of the peer microtransit programs' performance based on the operations data contained in Table A-1. As seen in Table A-2, the average number of square miles per peak vehicle was 0.32 and the average number of residents per peak vehicle was 10,922. While these values obviously vary by agency, the data can still be used to inform calculations on how many vehicles may be needed to meet demand in microtransit zones in other cities.

The productivity of a transit service is often assessed by calculating the number of passenger-trips carried per vehicle revenue hour. On average, the peer microtransit zones carried 3.11 passenger-trips per hour, slightly more than the average, traditional dial-a-ride service, which typically carries 1 to 2 passengers per hour. The most productive microtransit zones analyzed were the Rancho Cordova and Folsom SmART Ride Zones and the Sparks-Spanish Village FlexRide Zone (all over 3.35 passenger-trips per hour).

The cost efficiency of a transit service can be greatly affected by not only fare revenue generated by ridership, but also by contract rates with transit operators and by whether or not the microtransit passengers are "co-mingling" with other transit passengers. "Co-mingling" refers to instances when microtransit, dial-a-ride, or non-emergency medical transportation passengers share a vehicle on their ride. However, based on dividing the total program cost by the considering just the available data, the most cost-efficient service analyzed was the City of Napa On-Demand service ($52.17 per vehicle revenue hour).

Conclusions

Microtransit is a new and evolving type of public transportation service that is surging in popularity across the US as transit agencies adapt to new travel conditions post-pandemic. Microtransit is often implemented in areas that are not served effectively with fixed routes to provide increased coverage in a more cost-effective manner. Passengers can schedule rides using app-based technology similar to what is used for Uber or Lyft to get where they need to go within the specified microtransit zone.

LSC collected data on microtransit programs being operated by transit agencies in small- to mid-size cities across California and the western US to help inform similar-sized providers who may be considering implementing microtransit in the future. Each microtransit program obviously differs, however the data consistently demonstrates the capacity for these services to carry a substantial amount of ridership, even in areas still served by fixed routes. It is important for transit agencies to consider how their unique community compares to those reviewed in this peer analysis when designing a microtransit service as well as peer microtransit data for upcoming fiscal years, as data for FYs 2022-23 and 2023-24 will more accurately reflect the "new normal" demand for transit in the post-pandemic era.

Table A-1: Microtransit Peer Review - Service Summary

Providers	Service Area (Sq. Mi.)	Service Area Population	Fixed Routes in Microtransit Zone?	Hours of Operation	Vehicle Revenue Hours	Vehicle Revenue Miles	Peak Vehicles in Operation	Ridership	Operating Days	Average Daily Ridership
City of Napa On-Demand [1]	6.0	16,200	Yes	M - F: 7AM - 5:30PM Sat: 7:30AM - 5:30PM	11,867	113,367	6	25,787	308	84
FlexRide - Washoe RTC										
North Valleys Zone [2, 3]	13.3	40,564	No	M - F: 5:30AM - 11PM Sat - Sun: 6:20AM - 9PM	8,038	133,932	5	18,837	365	52
Somersett Verdi Zone [2, 3]	9.8	35,200	No	M - F: 5:30AM - 11PM Sat - Sun: 6AM - 10:30PM						
Sparks-Spanish Springs Zone [2]	13.1	21,100	No	M - F: 5:30AM - 11PM Sat - Sun: 6AM - 10:30PM	9,410	152,305	5	36,256	365	99
SMART Ride[5] (SacRT)										
Citrus Heights Zone	35.9	58,496	Partial	M - F: 6AM - 9PM	12,700	--	6	34,544	254	136
Franklin Zone	14.0	203,000	Partial	M - F: 7AM - 7PM	6,782	--	4	20,320	254	80
Gerber Zone	10.0	105,800	No	M - F: 7AM - 7PM	3,581	--	2	10,414	254	41
Rancho Cordova Zone	6.9	52,600	Partial	M - F: 7AM - 7PM	5,842	--	3	30,988	254	122
Downtown/ CSUS Zone	7.7	43,100	Yes	M - F: 6AM - 9PM	12,014	--	6	36,576	254	144
Natoma/N. Sac Zone	15.1	52,300	Yes	M - F: 7AM - 7PM	7,290	--	4	21,590	254	85
Arden/ Carmichael Zone	15.0	72,200	Partial	M - F: 7AM - 7PM	3,581	--	2	10,160	254	40
Folsom Zone	27.9	72,900	Yes	M - F: 7AM - 7PM	4,775	--	3	16,002	254	63
Elk Grove Zone	26.4	76,100	No	M - F: 7AM - 7PM	3,581	--	2	10,160	254	40
Peer Zone Average	15.5	65,351	NA	NA	7,455	133,201	4	22,636	277	82

