



B-LINE ROUTING STUDY

Prepared for

BUTTE COUNTY ASSOCIATION OF GOVERNMENTS

B-Line Routing Study

Prepared for

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TABLE OF CONTENTS

<i>CHAPTER</i>	<i>PAGE</i>
Chapter 1: Introduction and Background.....	1
Introduction	1
Purpose of the B-Line Routing Study	1
Recent Studies and Reports Relevant to the Current Effort.....	2
Background Regarding Existing Needs and Services.....	7
 Chapter 2: Community and Demographic Overview	 11
Introduction	11
Recent Changes to Population and Commuting	11
Community / Demographic Overview.....	13
Developments, Projects and Activities Relevant to the Current Effort.....	17
 Chapter 3: Overview of Existing Services	 21
Existing Transit Services in Butte County	21
B-Line Routes	21
B-Line Paratransit Services	34
Fares and Fare Policies	34
B-Line Ridership Analysis.....	36
B-Line Financial Analysis.....	42
B-Line Performance Analysis.....	43
B-Line Assets.....	45
B-Line Marketing Efforts	46
B-Line Onboard Passenger Survey Results.....	47
Other Transit Services in the Region	49
 Chapter 4: B-Line Route and Service Analysis.....	 55
Introduction	55
Passenger Load by Route	55
B-Line On-Time Performance by Route	56
B-Line Passenger Boarding Data	57
B-Line Route Segment Analysis	61
 Chapter 5: Review of Existing Paratransit Services	 69
Introduction	69
B-Line Paratransit Service.....	69
B-Line Paratransit Ridership Analysis	71
B-Line Paratransit Performance Analysis	74
 Chapter 6: Fixed Route Service Alternatives.....	 77
Introduction	77
Near-Term Service Scenario with Microtransit Services	77

Near-Term Service with Fixed Route Service Only	93
Mid-Term Service Scenario	101
Chapter 7: Span of Service Alternatives	105
Chapter 8: Paratransit Service Alternatives	111
Introduction	111
Expand Paratransit Service Area	111
Replace Gridley Golden Feather Flyer Program with B-Line Paratransit Service	112
Chapter 9: Capital Considerations	113
Plan Capital Requirements	113
Chapter 10: Fare Alternatives.....	123
Introduction	123
Zero Fare Transit	123
Increasing Eligibility for Discounts or Free Fare.....	127
Simplifying the B-Line Fare Structure.....	127
Chapter 11: B-Line Routing Plan	129
Introduction	129
Near-Term Plan	129
Mid-Term Service Plan	144
Capital Plan	144
Fare Plan	147
Chapter 12: Marketing the Routing Study.....	147
Introduction	147
Goals and Strategies	147
Overview of Strategies	147
Raising Community Awareness	148
Marketing Strategies	150
Marketing Timeline	152
<i>APPENDIX A: CENSUS DATA FROM THE POST-CAMPFIRE STUDY</i>	
<i>APPENDIX B: ROUTE PROFILES</i>	
<i>APPENDIX C: OPERATIONAL AND RIDERSHIP DETAIL</i>	
<i>APPENDIX D: ONBOARD SURVEY RESULTS</i>	
<i>APPENDIX E: ON-TIME PERFORMANCE</i>	
<i>APPENDIX F: PROPOSED ELIMINATED STOPS</i>	
<i>APPENDIX G: PUBLIC WORKSHOP SUMMARY</i>	
<i>APPENDIX H: MARKETING PLAN SAMPLE MATERIALS</i>	
<i>APPENDIX I: MARKETING PLAN CONTACT LIST</i>	

LIST OF TABLES

<i>TABLES</i>	<i>PAGE</i>
Table 1: NEMT Survey Results—Residence Vs. Primary NEMT Destination	2
Table 2: Butte County Population Trends and Forecasts	12
Table 3: Butte County Demographics - 2020	15
Table 4: Summary of B-Line Services and Frequency	24
Table 5: Average Daily Transfers	29
Table 6: B-Line Travel Times, Transfer Requirements, and Service Headways—Chico	31
Table 7: B-Line Travel Times, Transfer Requirements, and Service Headways—Oroville	31
Table 8: Comparison of Transit and Auto Travel Times in Chico	32
Table 9: Comparison of Transit and Auto Travel Times in Chico	33
Table 10: B-Line Fare Summary	35
Table 11: B-Line Operating Expenses and Revenues	43
Table 12: B-Line Route Performance	44
Table 13: Major Origin/Destination Pairs from Onboard Survey Results	51
Table 14: Amtrak San Joaquin Thruway Schedule	53
Table 15: B-Line Peak Load by Route	56
Table 16: Summary of B-Line On-Time Performance	58
Table 17: Top Boarding Locations	60
Table 18: B-Line Route Segment Analysis – Chico Routes	62
Table 19: B-Line Route Segment Analysis – Oroville & Intercommunity Routes	63
Table 20: B-Line Paratransit Annual Ridership by Month	72
Table 21: B-Line Paratransit Requested Trip Information	74
Table 22: B-Line Paratransit Performance	75
Table 23: Example Existing Microtransit Services in Similar Area	79
Table 24: Near Term Microtransit Scenario Impact on Chico Service Revenue Hours	84
Table 25: Near Term Microtransit Scenario Impact on Oroville Service Revenue Hours	88
Table 26: Near Term Microtransit Scenario Impact on Paradise/Magalia Service Revenue Hours	90
Table 27: Summary of Near Term Microtransit Scenario Impact on Revenue Hours	92
Table 28: Ridership Impacts – Near Term Scenario with Microtransit Service	94
Table 29: Near Term Fixed Route Scenario Impact on Paradise/Magalia Service Revenue Hours	98
Table 30: Summary of Near-Term Fixed Route Scenario Impact on Revenue Hours	98
Table 31: Ridership Impacts – Near Term Scenario with All Fixed Route Service	100
Table 32: Summary of Near-Term Scenarios	101
Table 33: Mid-Term Service Improvements Vehicle Revenue-Hours	102
Table 34: B-Line Span of Services Alternatives	106
Table 35: B-Line Span of Service Alternatives Performance Measures	108
Table 36: Gridley Golden Feather Flyer Performance Analysis	112
Table 37: Bus Stop Modification Costs	119
Table 38: Impact of Service Scenarios on Annualized Vehicle Costs	120
Table 39: B-Line Boardings by Fare Type	128
Table 40: Example Schedule – Oroville Fixed Routes	136
Table 41: Revised Route 40 Schedule	139

Table 42: Near Term Routing Plan Impact on Service Revenue Hours	142
Table 43: Ridership Impacts of Near-Term Routing Plan.....	143
Table 44: Summary of Near and Mid-Term Routing Plan Impact on Service Revenue Hours	145

LIST OF FIGURES

<i>FIGURES</i>	<i>PAGE</i>
Figure 1: Transit Ridership Potential	14
Figure 2: B-Line Transit Routes	22
Figure 3: B-Line Chico Transit Routes	23
Figure 4: B-Line Oroville Transit Routes	26
Figure 5: B-Line Paradise Area Transit Routes	27
Figure 6: B-Line Annual Ridership	37
Figure 7: B-Line Fixed Route Ridership by Month by Fiscal Year	37
Figure 8: Average Daily Ridership by Day of the Week.....	38
Figure 9: B-Line Route Ridership Loss Over Pandemic Period.....	40
Figure 10: B-Line Fixed Route Ridership by Month by Service	41
Figure 11: Zones for Chico Onboard Survey Respondent Trip Origin/Destination Analysis	50
Figure 12: B-Line Ontime Performance	59
Figure 13: Chico Area Route Segment Analysis	64
Figure 14: Oroville Area Route Segment Analysis.....	65
Figure 15: Paradise Area Route Segment Analysis	66
Figure 16: B-Line Paratransit Service Areas	70
Figure 17: B-Line Paratransit Ridership by Month and Year.....	72
Figure 18: Average Paratransit Passenger Trips per Day of the Week FY 21-22.....	73
Figure 19: Existing B-Line System Map in Chico	81
Figure 20: B-Line System Map in Chico – Near Term Microtransit Scenario	82
Figure 21: Existing B-Line System Map in Oroville.....	85
Figure 22: Oroville Microtransit Scenario Service Map	86
Figure 23: Paradise/Magalia Service Under Microtransit Scenario.....	89
Figure 24: Existing B-Line Intercity Routes and Potential Revisions.....	91
Figure 25: Paradise/Magalia Service under All Fixed Route Scenario	97
Figure 26: Mid-Term Service Improvements	103
Figure 27: B-Line Span of Service Alternatives – Operating Cost per Passenger Trip.....	109
Figure 28: B-Line Span of Service Alternatives –Passenger Trip per Service Hour	110
Figure 29: Proposed Added Bus Stops in Chico	114
Figure 30: Proposed Eliminated Stops in Chico	115
Figure 31: Proposed Added Stops in Oroville Area.....	116
Figure 32: Proposed Eliminated Stops in Oroville Area	117
Figure 33: Proposed Eliminated Stops in Magalia-Paradise Area.....	118
Figure 34: Chico Routing Plan	131
Figure 35: Oroville Routing Plan.....	135
Figure 36: Paradise/Magalia Routing Plan	138
Figure 37: Intercity Routing Plan.....	140
Figure 38: Mid-Term Routing Plan Enhancements	146

INTRODUCTION AND BACKGROUND

INTRODUCTION

As the owner and operator of Butte Regional Transit (B-Line), the Butte County Association of Governments (BCAG) is conducting a route optimization study, herein referred to as the B-Line Routing Study. This document is an updated service plan (including routes and schedules) for the B-Line system serving Butte County.

First, an overview of the study area is presented, with a focus on factors that impact the demand for transit services. This is followed by a detailed analysis of existing (and recent pre-pandemic) fixed route and paratransit services and ridership levels, including a performance analysis by route and by route segment. Results of an onboard passenger survey conducted in December 2021 are highlighted, followed by an overview of existing capital assets, marketing strategies, fare policies and financial resources. Existing services are reviewed, and key findings regarding existing conditions are presented.

Chapter 6 presents analyses of potential fixed route and service modifications. Chapter 7 presents analysis of alternatives to the span of service. Chapter 8 presents analysis of paratransit service alternatives. Finally, Chapter 9 pulls together the data and analysis presented in the preceding chapters to provide the comprehensive Routing Plan for B-Line in a concise format.

PURPOSE OF THE B-LINE ROUTING STUDY

B-Line routes were most comprehensively reviewed in 2010. In the intervening 13 years, there have been many changes that impact the need for transit services, as well as the environment in which services are provided, including the following:

- Changes in the region, such as growth in residential areas, changes in school attendance and programs, changes in employment and commuting patterns and changes in social service programs.
- The dramatic effects of recent wildfires, including the Camp Fire and Bear Fire, and subsequent redevelopment efforts in Paradise, Magalia, and other areas.
- The ongoing effects of the COVID-19 pandemic.
- Long-term societal trends, such as reductions in overall cost of auto use, that were reducing the demand for transit service even before the pandemic.
- Changes in transit services, such as the emergence of more flexible forms of transit including microtransit, as well as the increases in operating costs and new requirements for zero emission buses.

At a broader level, this study is intended to define how BCAG can best allocate the substantial resources (on the order of \$11 Million per year) spent on providing transit services so that the best possible use of funds is achieved, and the mobility needs of the diverse Butte County region are met.

This study will provide a thorough and comprehensive analysis of all aspects of B-Line operations to determine how best to improve the transit system with available resources.

RECENT STUDIES AND REPORTS RELEVANT TO THE CURRENT EFFORT

There have been several recent (and some ongoing) studies and reviews that merit review and coordination with the Routing Study, as discussed below.

Non-Emergency Medical Transportation Study, 2022

BCAG recently completed a study of Non-Emergency Medical Transportation (NEMT) options for Butte County as a whole. This focuses on identifying options for residents that have non-emergency medical mobility needs that cannot be met by ADA or Dial-A-Ride services. The study yielded findings regarding the importance of transportation services with regards to healthcare access: a survey of 179 residents across the county indicates that 52 percent have missed a medical trip due to lack of transportation. Respondents indicate a need for expanded B-Line coverage to outlying areas, as well as increased frequency and the availability of ADA Paratransit service for intercity trips. One particularly useful result from this study to date is the survey results regarding resident location versus the most prevalent destination for medical services within Butte County, as shown in Table 1. As indicated, most residents travel primarily to non-emergency medical destinations within their own community. This also indicates that Paradise/Magalia residents travel either within Paradise or to Chico, Biggs residents travel to Chico, Gridley residents travel both to Chico and Oroville, and Berry Creek residents travel to Oroville.

To the degree that new strategies can reduce the need for traditional transit fixed route or paratransit services, the results of this study may impact the Routing Study, particularly in lower demand areas that are more difficult for traditional transit to effectively serve.