Note 1: FY 2021-22 data. Data sourced from Napa Short Range Transit Plan 2023-2028 and staff. Per staff, with fixed route ridership returning, hoping to reduce peak vehicles to 4 in FY 2022-23.

Note 2: Data sourced from RTC Washoe staff.

Note 3: North Valleys and Somersett Verdi Zones marketed separately, but internally managed with shared vehicles and drivers. Operating statistics include both.

Note 4: Statistics are projections for Hanford Zone FY 2022-23 performance. Data sourced from Transit Manager.

Note 5: SmaRT Ride is a service provided by Sacramento Regional Transit. Data sourced from SacRT Short-Range Transit Plan FY 2022-2027 and SacRT staff.

Table A-2: Microtransit Peer Review - Performance Analysis

Providers	Peak Vehicles per Sq Mile	Square Miles per Peak Vehicle	Population per Peak Vehicle	Vehicle-Hours of Service per 1,000	Annual Ridership per Capita	Psgrs per Revenue Mile	Psgrs per Revenue Hour	Cost per Vehicle-Hour of Service [1]	Cost per Passenger-Trip [2]
City of Napa On-Demand	1.0	1.0	2,700	733	1.59	0.23	2.17	$52.17	$24.01
FlexRide - Washoe RTC									
North Valleys & Sommerset Verdi Zone	0.2	4.6	15,153	106	0.25	0.14	2.34	$67.43	$28.77
Sparks-Spanish Springs Zone	0.4	2.6	4,220	446	1.72	0.24	3.85	$67.43	$17.50
SMART RT									
Citrus Heights Zone	0.2	6.0	9,749	217	0.59	--	2.72	$155.04	$57.00
Franklin Zone	0.3	3.5	50,750	33	0.10	--	3.00	$155.04	$51.74
Gerber Zone	0.2	5.0	52,900	34	0.10	--	2.91	$155.04	$53.32
Rancho Cordova Zone	0.4	2.3	17,533	111	0.59	--	5.30	$155.04	$29.23
Downtown/ CSUS Zone	0.8	1.3	7,183	279	0.85	--	3.04	$155.04	$50.93
Natoma/N. Sac Zone	0.3	3.8	13,075	139	0.41	--	2.96	$155.04	$52.35
Arden/ Carmichael Zone	0.1	7.5	36,100	50	0.14	--	2.84	$155.04	$54.65
Folsom Zone	0.1	9.3	24,300	66	0.22	--	3.35	$155.04	$46.26
Elk Grove Zone	0.1	13.2	38,050	47	0.13	--	2.84	$155.04	$54.65
Peer Zone Average	0.3	3.2	10,922	188	0.52	0.20	3.11	$126.91	$42.24

See Table 1 for data sources and notes.

Note 1: Calculated by total program cost divided by vehicle revenue hours by zone. Peer average is for provider, not zone.

Note 2: Cost by zone is allocated based on the proportion of hours operated per zone. Cost per passenger trip equals the allocated cost per zone divided by passenger trips per zone.