Table 1: NEMT Survey Results -- Residence Vs. Primary NEMT Destination								
Residence Location	Primary Destination for Non-Emergency Medical Trips							
	Chico	Oroville	Paradise	Outside Butte County	Chico	Oroville	Paradise	Outside Butte County
Berry Creek	0	11	0	0	0%	8%	0%	0%
Biggs	1	0	0	0	1%	0%	0%	0%
Butte Meadows	0	0	0	0	0%	0%	0%	0%
Butte Valley	0	0	0	0	0%	0%	0%	0%
Chico	48	1	2	1	33%	1%	1%	1%
Gridley	4	3	0	0	3%	2%	0%	0%
Magalia	3	0	9	0	2%	0%	6%	0%
Nord	1	0	0	0	1%	0%	0%	0%
Oroville	5	35	0	0	3%	24%	0%	0%
Palermo	0	1	0	0	0%	1%	0%	0%
Paradise	8	0	7	2	6%	0%	5%	1%
Thermalito	0	1	0	1	0%	1%	0%	1%
Yankee Hill	0	0	1	0	0%	0%	1%	0%
Total	70	52	19	4	48%	36%	13%	3%
<i>Source: Survey conducted by AMMA Consultants, March 2022.</i>								

Chico to Sacramento Inter-City Transit Strategic Plan, 2022

A study was completed in early 2022 regarding consolidation of the existing San Joaquin Joint Powers Authority “Amtrak Thruway” Route 3 service between Chico, Sacramento, and Stockton to B-Line operation to a Chico-Sacramento commuter service.

The recommended plan calls for a total of nine roundtrips per day between Chico and Sacramento, with some runs extending to/from Stockton. Stops would be served at the Chico Amtrak Station, Chico Transit Center, the Chico Park-and-Ride (SR 99 / SR 32), Oroville (3rd/Grand) as well as Marysville and downtown Sacramento. Fares would be consistent with existing B-Line Regional fares (\$2.40 for general public). As the schedule is designed for AM southbound and PM northbound commuters, it would be a viable option for commuting from Chico to Oroville, but with a first Chico arrival at 9:08 AM and a last Chico departure at 3:48 PM, it would not serve a full day work shift or student trip to Chico from Oroville. It would, however, provide a faster trip for travel between Chico and Oroville throughout the day as well as improved connections to Marysville and Sacramento.

The commuter service continues to be studied as part of the North Valley Passenger Rail Specific Plan¹ The commuter service would increase the need for local services in Oroville to provide connections to the transit stop at 3rd and Grand. It would also potentially reduce ridership on Route 20, though the fact that Route 20 serves many more stops in Oroville and in southern Chico would tend to reduce this impact. The Rail Study, being led by BCAG, is a multi-year study with initial commuter rail service planned for 2028.

The actual implementation date for the commuter bus service is currently uncertain, as it depends on other planning processes. For purposes of the Routing Study, this new service is assumed to not impact local ridership patterns or demand.

Zero Emission Bus Rollout Plan, 2022

BCAG/B-Line staff prepared the Zero-Emission Bus Rollout, Implementation, and Operations Plan to demonstrate how B-Line will achieve a zero-emission fleet by 2040. The Plan guides B-Line's implementation of a zero-emission bus fleet and helps staff work through challenges and explore solutions. It identifies solutions related to zero-emission bus service, charging systems, scheduling and timing, routing, technologies, maintenance, and other necessary improvements needed to support zero-emission technologies.

Post-Camp Fire Regional Population and Transportation Study, 2021

The Post-Camp Fire Regional Population and Transportation Study was completed in April 2021 to address transportation planning issues resulting from the Camp Fire. It included development of population forecasts (which are discussed in detail in the following chapter of this document), analysis of changes in travel patterns and travel forecasts, public input, and updates of the 2015 Butte County Transit and Non-Motorized Plan. Key near-term transit (by 2025) recommendations include:

¹ More information on the Rail Study can be found here: <http://www.bcag.org/Planning/North-Valley-Passenger-Rail-Strategic-Plan/index.html>

- Increased service on Routes 8 and 9 (student shuttles) in Chico.
- Expansion of hours of Chico route services to a consistent 6 AM to 8 PM span of service.
- Maximize service coverage in Oroville, within existing resources, focusing on persons most in need of transit service.
- This plan also includes a long-term (to 2045) service plan, with the following key elements:
 - Establishing a high-capacity transit corridor between North Valley Plaza, Chico State, Downtown, and the Chico Mall area.
 - Potential establishment of on-demand rideshare services (such as microtransit) to new service areas.
 - Provide intercity service to Sacramento.
 - Review bus stop location, with a focus on reducing close stops.

2020 Regional Transportation Plan / Sustainable Communities Strategy

The “RTP/SCS,” adopted by BCAG, is a broad guiding document for regional transportation improvements throughout Butte County. Key policies regarding transit services consist of the following:

Goal: Provide an efficient, effective, coordinated regional transit system that increases mobility for urban and rural populations, including those located in disadvantaged areas of the region.

Objective 2.2: Increase transit ridership that exceeds annual population growth rate for Butte County.

With regards to transit services the RTP/SCS cites the *2015 Transit and Non-Motorized Plan* (TNMP). The TNMP was subsequently updated in 2021. In the near-term, it calls for evaluation of alternatives to fixed route service (such as microtransit), reduced number of stops and improvements to the North Valley Plaza transfer center. More long-term, it calls for 15-minute service connecting North Valley Plaza in the north and Butte College Chico in the south via downtown, including transit signal priority, and limited stops. It also called for consideration of additional service on weekends. In addition, expanded service areas in southeast Chico are recommended along with modifications to Route 5, 7, 1, 2, 14 and 15.

The RTP/SCS also defines a series of three Transit Priority Project Areas within the Chico service area (Figure 4-6) based on the Butte County Transit and Non-Motorized Plan (see Chapter 8 – Non-Motorized Transportation). The three TPP areas are described below:

- A near-term corridor between the Downtown Chico Transit Center and the Butte College Chico Campus area (along B-Line Route 15)
- A mid-range corridor expanding north from the Chico Transit Center to the North Valley Plaza area (along Esplanade and East Avenue)
- Long-range additional corridors along East Avenue and Warner Street, pending increased development (or redevelopment) within the existing built-up areas. The new expanded corridors are included in the TNMP long-term plan.

These corridors are planned to be a focus of higher density (multifamily) residential areas as well as mixed use developments.

The 2024 RTP/SCS is underway, and updates can be found on the BCAG website at:

<http://www.bcag.org/Planning/RTP--SCS/2024-RTPSCS-Update/index.html>

BCAG FTA Triennial Review 2019

The Federal Transit Administration conducts audits on grantees on a triennial basis. BCAG staff is currently working with FTA and their auditors on the FY 2023 Triennial Review. The most recent audit before that was completed in December of 2019. Overall in 2019, BCAG received a good audit report, meeting requirements in 17 of 21 categories and subsequently making modifications to address deficiencies in the remaining 4 categories. These modifications consisted of changes in documentation of procurement processes, changes in contracting provisions, notifications to provide reasonable modifications to accommodate persons under the Americans with Disabilities Act, and changes in the paratransit eligibility appeals process. None of these deficiencies directly impact the service plan. This audit also noted that BCAG is intending to implement the Paradise Transit Center project within the following five years. Findings are detailed below.

- Between FY 2012/13 and FY 2017/18, total ridership fell by 17 percent while productivity (passenger-trips per vehicle service-hour) fell by 16 percent. Most of this drop in ridership occurred on the urban fixed-route mode.
- There is a need to redesign the Oroville routes to improve performance, as part of an overall, updated transit plan. (This has yet to occur and is an important goal of this current Routing Study.)
- B-Line is at risk of falling below the minimum 20 percent farebox recovery ratio (ratio of fare revenues to operating costs) for urban systems and the minimum 10 percent ratio for rural service. (Note that pandemic-related temporary changes in TDA currently have these requirements on-hold.)

TDA Triennial Performance Audit of the Butte County Association of Governments: FY 2018/19 – FY 2020/21

A Triennial Performance Audit is also a requirement under the California Transportation Development Act. The most recent such audit was completed in May 2022 for the three previous fiscal years. BCAG was found to be in compliance with all applicable elements, with the exception that a calculation of State Transit Assistance funding efficiency should be prepared as part of the TDA processes. In addition, the study includes recommendations to conduct a SRTP for the City of Gridley and to secure funding for a backup vehicle for Gridley.

Unmet Needs Hearing Findings (Annual Reports)

The TDA also requires an annual analysis of public input regarding “unmet needs” for public transit services. Minutes for five years (FY 2017/18 to 2021/22) were reviewed with regards to service-related issues, yielding the following public input. For each, the number of years that the specific request was made is identified (if more than one) and the unmet need determination identified:

- In Oroville, combine Routes 25 and 27 and have Routes 24 and 26 operate as separate routes, to reduce waiting time and improve on-time performance. (Four requests. Operational issue, not unmet need.)

- Replace flag stop areas with specific stops. (Three requests. Operational issue, not unmet need.)
- Adjust schedules on Routes 40 and 41 to improve service between Chico and Paradise. (Five requests. Not an unmet need as service is provided but should be considered as the population of Paradise grows.)
- Provide Sunday service in Chico. (Five requests. Found not to be reasonable to meet.)
- Provide Sunday service in Magalia. (Two requests. Found not to be reasonable to meet.)
- Provide Saturday service on Route 7 in Chico. (Two requests. Found not to be reasonable to meet.)
- Improve Saturday service in Oroville. (Five requests. Found not to be reasonable to meet.)
- Service to Hegan Lane Business Park and University Farm area. (Four requests. Found not to be reasonable to meet.)
- Consider additional stops, such as moving the Oroville Wal-Mart stop from the adjacent road into the parking lot. (Two requests. Found not to be an unmet need.)
- Resume Route 31 service between Paradise and Chico. (Service was cut after the Camp Fire. While it was found to not meet minimum farebox ratio, it should be reconsidered on an ongoing basis as population of Paradise rebounds.)
- Service between Chico and Sacramento. (Found not to be reasonable to meet as it extends outside of Butte County. Note the more recent specific study on this corridor.)
- Direct service between Oroville and the North County Courthouse in Chico. (Two requests. Not an unmet need, as service is currently available. However, transfer timing should be reviewed to speed this specific trip if possible.)
- Provide stop at 11th/Ivy in Chico. (Two requests. Not an unmet need, as there is a stop within a ¼ mile walk.)
- Provide later service in Chico. (Found not to be reasonable to meet.)
- Provide later Saturday service in Chico. (Two requests. Found not to be reasonable to meet.)
- Provide later service in Oroville. (Three requests. Found not to be reasonable to meet.)
- Provide service to the Chico Airport. (Two requests. Found not to be reasonable to meet: however, it should be noted service to the airport was implemented outside of the UTN process.)
- More frequent service to/from Magalia. (Two requests. Found not to be an unmet transit need. Note this request was made prior to the Camp Fire.)
- Later service between Chico and Paradise. (Two requests. Found not to be reasonable to meet.)

Additionally, unmet needs for Fiscal Year 2022/23 and 2023/24 were reviewed, with all requests found “not reasonable to meet.” However, specific comments included the following:

- Adjust Route 5 to service the VA Clinic and courthouse. Service is only a few times a day on Route 7 and this area could be better served by Route 5.

- Several requests for additional stops along current routes were received.
- In Oroville combine routes 25 & 27 into a single route and have routes 24 and 26 each operate with on its own route. This would reduce the waiting time and help the on-time performance of the Oroville routes.
- Remove flag stop areas and place specific stops along those routes.
- Increase service along Eaton Rd, specifically at the intersection with Floral Ave.
- Add a route from downtown Chico to Doe Mill and Meriam Park neighborhoods.
- Would like earlier service from Biggs to Oroville to accommodate 8:00am work start times, and later return service from Oroville to Biggs for those same commuters.
- Would like more frequent service on highly used routes.
- Would like more consistent timetables for starting times on routes for predictability.
- Service to Sterling City.
- Reinstatement of service between Paradise and Oroville.

BACKGROUND REGARDING EXISTING NEEDS AND SERVICES

To provide a context for this report, the following are key findings regarding existing conditions, as discussed in detail in following chapters:

- The demographics of Butte County indicate a relatively high need for public transit, as the proportion of residents with characteristics that indicate a need for transit are high. Butte County residents with a mobility-related disability accounted for 17.0 percent, compared with a national average of 12.5 percent. Low-income residents make up 17.8 percent of regional residents, compared with 12.8 percent nationwide. Seniors 65 years of age and older are 18.2 percent of Butte County residents, compared with 16.0 percent nationwide. The presence of CSUC as well as Butte College also increases the demand for public transit services.
- The decline in ridership in recent years – even prior to the pandemic – is substantial. B-Line reached a peak annual ridership of 1,353,000 boardings in Fiscal Year (FY) 2012-13. Particularly starting in FY 2015-16, ridership pre-pandemic fell by 30 percent to a 2018-19 total of 944,531 in FY 2018-19 (the last full year prior to the pandemic, but also the year of the Camp Fire). This pattern tracks with transit ridership trends state- and nationwide. This drop was relatively low for the Oroville routes (22 percent drop) and the Chico routes (24 percent drop) and relatively high for the intercity routes (a 48 percent drop). Some of the intercity ridership decline was due to the Camp Fire in November 2018. However, even prior to the Camp Fire, ridership on the routes serving Paradise/Magalia (31, 40 and 41) dropped by 31 percent (for FY 2017/18).
- The pandemic has resulted in an additional reduction in ridership, both at B-Line and nationwide. At the start of the pandemic, ridership fell by up to 73 percent, particularly during the academic year, due to the loss of student ridership. This loss was seen across both Chico and Oroville/rural services. Since then, ridership has increased, but is still 47 percent below pre-pandemic levels on the rural services and 50 percent on the Chico services. Overall, current ridership is approximately 61 percent lower than the peak year of FY 2012/13.

- While ridership demand can be expected to increase somewhat as more activities resume, there is much evidence that historic ridership levels will not return in the foreseeable future (barring other factors such as continued high gas prices). In particular, the trend to hybrid or remote working has reduced the overall need for commuting on transit, as has growth in online classes. However, there are still very real needs for transit services in the region for the many residents for which private vehicles are not an option. B-Line services are also an important element of solving congestion and parking challenges, particularly on and around college campuses, and helping to attain regional sustainability goals. B-Line services need to be reconsidered to reflect the “new reality” of the region’s mobility needs. This includes a reassessment of what areas warrant transit service, and what type of service is most appropriate.
- The pandemic has also impacted the “productivity” of B-Line, as measured by the number of passengers boarding for every vehicle-hour of service. Prior to the pandemic in FY 2018/19 an average of 14.0 passengers were carried for every vehicle-hour, ranging from 15.2 for Chico routes to 11.6 for Intercity routes and 10.2 for Oroville routes. By FY 2020/21, these figures dropped to 5.8 for the Chico routes, 4.5 for the Intercity routes and 5.2 for the Oroville routes. The overall figure dropped to 5.4 in FY 2020/21 but has recovered somewhat to 7.2 for the first three months of 2022, which is just over half of the figure prior to the pandemic.
- Previous studies, such as the *Post Camp Fire Regional Population and Transportation Study* and the *2020 Sustainable Communities Strategy*, have identified long-term plans for significant transit expansion, such as high-frequency corridors. Given the declines in ridership demand discussed above, implementing costly new services is not viable in the short term (the next five years). Instead, the next phases of this study will focus on how best to use existing resources to serve current and foreseeable mobility needs. How short-term strategies can help implement longer-term plans, including provision for new housing that can expand the role of transit services in the long term, will still be a consideration.
- Onboard surveys indicate that:
 - Most B-Line passengers are dependent on the transit service for key mobility needs. 54 percent do not have a driver’s license, and fully 70 percent do not have a car available for their trip.
 - Passenger’s trip purposes are shopping and personal errands (31 percent), school (30 percent), work (25 percent), and other (14 percent).
 - Passengers have a very good overall opinion of B-Line service. On a scale of 1 (very poor) to 5 (excellent), fully 70 percent ranked B-Line as a 4 or 5. The highest rankings were for driver courtesy and the affordability of the service, while the lowest rankings were for bus stop amenities and signage.
 - Passengers would like to see more weekend service (in particular), better shelters, later service, and more frequent service.
- The current overall route structure in Chico serves the community well. However, there are some substantial neighborhoods that are not currently within a convenient (quarter mile) walking distance of a fixed route, including the following:
 - The northwest area bounded by 4th Street, Nord Avenue, East Avenue and Esplanade.

- The far northwest area north of East Avenue and west of Esplanade.
- The area east of Mangrove Avenue and west of Manzanita Avenue between E. 1st Avenue/Manzanita Avenue and Bidwell Creek.
- The area along both sides of E. Eaton Avenue east of Floral Avenue.
- The area east of Bruce Road and north of State Route 32.
- At the same time, there are some routes that duplicate service, such as Route 15 and Route 16 service along Esplanade. This may provide the opportunity to redesign some routes to expand the service area.
- Some portions of the existing Chico service area have very low productivity, e.g., along much of Route 7 in the eastern portion of Chico. Changes in service strategy warrant consideration.
- Intercommunity services are vital connections, particularly between Oroville and Chico (Route 20) and between Paradise/Magalia and Chico (Routes 40/41).
- Peak passenger loads are currently substantially lower than the bus capacity, due to the pandemic. As ridership resumes, peak loads will get closer to the bus seating capacity of 31 to 44 seats. It is also important to maintain some capacity to address the potential that sustained high gas prices and/or potential state requirements to provide fare-free transit could increase ridership. However, the use of smaller vehicles specifically for the Oroville service area (and potentially some other lower-ridership routes) can be considered.
- There is a core area of Oroville that has relatively high transit demand. However, current service strategies for outlying areas such as Olive Highway and Thermalito need to be reconsidered given the very low productivity.
- Route on-time performance needs to be improved. In Chico, Route 16 is five minutes or more late for 33 percent of its runs, followed by Route 9 which is late 32 percent of its runs. Three of the four local Oroville routes (Routes 25, 26 and 27) are late 40 percent or more of their runs. Other than Route 40, all the intercity routes have between 22 and 29 percent late runs.
- The B-Line fare structure is relatively complicated, with 24 individual types of fixed-route fares. Simplifying the fares would reduce administrative costs and make the service easier to understand and operate.
- Overall, the paratransit program is operating at appropriate performance levels. The productivity of the rural services is particularly good considering the challenges of serving large low-density areas.

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Chapter 2

COMMUNITY AND DEMOGRAPHIC OVERVIEW

INTRODUCTION

This chapter provides an overview of the transit environment in which B-Line operates. Because many recent plans conducted by BCAG include detailed evaluations of demographics of Butte County, this study references those plans rather than duplicating their efforts. In particular, the *Post-Camp Fire Regional Population and Transportation Study (2021)*, and the *Transit & Non-Motorized Plan (2021)* are cited, with minor updates as appropriate.

RECENT CHANGES TO POPULATION AND COMMUTING

In recent years, there have been multiple public health, socioeconomic, and environmental factors which have impacted the population of Butte County. It is important when planning for the future of public transit to consider how recent events have impacted the population in Butte County, and how these events will continue to influence growth trends in upcoming years.

In November 2018, the Camp Fire ripped through Butte County. The fire destroyed most of the Town of Paradise, and greatly impacted nearby small towns such as Magalia. In April 2021, BCAG released the *Post Camp Fire Regional Population and Transportation Study*. This study identified some of the effects the Camp Fire had on Butte County's population. As shown in Table 2, key findings included that the countywide population was expected to decrease until 2020, which was confirmed by data collected during the recent US Decennial Census (2020). In contrast to this recent trend of declining population, Butte County population was then projected to increase from 2020 to 2025, with an expected net two percent increase in the county population seven years after the Camp Fire. However, this data is contradicted by recent California Department of Finance (DOF) population estimates, which are also presented in Table 2. The DOF determined the countywide population in January 2022 decreased by 2.4 percent from that in January 2021, with the biggest decrease in Oroville (down 1,256 people or 6.2 percent) but an increase of 1,568 people (25 percent increase) in Paradise, and a 0.5 percent increase in Chico. Unincorporated Butte County experienced the greatest loss that year in numeric terms and percentagewise (5,634 people, or 8.2 percent).

Not long after the Camp Fire, in March 2020 the COVID-19 pandemic began greatly impacting daily life in the United States. In addition, the Bear Fire (North Complex) burned the unincorporated community of Berry Creek and surrounding communities in the summer of 2020, which is likely a contributing factor to the decreased population in the unincorporated portion of the county as shown in Table 2. (B-Line provided emergency evacuation as part of an agreement with the Butte County Sheriff's Office during the Camp and Bear Fires.)

Aside from wildfires, the pandemic greatly influenced travel patterns of residents as many people went from commuting daily to being remote workers, and as social service programs and other activities were suspended. As a component of the Chico to Sacramento Inter-City Transit Strategic Plan, LSC Transportation Consultants analyzed how the pandemic would impact transit demand in Butte County. Using the US Census Longitudinal Employer Household Dynamic Dataset, it was

estimated that in 2018 over two-thirds of employed Butte County residents commuted within the county, with most of the remainder commuting to further locations. Through public outreach related to the Chico to Sacramento Plan, it was determined in a May 2021 survey that only 14 percent of respondents expected to work from home, but by October 2021, over half of respondents anticipated regularly working from home. Survey respondents also indicated that they would be more likely to use public transit after the pandemic ends. As attitudes regarding work and the pandemic are rapidly changing, these estimates remain fluid. These data points indicate that commuters will not avoid transit use after the end of the pandemic, though the shift to more remote working will tend to reduce overall demand for commuting, including commuting by transit, by at least 7 percent.

Table 2: Butte County Population Trends and Forecasts

	2018	2020	2025	2030	2021	2022
Population Estimate						
Biggs	1,985	1,964	2,041	2,196	1,974	1,939
Chico	92,286	101,475	111,921	111,513	102,359	102,892
Gridley	6,863	7,421	7,332	8,085	7,413	7,205
Oroville	17,896	20,042	19,621	20,052	20,119	18,863
Paradise	26,256	4,764	14,101	18,867	6,137	7,705
Unincorporated	81,088	75,966	75,040	80,621	68,638	63,004
Total County	226,374	211,632	230,056	241,333	206,640	201,608
Numeric Change		Change from 2018			Change from 2021	
Biggs		-21	56	211	-35	
Chico		9,189	19,635	19,227	533	
Gridley		558	469	1,222	-208	
Oroville		2,146	1,725	2,156	-1,256	
Paradise		-21,492	-12,155	-7,389	1,568	
Unincorporated		-5,122	-6,048	-467	-5,634	
Total County		-14,742	3,682	14,959	-5,032	
Percentage Change		Change from 2018			Change from 2021	
Biggs		-1%	3%	10%	-1.8%	
Chico		10%	18%	17%	0.5%	
Gridley		8%	6%	17%	-2.8%	
Oroville		12%	9%	11%	-6.2%	
Paradise		-82%	-86%	-52%	25.5%	
Unincorporated		-6%	-8%	-1%	-8.2%	
Total County		-7%	2%	7%	-2.4%	
Post Camp Fire Study Estimates			California Department of Finance Estimates			

Sources: Post Camp Fire Regional Growth Forecasts, Fehr and Peers, Sept 2020 and California Department of Finance, June 2022

COMMUNITY / DEMOGRAPHIC OVERVIEW

Butte County is home to a diverse assortment of landscapes and communities, ranging from the urban neighborhoods of Chico to small mountain towns, such as Paradise and Berry Creek. Together, these communities comprise the greater Butte County population and influence travel patterns across the region. More detailed descriptions of the populations, locations, and communities that define Butte County are included below.

Demographics

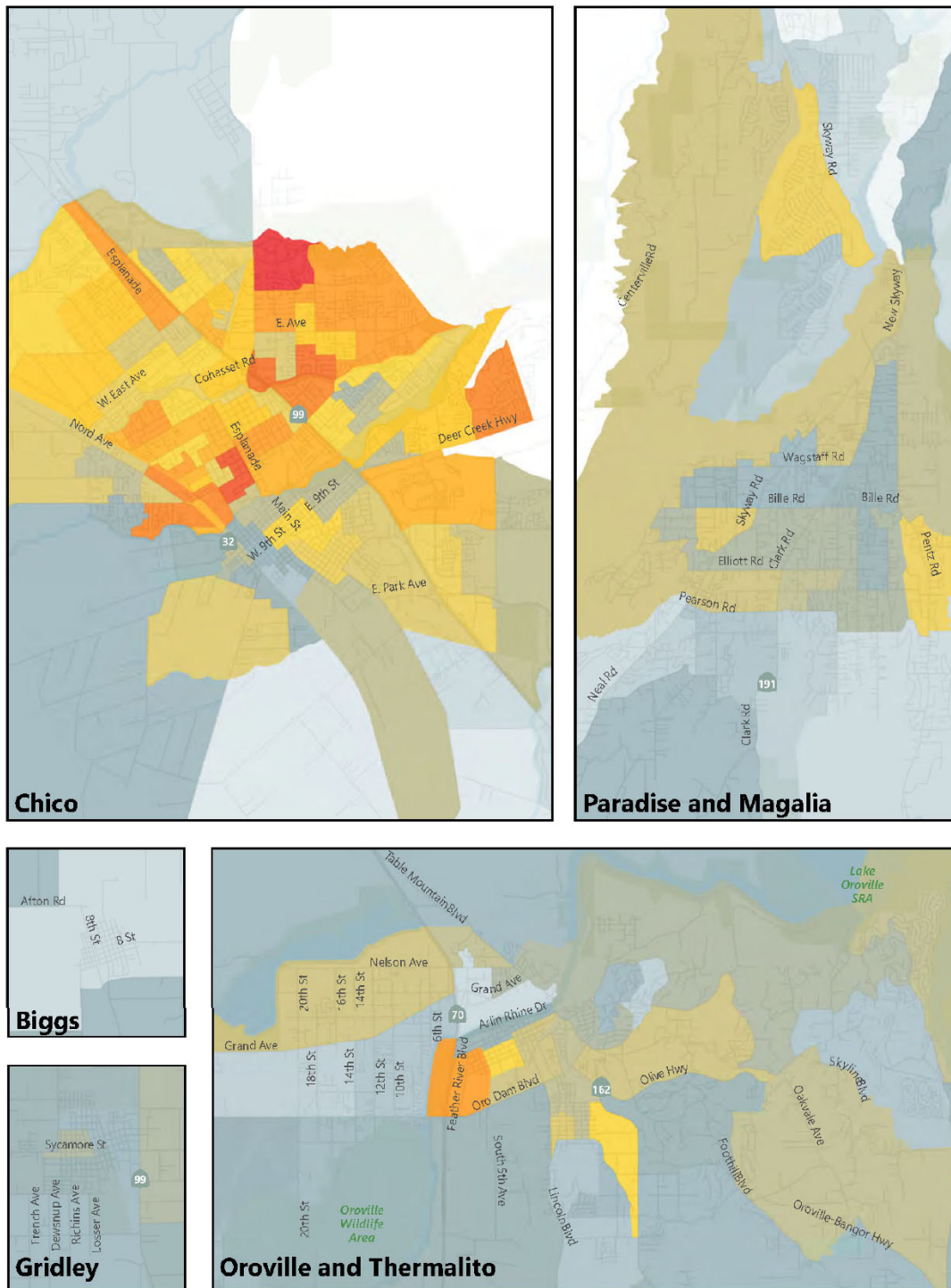
As previously discussed, and illustrated in Table 2, population trends are difficult to predict, and populations have fluctuated at unpredictable rates due to wildfires and the pandemic. Still, certain trends are consistent. Chico, with a population of 102,892 in January 2022, is currently the largest city within Butte County and accounts for 51% of the county's population. Oroville is the next largest with 18,863, or just under 10 percent of the county's population, and nearly a third (63,004) of the county's population lives in unincorporated areas of the county; the smaller, more rural areas, except for Paradise, are losing population, while Chico is expected to grow slowly.

While the DOF provides recent data on the overall population and population by age, the US Census provides better data for certain topics, including household data and other data that are particularly helpful in identifying potentially transit-dependent populations. The *Post Camp Fire Study* includes much of this data, which is highlighted in this report rather than being included in its entirety. Appendix A of this report includes a map developed for the *Post Camp Fire Study* that depicts the population density of different areas across Butte County, as well as a map of where there are high concentrations of employment opportunities. Table 3 presents the potentially transit dependent population in Butte County, with data from California and nationally for comparison.

Table 3 shows population groups that are often transit reliant, including youths, seniors, disabled individuals, low-income individuals, and households without a vehicle available (zero-vehicle households). Compared to the national average, and, even more so, compared to the State of California, Butte County has a smaller youth population and greater senior population. There is also a greater concentration of persons living in poverty, and people who identify themselves as having a disability. However, due to the rural nature of Butte County, there is a smaller percentage of households without a vehicle than in California or nationally.

Maps developed for the *Post Camp Fire Study* of where these transit dependent populations live relative to the B-Line service area are also included in Appendix A. Figure 1, sourced from this study, depicts transit ridership potential in the larger communities across Butte County as determined through Fehr and Peers' analysis of census demographic data. The greatest transit ridership potential is in Chico, specifically near Chico State/Downtown and the northeastern portion of the city. In Oroville, the area with the greatest transit ridership potential is along Feather River Boulevard.

Figure 1: Transit Ridership Potential



Source: Post-Camp Fire Regional Population and Transportation Study, 2021

Low High

Table 3: Butte County Demographics - 2020

	Butte County		California		United States	
	Number	% of Total	Number	% of Total	Number	% of Total
Residents	211,632	--	39,346,023	--	326,569,308	--
Households	83,879	--	13,103,114	--	122,354,219	--
Youth (Ages 0 -17)	42,538	20.1%	8,518,918	21.7%	73,296,738	22.4%
Seniors (Ages 65+)	38,517	18.2%	2,624,349	6.7%	52,362,817	16.0%
Low-Income	37,670	17.8%	4,853,434	12.3%	41,800,871	12.8%
Disabled	27,122	17.0%	4,146,951	10.5%	40,786,461	12.5%
Zero-Vehicle Households	13,968	6.6%	920,362	7.0%	10,344,521	8.5%
<i>Sources: American Community Survey 5-year Estimates, 2020; US Decennial Census</i>						

Major Activity Centers

Major activity centers are important to recognize as potential transit trip generators. Below is a discussion of major activity centers by type of activity, type of facility, and/or by group served.

Transportation Hubs

The B-Line Transit Center in Chico is located on W. 2nd Street between Normal and Salem Streets, on the north half of the block. Bus boarding areas are located on all three streets. The facility includes bus shelters, restrooms, and a staffed ticket office. Most local and intercity routes serve the Chico Transit Center.

There is also a B-Line Transit Center in Oroville, located on Spencer Street. The center has five bus loading bays, a parking shelter for passengers, and restrooms.

BCAG was recently awarded CRRSAA funds to construct a new transit center in Paradise at the intersection of Cedar and Almond. It is anticipated the construction will be completed in 2024.

Services for Persons with Disabilities

Butte-Glenn 211 and B-Line work together to connect Butte County residents with services that offer help, including transportation and access to health and human services. The Disability Action Center is a non-profit organization founded to meet the needs of disabled residents living in Northern California. The Disability Action Center's Chico office is located at 1161 East Avenue. The Arc of Butte County provides programming for disabled individuals to actively support their full participation in the community. The Arc of Butte County's office is located at 2030 Park Avenue in Chico. The Work Training Center also provides services to disabled individuals. The Work Training Center is located at 80 Independence Circle in Chico. There are other organizations and programs across Butte County intended to serve and assist disabled residents living in the area.

Senior Centers and Facilities

The Chico Area Recreation and Park District (CARD) offers events and programs for seniors, specifically at the Community Center located at 545 Vallombrosa Avenue and at the Lakeside Pavilion located at 2565 California Park Drive. Passages is a non-profit organization located at 25 Main Street, #202, in Chico, that offers resources and services to older adults and caregivers, including legal support, senior nutrition programs, and transportation services. Senior nutrition sites are located at the Lakeside Pavilion in Chico, the Feather River Senior Citizen Center in Oroville, and the Gridley Recreation Department. The Feather River Senior Citizen Center is located at 1335 Myers Street, Oroville, and offers programs for seniors in the area, including bingo nights.

Government and Social Services

Oroville is the county seat for Butte County, thereby housing many government offices. Numerous branch offices are in Chico as well. The Butte County Department of Employment and Social Services is located at 765 East Avenue in Chico and 78 Table Mountain Road in Oroville. The Community Action Agency of Butte County, Inc., the local community action program established in the wake of the Economic Opportunity Act (1964), manages the North State Food Bank and the Esplanade House, a supportive housing program. The Community Action Agency is located at 181 E. Shasta Avenue in Chico.

The Butte County Superior Court is located at 1 Court Street in Oroville, and the North County Courthouse is located at 1775 Concord Avenue in Chico. The Butte County Juvenile Hall is located at 41 County Center Drive in Oroville.

Education Centers

Butte County is home to California State University (CSUC, also referred to as Chico State), as well as Butte College (a community college), both of which are discussed further below. Chico State is in the downtown area of the city, with main offices at 400 West First Street. There are multiple Butte College locations in Butte County: the main campus is located at 3536 Butte Campus Drive in Oroville, there is a class center located at 2320 Forest Avenue in Chico, as well as other smaller class locations.

There are 14 school districts within Butte County, which together have 91 public schools and 18 charter schools. These schools are located across the county. There are three public high schools in Chico: Chico High School is located at 901 Esplanade, Fair View High School is located at 290 East Avenue, and Pleasant Valley High School is located at 1475 East Avenue. There are also three public high schools in Oroville: Las Plumas High School at 2380 Las Plumas Avenue, Oroville High School at 1535 Bridge Street, and Prospect High School at 2060 Second Street.

Medical Centers

There are two full-service hospitals and outpatient centers in Butte County to serve residents. Enloe Medical Center is the largest full-service hospital, with the main services located at 1531 Esplanade in Chico. Oroville Hospital is another full-service facility, located at 2767 Olive Highway in Oroville. Adventist Health Feather River is an outpatient facility located at 5125 Skyway Road in Paradise and

Orchard Hospital is located at 240 Spruce Street in Gridley. The Butte County Public Health Department is located at 202 Mira Loma Drive in Oroville.

Shopping and Commercial Centers

There are major shopping centers and commercial corridors across Butte County. Some of the more popular locations in Chico, the largest city in the county, include the Chico Marketplace, North Valley Plaza, and the Garden Walk. There are also shopping locations in Oroville, Paradise, Gridley, and the smaller towns of Butte County.

California State University Chico

The California State University Chico, or Chico State, generates approximately 30 percent of ridership on B-Line services. As of the Fall Term of 2022, there were 13,840 students enrolled at Chico State University, with most students enrolled full-time. Enrollment declined slightly over the last few years, from 17,019 students during the 2019 Fall Term. This decline is likely a result of the COVID-19 pandemic, as students' plans changed due to the challenges of remote learning and public health concerns. In upcoming years, it is expected that enrollment will likely rebound, and most instruction is expected to be in-person rather than remote.

Chico State does not provide its own transportation services, rather the school coordinates with B-Line to provide free transit to students. Currently, B-Line Routes 8, 9, and 9c serve Chico State. Students have expressed interest in expanding the service options for these three routes through public outreach opportunities. Chico State recently approved a 2030 Master Plan Report, in which the University outlines its goals to encourage more sustainable modes of transit and to improve facilities on campus. There are no planned changes likely to impact the relative number of people driving, walking, biking, or taking the bus to campus.

Butte College

Butte College is a community college primarily serving residents of Butte and Glenn Counties. Butte College has multiple facilities: The Main Campus is located at 3536 Butte Campus Drive in Oroville, the Chico Center is located at 2320 Forest Avenue in Chico, the Cosmetology and Barbering Center is at 2201 Pillsbury Road in Chico, and the Skyway Center is at 2480 Notre Dame Boulevard in Chico. There is also a location in Orland, Glenn County.

Prior to the COVID-19 pandemic, there were approximately 11,800 full-time students enrolled. Enrollment has declined in recent years due to the pandemic; as of Fall 2022 there were 10,238 student enrolled. Butte College has outlined a plan to return enrollment to pre-COVID levels by the 2024-25 school year. Classes are returning to in-person instruction, yet some classes will remain in a virtual format going forward, specifically at the Main Campus in Oroville. Butte College offers transportation services as discussed in Chapter 3.

DEVELOPMENTS, PROJECTS, AND ACTIVITIES RELEVANT TO THE ROUTING STUDY

It is important to determine which areas within a community generate demand for public transit services. Upcoming developments and plans that will be approved or completed in the near-term and which will potentially impact the need for transit services are discussed below.

City of Chico

The City of Chico is the largest community in Butte County, and subsequently has the most active development sites. Most new developments are occurring in eastern Chico due to a previously established growth boundary in the western region of the city. The City of Chico's Community Development Department and Planning Division maintains a map displaying where development activity is located that can be found on the official city website (included in Appendix A). Although Chico is not expected to grow exponentially, slow, and steady growth is expected in upcoming years.

In past years, the City of Chico has received a relatively equal amount of development proposals for multiple family units and for single family homes, but in recent years Planning Department staff have noticed an uptick in multi-family projects due to an influx of recovery money intended to provide relief to those impacted by the 2018 Camp Fire. Approximately 1,000 affordable housing units have either recently been constructed, are currently under construction or are going through the Planning Division's approval process as of November 2022. These units will be located at various sites around Chico; 160 units will be located on a new subdivision road off Bruce Road, 52 units will be located on Bruce Road, 464 units will be located on Native Oaks Road (near Bruce Road), 58 units will be located at 1297 Park Avenue, 101 units will be located at 1250 Notre Dame Boulevard, and there are a few other affordable housing projects across the city as well.

In 2021, the City of Chico approved an Update to its *Climate Action Plan* that outlines goals to reduce greenhouse gas emissions generated by the transportation sector by improving and promoting public transit services and through constructing active transportation infrastructure. Related to public transit and the B-Line, the Update details that service lines would need to be expanded, route speeds increased, new employer-trip reduction programs established, and public transit planning will be integrated with the new citywide Bike Plan. Although these goals clearly demonstrate Chico's desire to support and improve B-Line services within the city itself, to achieve these goals, extensive coordination with BCAG and B-Line staff will be required.

City of Oroville

The City of Oroville's Community Development Department and Planning Division reported that in 2022 there were 85 market-rate units and 317 affordable units under active construction in the City. Some of these project locations include Thermalito, Table Mountain Boulevard, and Mitchell Avenue. Other multiple-unit construction projects that have either been recently completed or are in the approval stages are in the northern portion of the City, north of the Feather River. Recent commercial development proposals have been concentrated along the Feather River Boulevard and State Route 162 corridor.

Town of Paradise

The Town of Paradise has experienced a rush of redevelopment proposals in the years following the Camp Fire. As of the summer of 2022, over 1,400 single-family homes had been rebuilt and nearly 2,400 building permits were either under review, under construction, or near completion. Some of the rebuild projects which advanced during 2022 included 76 1-bedroom apartments (48 affordable and 28 market-rate) and 44 condominiums. There are also two previous retirement homes, one at

5900 Canyon View Drive and the other at 1007 Buschmann Road, being converted into apartments, which once completed will result in 102 units between the two sites.

In the years after the Camp Fire, the mobile home park developer BoaVida Communities bought five burned parks in Paradise to refurbish and reopen, four of which have since been opened and now have spaces available for future residents. Once all five mobile home parks are developed, there will be 199 homes between the five locations. All five of these mobile home parks are in western Paradise, with three located south of Paradise High School and two located to the north.

There are four parcels located at 6900 Clark Road and 1633 Cypress Road that will be developed into a 120-unit affordable, multi-family development. Over time, it is expected that rebuild projects will continue to be initiated. The rebuilding process after the Camp Fire has been extensive and will continue to be an ongoing effort in Paradise during upcoming years.

City of Biggs

The City of Biggs has made it a priority to ensure housing security for its residents and to increase housing opportunities within the City's sphere of influence. City staff are updating the city's Housing Element, a plan that outlines the City's goals and priorities for housing residents for 8-year timespans. The goals of the previous Housing Element (2014-2022) included constructing new housing at a range of costs to meet the needs of both existing and future residents and to construct energy efficient housing. On a longer timescale, officials are developing the City of Biggs Annexation Plan. This plan would increase the City's sphere of influence by increasing the acreage within city limits from 414 acres to 934 acres, allowing for the potential development of approximately 2,380 new housing units.

Some development projects approved during 2022 were located at 509 E. Casey Street, 2891 Ninth Street, J Street, and 2959 11th Street. Most of these projects will be single-family residential developments. Commercial development is zoned for the blocks along B Street.

City of Gridley

The City of Gridley's 2030 General Plan defines where current development is located, and where future development will be directed. Gridley's Planned Growth Area is to the north of the city, in the area between the Cities of Biggs and Gridley. The Planned Growth Area is 1,200 acres, and will eventually include residential development as well as parks, public services, and commercial development. The city also hopes to promote the development of a mix of housing types in this area, as currently most of the city's housing stock consists of single-family dwellings. City officials estimate that full development will result in the construction of 3,850 to 4,700 housing units and over 3 million square feet of commercial buildings.

Although there has not been a significant amount of new development in Gridley in recent years, a review of Planning Commission agendas from the last two years reveals that most new subdivisions have been proposed to the north of Gridley, either in or near the Planned Growth Area. For instance, in 2022 a subdivision was proposed for this area that would result in the construction of 21 new single-family homes. Commercial development proposals have for now continued to be in the existing downtown area (along Magnolia and Sycamore Streets) or near Highway 99 (Fairview Drive and

Highway 99). The City of Gridley is expected to experience the greatest growth (33%) between 2018 and 2040 compared to any other city in Butte County.

Unincorporated Butte County

Development in unincorporated areas of Butte County is managed by the County's Planning Division. A recent project of note in unincorporated Butte County is the Tuscan Ridge subdivision. While construction has yet to begin, the project proposes a total of 165 single-family lots, each less than one acre in size. The Tuscan Ridge project site is located between Chico and Paradise off of Skyway Road. Another recent project is the proposed subdivision of a 160-acre parcel in southeastern Butte County off of La Porte Road into four single-family lots. This subdivision was approved, but no construction has been proposed so far.

It is important to determine which areas within a community generate demand for public transit services. Upcoming developments and plans that will be approved or completed in the near-term and which will potentially impact the need for transit services are discussed below.

EXISTING TRANSIT SERVICES IN BUTTE COUNTY

B-Line provides Butte County with regional transit consisting of local and intercity fixed routes and demand-response paratransit service. Service is operated in Chico, Gridley, Biggs, Oroville, the Town of Paradise, and portions of unincorporated Butte County from Monday through Saturday, while one route (Route 20 connecting Chico and Oroville) operates on Sunday. While this study focuses on B-Line's fixed route services, this chapter provides an overview of all transit services available in the region.

B-LINE ROUTES

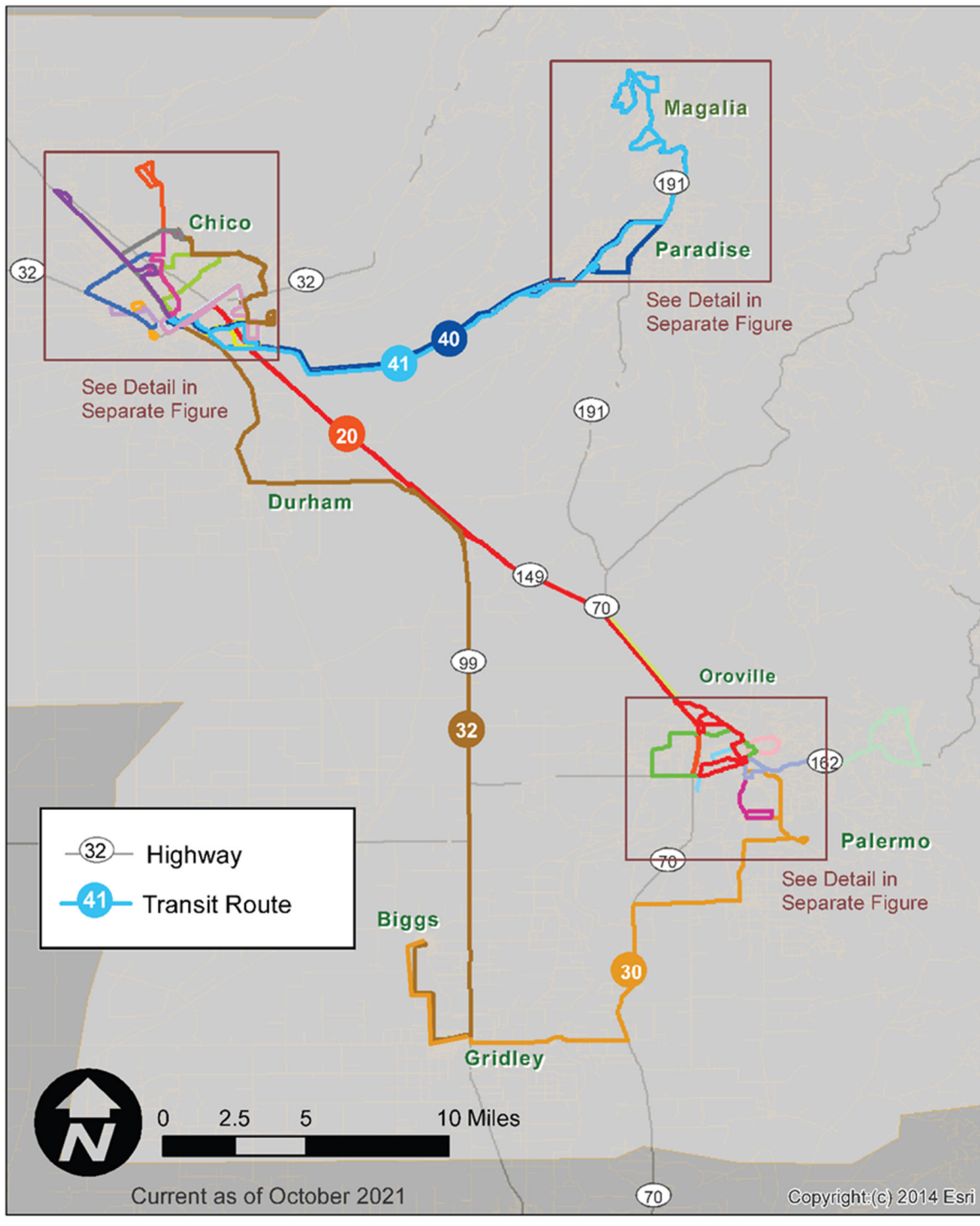
B-Line currently operates 21 fixed routes, consisting of twelve local Chico routes (including an airport route), four Oroville area routes, and five regional routes which serve both as intercity routes and local routes for smaller communities. Most routes operate Monday through Saturday, with Saturday service typically being a shorter span of service. Routes 8, 9 and 9c are also modified when Chico State is not in session. The B-Line routes are shown in Figure 2 and a summary of the route operations is presented in Table 4. Route profiles with an overview of offerings and performance are included in Appendix B, and services are further described below.

B-Line Chico Routes

The Chico Routes are shown in Figure 3, and described as follows:

- *Route 2: Mangrove* – Operates as an out (northbound) and back (southbound) route from the downtown transit center to Ceres/Lassen, Monday through Saturday. Primarily serves Mangrove Avenue and Cohasset Road. Interlines with Route 7.
- *Route 3: Nord/East* – An out (northwest and northeast) and back (southeast and southwest) route from downtown transit center to Ceres /Lassen, Monday through Saturday. Primarily serves Nord and East Avenues. Interlines with Route 4.
- *Route 4: First/East* – An out (northeast and west) and back (east and southwest) route from the downtown transit center to the North Valley Plaza transfer center, Monday through Saturday. Primarily serves First, Manzanita and East Avenues. Interlines with Route 3.
- *Route 5: E. 8th St.* – From downtown to the Forest/Chico Mall transfer center, Monday through Saturday. Primarily serves 8th Street and Forest Avenue outbound (eastbound) but returns on 9th Street inbound (westbound).
- *Route 7: Bruce/Manzanita* – Serves eastern Chico between the Chico Mall to Ceres/Lassen, Monday through Friday. Primarily serves East, Manzanita and Forest Avenues. Interlines with Route 2 weekdays.

**Figure 2:
B-Line Transit Routes**



**Figure 3:
B-Line Chico Transit Routes**



Table 4: Summary of B-Line Services and Frequency

Routes	Service Hours ¹				Service Frequency (Minutes) ²			
	Weekday Service		Weekend Service		Weekday Peak	Weekday	Service	
	Start	End	Start	End	AM PM	Off-Peak	Saturday	Sunday
Chico Routes								
Route 2	6:15 AM	8:34 PM	8:15 AM	7:00 PM	45 60	60	60	--
Route 3	6:18 AM	9:00 PM	8:50 AM	7:00 PM	45 60	60	60	--
Route 4	6:15 AM	9:00 PM	8:50 AM	7:00 PM	40 60	60	60	--
Route 5	6:15 AM	8:34 PM	8:15 AM	7:00 PM	60	60	60	--
Route 7	6:45 AM	5:30 PM	--	--	7.5 RT Daily	--	--	--
Route 8	7:34 AM	9:34 PM ³	--	--	30	35	--	--
Route 9	7:33 AM	10:01 PM	--	--	30	35	--	--
Route 9c ⁴	7:50 AM	8:24 PM	8:30 AM	6:24 PM	7 RT	--	5 RT	--
Route 14/17	6:24 AM	9:45 PM	7:30 AM	6:45 PM	20	30	60	--
Route 15	6:15 AM	9:34 PM	9:35 AM	4:30 PM	30	45	60	--
Route 16	6:55 AM	6:55 PM	7:55 AM	5:55 PM	60	60	60	--
Route 52	6:30 AM	5:40 PM	--	--	5 RT Daily	--	--	--
Intercity Routes								
Route 20	5:50 AM	8:00 PM	7:50 AM	6:00 PM	60 45	60 +	2 hr	2 hr
Route 30	7:45 AM	4:50 PM	8:47 AM	5:00 PM	3 RT	--	3 RT	--
Route 32	6:40 AM	6:20 PM	--	--	1 RT	--	--	--
Route 40	6:50 AM	7:20 PM	9:50 AM	6:00 PM	4 RT	--	3 RT	--
Route 41	6:35 AM	6:24 PM	9:45 AM	6:03 PM	5 RT	--	3 RT	--
Oroville Routes								
Route 24	6:34 AM	7:30 PM	--	--	60	60+	--	--
Route 25	6:12 AM	6:50 PM	--	--	60	60+	--	--
Route 26	6:33 AM	6:21 PM	--	--	60	60+	--	--
Route 27	7:10 AM	6:50 PM	--	--	60	60+	--	--
<p>Note 1: Summary accurate as of March, 2022</p> <p>Note 2: Service frequency represents an average frequency. Peak hours were 7 to 9 AM and 4 to 6 PM</p> <p>Note 3: Service ends at 4:04 PM on Fridays</p> <p>Note 4: Route 9c only operates when Route 9 is not in operation and CSUC classes are not in session.</p> <p>Source: B-Line/BCAG</p>								

- **Routes 8: Nord** – This student shuttle operates Monday through Friday (with reduced hours on Friday) from the downtown transit center to various student housing complexes near the CSUC campus. Operates only when the CSUC campus is in session. Interlines with Route 9.
- **Routes 9 and 9c: Oak/Warner/Cedar** – Also a student shuttle, this route operates Monday through Friday. Route 9 operates when CSUC is in session, and Route 9c operates a similar route when the CSUC is not in session. Interlines with Route 8.
- **Route 14: Park Forest/MLK JR.** – Operates as a loop from the downtown transit center to Forest Avenue transfer center. Outbound (southwest) primarily serves Park Avenue, 20th Street, and Forest Avenue, and inbound (northeast) primarily serves MLK Jr. Parkway, 20th Street and Park Avenue. Interlines with Route 15.
- **Route 15: Esplanade/Lassen** – Outbound (north/northeast) from the downtown transit center to Ceres/Lassen and inbound (southwest/south), Monday through Saturday. Primarily serves Esplanade and Lassen Avenue. Interlines with Route 14.

- *Route 16: Esplanade/SR 99* – An out (northbound) and back (southbound) route from the downtown transit center to Esplanade and State Route 99, Monday through Saturday, primarily serving Esplanade. Interlines with Route 17.
- *Route 17: Park/MLK/Forest* – A counterclockwise loop from the downtown transit center to the Chico Mall, Monday through Saturday. Primarily serves Park Avenue, 20th Street and MLK JR. Parkway and Skyway outbound, and Forest Avenue, 20th Street and Park Avenue inbound. Interlines with Route 16.
- *Route 52: Chico Airport Express* – Operates several morning and late afternoon express runs between the Chico downtown transit center and the airport, Monday through Friday. No longer serves Oroville.

B-Line Oroville Routes

The Oroville Routes are shown in Figure 4, and described as follows:

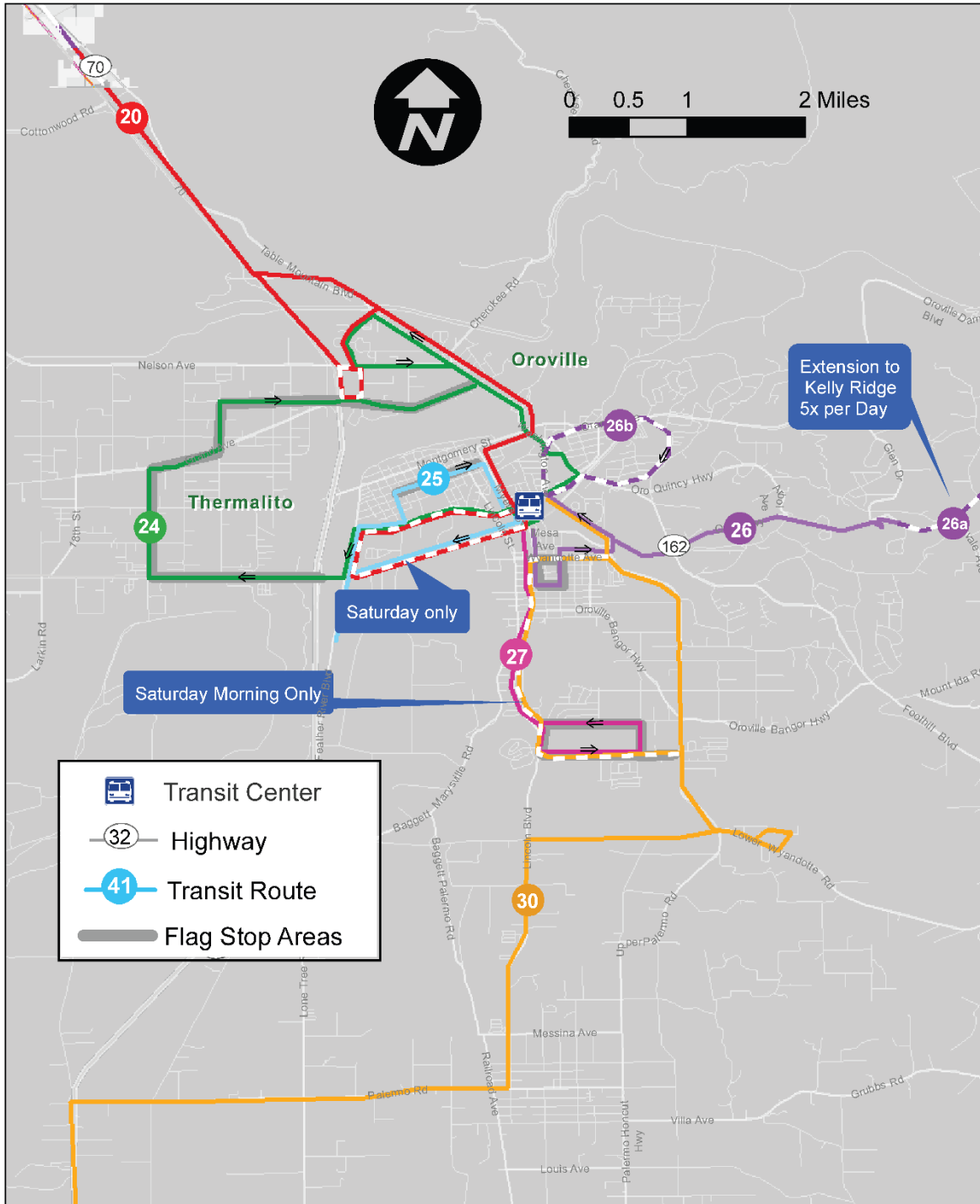
- *Route 24: Thermalito* – Operated as a large clockwise loop from the Oroville transit center through Thermalito, Monday through Friday. Interlines with Route 27.
- *Route 25: Oro Dam* – Operated as a clockwise loop through Oroville from the Oroville transit center, Monday through Friday. Primarily serves Oro Dam and Feather River Boulevards. Interlines with Route 26.
- *Route 26: Olive Highway* – Serves Oroville and Olive Highway, with alternate service to Kelly Ridge and Oroville Highway tied to school schedules. Interlines with Route 25.
- *Route 27: South Oroville* – Operates southbound from the Oroville transit center to South Oroville and Las Plumas high school via Lincoln Highway, Monday through Friday. Interlines with Route 24.

B-Line Regional / Intercity Routes

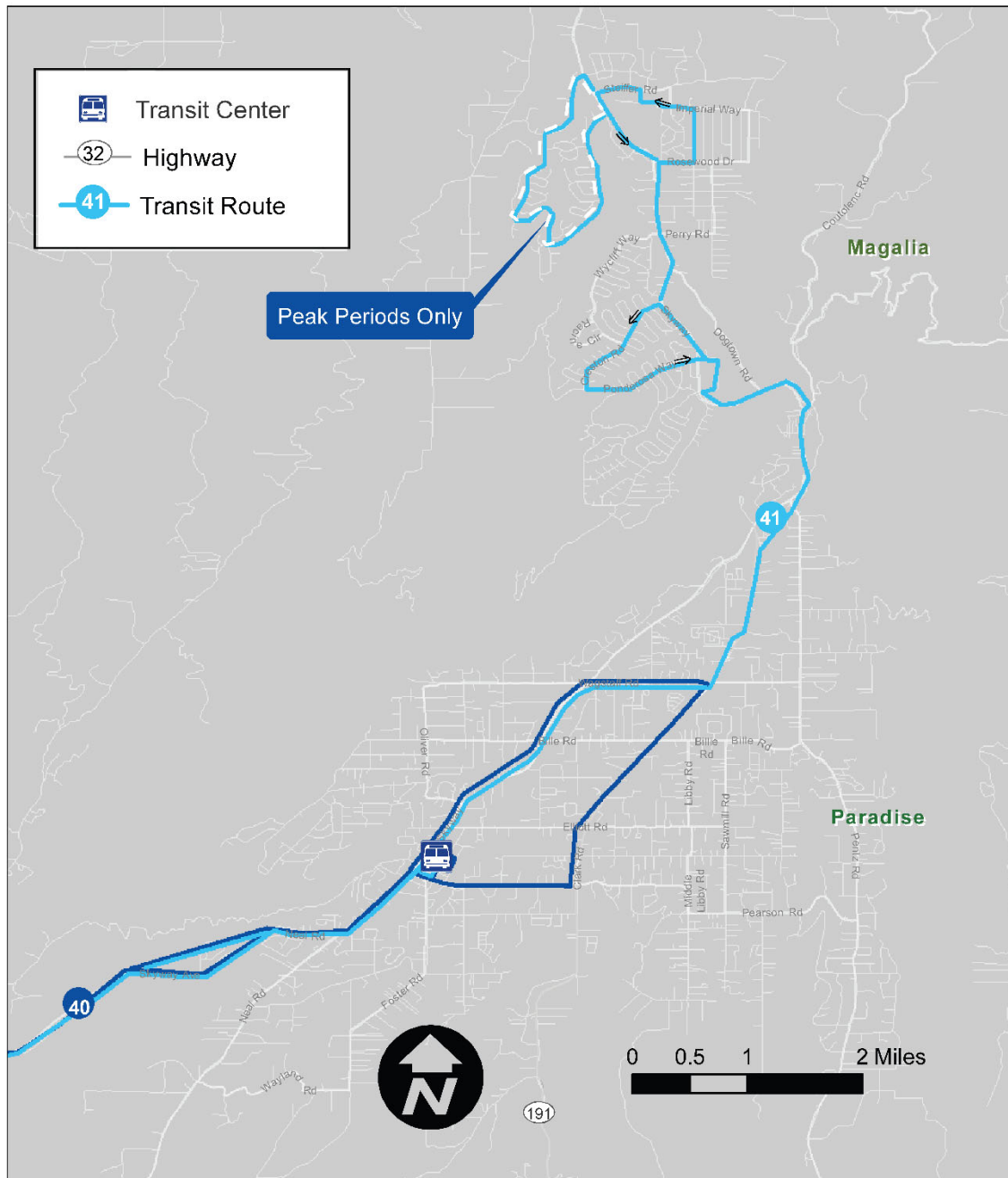
The regional routes double as intercity routes and local routes, typically providing a basic level of service in local communities as well as providing regional connectivity. The routes are depicted in Figure 4 and 5 and described as follows:

- *Route 20: Chico/Oroville* – During peak morning and afternoon periods, buses run hourly in both directions (southbound and northbound). In off-peak (8:50 AM to 2:40 PM) buses run every two hours, Monday through Friday. On Saturdays and Sundays, 5 runs are operated. This is the only route that operate on Sundays.
- *Route 30: Oroville/Biggs* – Southbound from the Oroville transit center to Gridley and Biggs, Monday through Friday. Serves Palermo and Robinson's Corner.
- *Route 32: Gridley/Chico* – A northbound morning run and southbound evening run between Biggs and the downtown Chico Transit Center, also serving Gridley and Durham. Operates Monday through Friday.

**Figure 4:
B-Line Oroville Transit Routes**



**Figure 5:
B-Line Paradise Area Transit Routes**



- *Route 40: Paradise/Chico* – Departs the Chico Transit Center eastbound, serves a clockwise loop in Paradise, then a counter-clockwise loop before returning to the downtown Chico Transit Center, Monday through Saturday.
- *Route 41: Magalia/Chico* – An out (eastbound) and back (westbound) route from the Chico Transit Center to Paradise and Magalia, operated Monday through Saturday.

Recent Changes to B-Line Services

The description of services presented above represents the current operations, but it is important to acknowledge recent changes to B-Line. Most changes were due to the Camp Fire of November 2018. Changes include:

- Route 31 (with one morning southbound Paradise to Oroville run and one evening northbound Oroville to Paradise run) was discontinued in December 2018.
- Routes 40 (Chico-Paradise) and 41 (Chico-Paradise-Magalia) were combined, with five round trips serving Chico, Paradise, and Magalia, and four only serving between Chico and Paradise on weekdays. On Saturdays, three eastbound and two westbound runs operate between Chico and Paradise. These modifications were also made in December 2018.
- Route 52 to the Airport: The morning and evening runs of this route between Chico and Oroville were discontinued, as was the noon-time loop to the airport. These changes were made just prior to and not related to COVID in response to low ridership and to make Route 52 an express route as described above.

While the COVID-19 pandemic has had an enormous impact on ridership, and the changes to B-Line have been relatively minor and include the following:

- Routes 8 and 9, both serving Chico State on weekdays while school is in session, saw reductions in service frequency, changing from 30-minute headways to 60-minute headways. This change took place on March 23, 2021, and lasted until April 20, 2021. At that point, Routes 8 and 9 were suspended for the remainder of the spring semester (four weeks). In August 2021, when students returned, B-Line resumed a normal schedule, despite a greatly reduced student population.
- Route 5 peak hour headways were increased from 30 minutes to 60 minutes so that the route is served on 60-minute headways throughout the day.

B-Line Transfer Opportunities

Transfer opportunities for B-Line are available at four locations within Chico, including 1) the Chico downtown transit center at Second and Salem, 2) the Ceres/Lassen transfer stop in north Chico, 3) the North Valley Plaza, and 4) the Forest Transfer Center across from Walmart. These locations are shown in Figure 3, above. Transfer opportunities are also available at the Oroville Transit Center, as shown in Figure 4, above.

Transfer opportunities at each of these locations include the following:

- *Chico Transit Center* – All Chico Routes except Route 7, plus Routes 20, 40, and 41

- *Ceres / Lassen Transfer Stop* – Chico Routes 2, 7, and 15
- *North Valley Plaza* – Chico Routes 2, 3, and 4
- *Forest Transfer Center* – Chico Routes 5 and 7, plus regional routes 20, 40, and 41.
- *Oroville Transit Center* – Oroville Routes 24, 25, 26, and 27, plus regional routes 20 and 30.

Passenger Transfer Analysis

A review of transfers between buses is useful in assessing how routes can best be scheduled to provide convenient multi-route trips. The automated farebox data was reviewed for the full month of February 2020 (pre-COVID). There are many various fare types (as discussed below). For pass users, data is only available for the route the pass was originally purchased on (which is not necessarily the actual route used on a specific day) and where it is used. However, single-ride passengers are provided with paper transfers that can be tracked for specific trips. This data was summarized for an average day, as shown in Table 5. Note that these figures represent the total number of passengers transferring in both directions. The analysis of transfer data indicates the following:

Table 5: Average Daily Transfers

Total Transfers in Both Directions Between Routes for February 2020

			Chico										Reg	Oroville					Regional				Chi
Between Route ↓ and Route →			3	4	5	7	8	9	14	15	16	17	20	24	25	26	27	30	32	40	41	52	
2	Chico	4	2	4	0	1	1	12	3	1	3	6	1	0	1	1	0	0	1	1	1		
3	Chico		1	4	0	0	0	9	2	1	2	3	1	0	1	1	0	0	1	1	1		
4	Chico			2	1	0	0	10	2	1	1	4	1	0	0	0	0	0	0	1	0		
5	Chico				1	0	1	4	3	1	2	2	0	0	0	0	0	0	0	0	1		
7	Chico					0	0	1	2	0	0	0	0	0	0	0	0	0	1	0	0		
8	Chico						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
9	Chico							1	1	0	1	1	0	0	0	0	0	0	0	0	0		
14	Chico								3	4	4	5	1	1	1	1	0	0	1	1	2		
15	Chico									2	2	6	1	0	0	0	0	0	0	1	1		
16	Chico										1	3	0	0	0	0	0	0	0	0	0		
17	Chico											2	0	0	0	0	0	0	0	0	0		
20	Regional												4	2	4	2	2	0	2	2	1		
24	Oroville													1	1	2	0	0	0	0	0		
25	Oroville														1	1	1	0	0	0	0		
26	Oroville															0	1	0	0	0	0		
27	Oroville																0	0	0	0	0		
30	Regional																	0	0	0	0		
32	Regional																		0	0	0		
40	Regional																				0		
41	Regional																				0		

Source: BCAG -- Transaction Pass Transferring Report for February 1 to February 29, 2020.

- For trips within Chico, the greatest transfers are to and from Route 14, which constitute 47 percent of transfers within Chico. Routes 2, 3, and 4 in particular generate a high number of transfers to/from Route 14. There are also a relatively high number of transfers between Routes 2, 3, 4, 5, and 15.
- Route 20 generates a relatively high number of transfers, totaling 50 per day. Most of these (69 percent) are to/from Chico routes (particularly Routes 2 and 7), while 23 percent are to/from Oroville routes and 8 percent are to/from other regional routes.
- Very few passengers transfer between the local Oroville routes (at least riding single fare). The greater pattern in Oroville is the transfers between the local routes and Route 20 to Chico.

B-Line Quality of Service

When evaluating a transit service, it is helpful to consider the travel experience from the perspective of the rider. There are three key trip characteristics that influence an individual's opinion of the bus ride: travel time, frequency of service, and the need to transfer between buses.

Travel times, service frequency, and transfers for six Chico and six Oroville bus stop locations (reflecting various service areas) were analyzed as shown in Tables 6 and 7. For each trip origin/destination pair, the existing schedules were used to identify the fastest travel time possible to complete the trip. Once it was determined which buses would provide the fastest travel between each origin/destination pair, the frequency of the buses and whether a transfer was required were recorded.

Note that for many trips, the actual travel times vary between individual trip-departure times, as someone may have to wait for a bus much longer if they leave at a different time. If a transfer is required to reach the destination, a 10-minute penalty was added to the overall travel time to reflect this inconvenience. Tables 6 and 7 present the fastest travel time between each location considered, assuming optimal conditions and no traffic. A review of the table indicates the following:

- Individual trip times range from as short as 6 minutes and up to 55 minutes.
- Trips which require a transfer take on average just over twice as long as those that do not require a transfer.
- Within Chico, the longest trips are between Butte College (Chico Campus) to Pleasant Valley High School.
- Within Oroville, trips take longest from Wal-Mart to Las Plumas High School (55 minutes, without a transfer, or slightly less time with a transfer). The trip is more direct in the opposite direction, requiring just 35 minutes.

Table 6: B-Line Travel Times, Transfer Requirements, and Service Headways - Chico

					26 to 39 Minute Frequency	40 - 60 Minute Frequency	More than 60 Minute Frequency
Travel Time in Minutes T = Transfer Required		Destination Stop					
		Chico Transit Center/Chico State	Nord/W. Sacramento	DMV	Lassen/Ceres	Pleasant Valley HS	Butte College Chico
Origin Stop	Chico Transit Center/Chico State		6	10	19	15	15
	Nord/W. Sacramento	7		29	46 T	31	42 T
	DMV	14	36 T		13	23	43
	Lassen/Ceres	20	40 T	11		8	34
	Pleasant Valley HS	19	35	23	10		54 T
	Butte College Chico	17	41 T	47 T	38	52 T	

Source: LSC Transportation Consultants, Inc. (based on published schedules and Google Maps).

Table 7: B-Line Travel Times, Transfer Requirements, and Service Headways - Oroville

					40 - 60 Minute Frequency	More than 60 Minute Frequency	
Travel Time in Minutes T = Transfer Required		Destination Stop					
		Oroville Transit Center	Wal-Mart	Post Office (Robinson St)	County Center	Oroville HS	Las Plumas HS
Origin Stop	Chico Transit Center/Chico State		8	9	10	13	13
	Wal-Mart	14		15	32	44	55
	Post Office (Robinson St)	7	37 T		14	36 T	47 T
	County Center	10	50 T	14		12	28
	Oroville HS	8	28	17	17		21
	Las Plumas HS	12	35	26	42	52 T	

Source: LSC Transportation Consultants, Inc. (based on published schedules and Google Maps).

Comparison of Auto Travel Times to Transit Travel Times

Based on the travel time analysis above, auto travel times (as reported by Google Maps during typical, non-peak hours) were compared to transit travel times. The transit travel times (from Tables 6 and 7) were divided by the typical auto travel time to identify the ratio of transit/auto travel time, as shown in Table 8 (for Chico) and Table 9 (for Oroville). Lower ratios, such as the ratio of travel times between the Chico Downtown Transit Center and the DMV (which takes 1.4 times as long by bus compared to car), are preferred.

Higher ratios, such as between the DMV and the Chico campus of Butte College (5.2 times as long by bus) indicate such a trip is significantly more convenient by car than by transit.

Table 8: Comparison of Transit and Auto Travel Times in Chico

		LEGEND	Chico Transit Center/Chico State	Typical Auto Travel Times in Minutes (1)			
			1.5	Ratio of Transit Travel Time to Auto Travel Time			
		Destination Stop					
		Chico Transit Center/Chico State	Nord/ W. Sacramento	DMV	Lassen/Ceres	Pleasant Valley HS	Butte College Chico
Origin Stop	Chico Transit Center/Chico State		4	7	12	10	12
			1.5	1.4	1.6	1.5	1.3
	Nord/ W. Sacramento	4		6	12	11	13
		1.8		4.8	3.8	2.8	3.2
	DMV	7	7		6	7	10
		2.0	5.1		2.2	3.3	4.3
	Lassen/Ceres	12	12	9		5	15
		1.7	3.3	1.2		1.6	2.3
	Pleasant Valley HS	11	10	7	6		12
		1.7	3.5	3.3	1.7		4.5
	Butte College Chico	12	12	9	11	11	
		1.4	3.4	5.2	3.5	4.7	

Source: LSC Transportation Consultants, Inc. (based on published schedules and Google Maps).

Table 9: Comparison of Transit and Auto Travel Times in Chico

			LEGEND	Oroville Transit Center	Typical Auto Travel Times in Minutes (1)		
				1.1	Ratio of Transit Travel Time to Auto Travel Time		
			Destination Stop				
		Oroville Transit Center	Wal-Mart	Post Office (Robinson St)	County Center	Oroville HS	Las Plumas HS
Origin Stop	Oroville Transit Center		7	3	6	3	7
			1.1	3.0	1.7	4.3	1.9
	Wal-Mart	6		6	6	9	9
		2.3	0	2.5	5.3	4.9	6.1
	Post Office (Robinson St)	4	6		6	4	7
		1.8	6.2		2.3	9.0	6.7
	County Center	7	7	7		7	14
		1.4	7.1	2.0		1.7	2.0
	Oroville HS	3	9	4	6		10
		2.7	3.1	4.3	2.8		2.1
	Las Plumas HS	7	10	8	12	10	
		1.7	3.5	3.3	3.5	5.2	

Source: LSC Transportation Consultants, Inc. (based on published schedules and Google Maps).

B-Line Vehicle Utilization by Time of Day

B-Line fixed route service requires between 4 and 23 vehicles in service on weekdays, and one to 14 vehicles in service on Saturdays. A vehicle utilization chart is included in Appendix C.

B-Line Driver Shifts

Driver shifts average 37.5 hours per week, ranging from 31.25 hours to 40.7 hours². Of 42 shifts on a typical weekday, approximately a quarter are split shifts, and the three-quarters are standard shifts. Drivers generally deadhead from the garage for the first run of the day, with 10 to 20 minutes required for most local routes to reach their first revenue stop in Chico, and 30 to 45 minutes for out of town or Oroville routes. Meal breaks are a minimum of 30 minutes and up to 65 minutes. During COVID, extra hours were assigned to cleaning vehicles. Staffing conventions appear to be standard for Paratransit.

² Based on driver a typical weekday derived from bid sheets for January 2021.

B-Line Interlining

As described earlier in this chapter, numerous routes are interlined, which can create greater utility for the transit operator in assigning drivers and buses to routes. Interlining can be particularly advantageous when routes are paired in which one route schedule is difficult to maintain while the paired route has ample time scheduled. Currently, interlined routes seem to primarily have similar on-time performance. For example, Routes 2 and 7 are late 10 to 11 percent of the time, and Routes 3 and 4 are late 23 to 25 percent of the time. However, there are a few exceptions. Route 16 is late 33 percent of the time while Route 17 is late 17 percent of the time, and Route 24 is late 33 percent of the time, while Route 27 is late 45 percent of the time. When revising future routes, it will be important to note the impacts on interlining on scheduling performance and ease of transferring.

B-LINE PARATRANSIT SERVICES

B-Line Paratransit is a shared ride service designed to meet the needs of seniors and persons with qualifying disabilities who are unable to use the B-Line fixed-route services. B-Line Paratransit is available in Chico, Oroville, and Paradise for local trips, but not for inter-city trips. B-Line offers two types of paratransit services:

1. ADA paratransit for individuals who cannot utilize the fixed-route system. They must receive Americans with Disabilities Act (ADA) certification to utilize this service. This certification ensures trips are given priority status.
2. Dial-a-Ride service for riders who are age 70 or older. Dial-a-Ride trips are not given priority status should individuals with ADA certification need the service.

B-Line Paratransit serves all destinations within $\frac{3}{4}$ of a mile of any B-Line fixed-route service. B-Line also provides supplemental service to areas up to three miles outside the ADA boundaries at an additional cost (given that there is a direct, easily accessible route from the core service area). All trips provided outside the core service area are considered non-ADA and are provided on a space available basis.

B-Line Paratransit operates between 5:50 AM and 10:00 PM on weekdays, 7:00 AM and 10:00 PM on Saturdays, and 7:50 AM and 6:00 PM on Sundays. The base fare for B-Line Paratransit is \$3.50 per one-way ride, with additional zone-based fares. B-Line Paratransit trips can be scheduled by calling into dispatch up to one week prior to the requested trip.

FARES AND FARE POLICIES

The B-Line has a complex system of fares, divided by type of service, type of rider, zone or region, and finally by type or number of rides. As shown in Table 10, fixed route fares are comprised of fare categories including regular fares, discount fares³ (available to seniors over 65, disabled and/or

³ Discount Fare Eligibility Cards were implemented in April 2022.

Table 10: B-Line Fare Summary

Fixed Route Fares		Fare Category	Local Service	Regional Service
One-way Fare		Regular	\$1.75	\$2.40
		Discount ¹	\$0.85	\$1.20
		Youth ²	\$1.25	\$1.75
		Child ³	2 free	2 free
2-Ride Pass		Regular	\$3.50	\$4.80
		Discount	\$1.70	\$2.40
		Youth	\$2.50	\$3.50
All-Day Pass		Regular	\$5.00	\$5.00
10-Ride Pass		Regular	\$15.75	\$21.60
		Discount	\$7.65	\$10.80
		Youth	\$11.25	\$15.75
30-Day Pass		Regular	\$43.50	\$57.50
		Discount	\$21.50	\$30.00
		Youth	\$31.25	\$40.00
Upgrade from Local to Regional Fare		Regular		\$0.65
		Discount		\$0.35
		Youth		\$0.50

Paratransit Fares				
One-way Fare	ADA Paratransit Service Area	Advanced Reservation		\$3.50
		Same Day Request		\$5.25
	Supplemental Zones	Zone 1		\$8.75
		Zone 2		\$10.75
		Zone 3		\$12.75
	2-Ride Pass		\$5.25	
\$25 Value Card		\$25.00		

Note 1: Seniors (65+), Disabled, and Medicare card holders are all eligible for discounted fares with supplemental verification (requires a discount fare eligibility card).

Note 2: Youth ages 6 to 18 are eligible for youth fare rate.

Note 3: Children 6 and under can ride free with a fare-paying adult.

Medicare card holders), youth fares (ages 6 to 18), and child fares (under 6 ride free with an adult). Base fares are \$1.75 for a one-way local trip and \$2.40 for a regional trip. Discounted fares are approximately a 50 percent reduction from regular fares, and multi-ride fares generally offer a moderate (20 percent or so) reduction from full price.

One-way paratransit fares are \$3.50 if made by advanced reservation, or \$5.25 for same day requests within the ADA paratransit service area. For service to outlying areas, one-way fares range from \$8.75 to \$12.75 depending on the zone. For convenience, passengers can purchase \$25.00 value cards. Token Transit also offers 10-ride paratransit passes.

Fares can be purchased on the Token Transit app, and in-person at the Chico Transit Center, BCAG office, in Oroville at Butte County Public Works, in Paradise at the Town Hall, and at the Gridley Town Hall. Day passes may be purchased on the buses. Passes can also be purchased by phone or by mail.

B-LINE RIDERSHIP ANALYSIS

B-Line Ridership characteristics are evaluated below, with additional detailed supporting tables and figures presented in Appendix C.

Historical Annual Ridership by Route

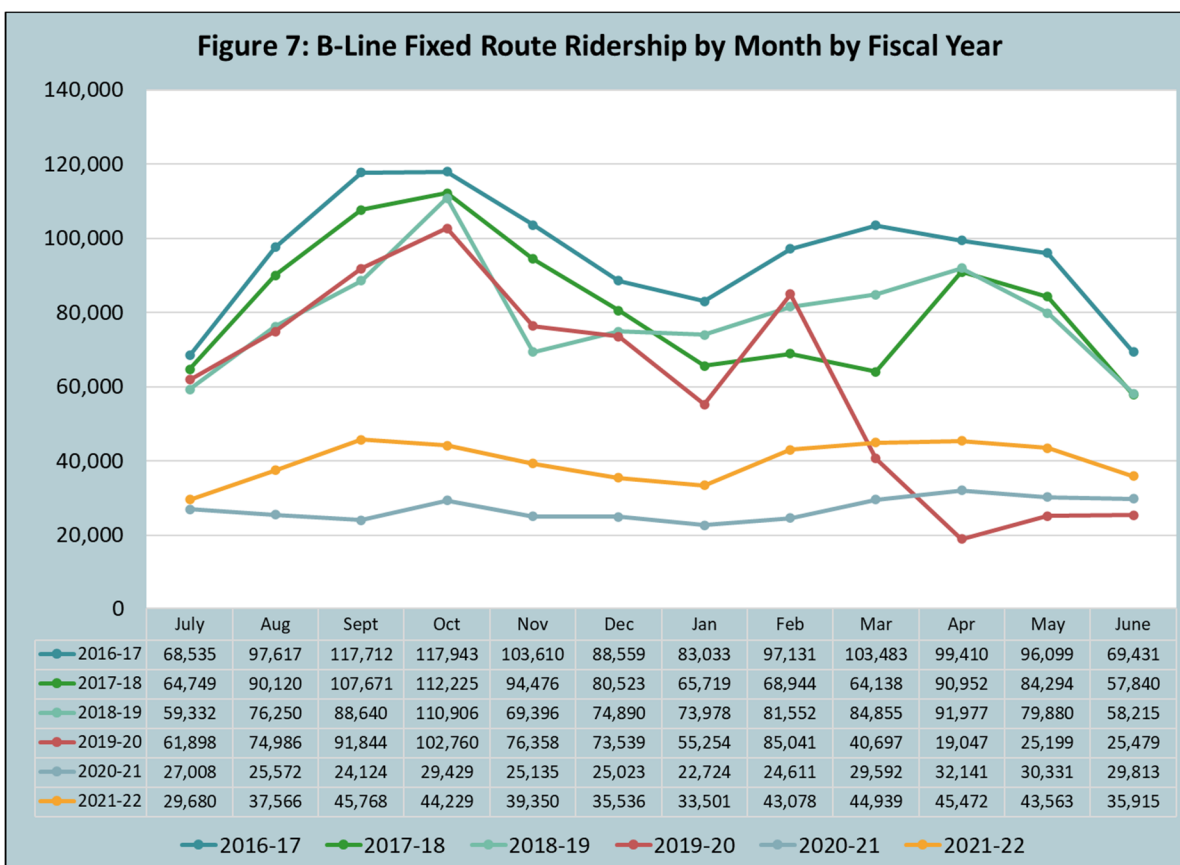
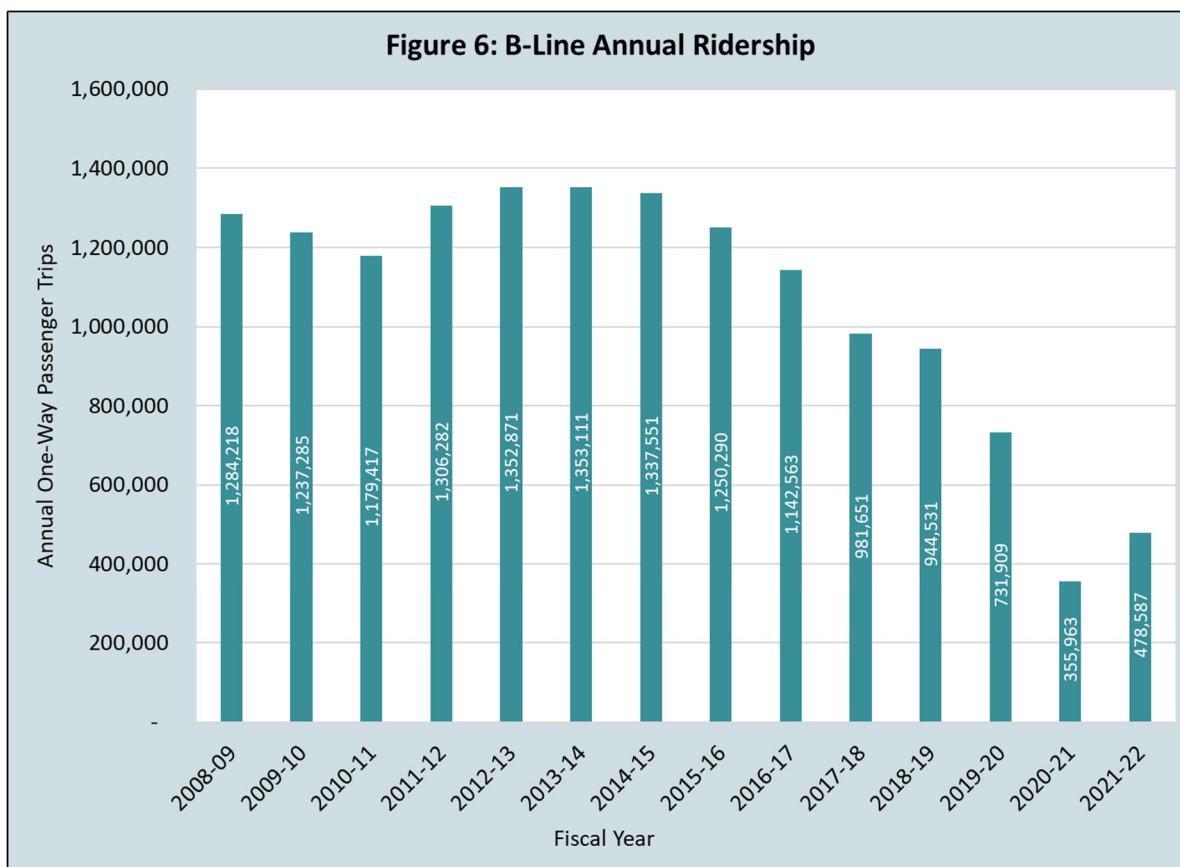
Ridership by route for the past thirteen fiscal years is depicted in Figure 6. As shown, annual ridership ranged from a high of 1,353,111 in FY 2013-14 and dropped to just 355,963 during the height of COVID in 2020-21, with some recovery shown in 2021-22 (478,587 trips). Even prior to COVID, however, ridership was declining. There was a 29 percent decrease in ridership in the five years from FY 2014-15 to FY 2018-19. Detailed ridership by route is included in Appendix C.

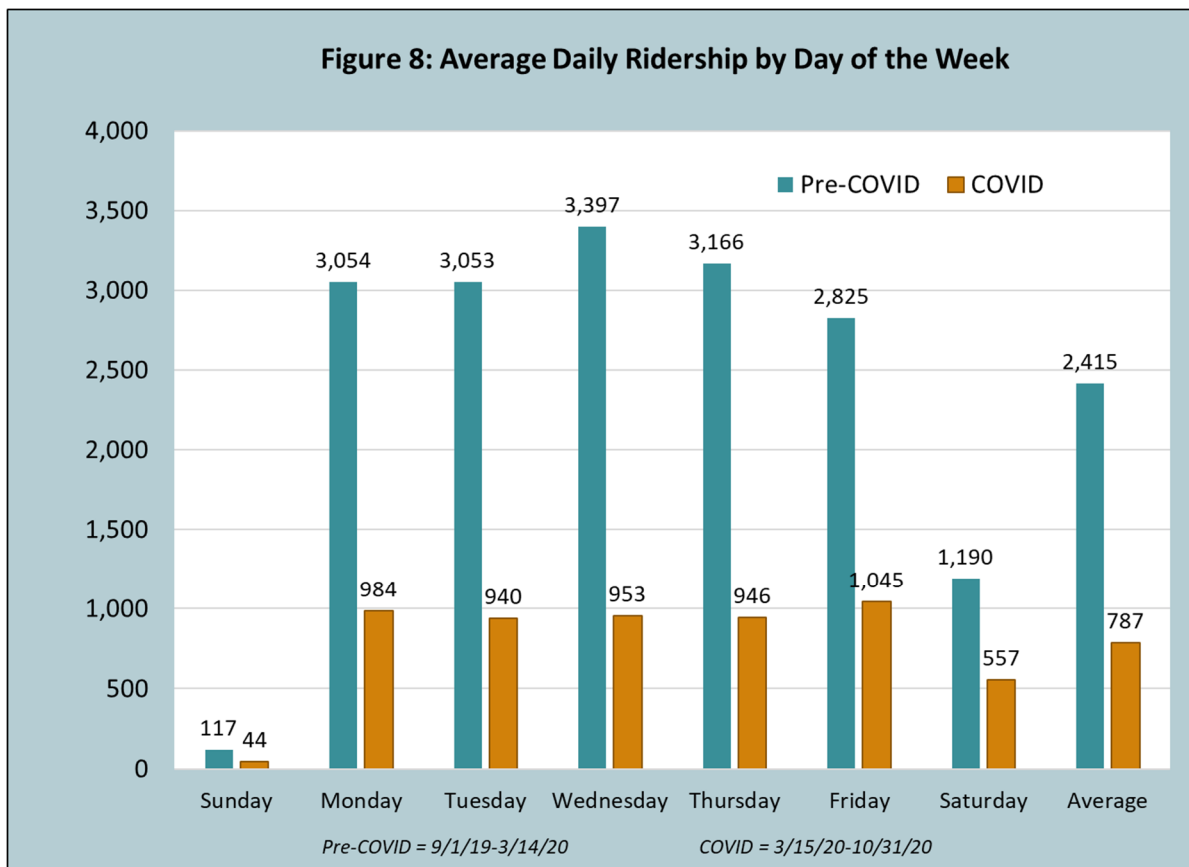
Annual Ridership by Month

Ridership by route by month is depicted for the past five years in Figure 7 (more detailed data for the past thirteen fiscal years is depicted in Appendix C). As shown, ridership has historically peaked in September and October as Chico State students begin the fall session (in August) and drop through the semester as students typically establish carpooling and other routines, with a decline over winter break, a spring increase, and then a sharp summer decline. Figure 7 also portrays the impact of COVID in March and April of 2021.

Annual Ridership by Day of the Week

Ridership by day of the week was reviewed for a pre-COVID period (September 1, 2019, to March 14, 2020) and during COVID (March 15 to October 2020), as shown in Figure 8. Pre-COVID, ridership was fairly even through the weekdays, with the highest weekday ridership on Wednesdays and lowest on Fridays. Saturday ridership averaged 38 percent of weekday ridership, and Sunday ridership, with extremely limited offerings, was less than one percent of weekly ridership. Once the pandemic began, ridership dropped by two-thirds, but there was some leveling off by day of the week as Saturday ridership averaged 57 percent of weekday ridership. More detailed ridership by weekday is included in Appendix C.





Ridership by Time of Day

Ridership by time of day by route was analyzed for October 2019, with detailed tables and figures presented in Appendix C. Weekday ridership had two peaks: one at 8:00 AM and one at 3:00 PM, likely reflecting of class schedules. Ridership was fairly even from 7:00 AM to 5:00 PM, with a lull at noon. Ridership dropped off sharply before 7:00 AM and after 5:00 PM.

Saturday ridership more than doubled between 7:00 AM and 8:00 AM (from 25 passenger trips to 98 passenger trips), increasing through the day from 127 passengers at 9:00 AM to 165 passengers at 4:00 PM, before dropping again to 95 passengers at 5:00 PM, and 51 passengers at 6:00 PM (the last hour of service).

Ridership by Fare Category

Boarding data by fare type from February 2020 (pre-COVID) was compared to boarding data from August 2021 (active, post-peak COVID). Similarly, revenue by fare type was evaluated for October 2018 versus October 2021 to compare pre-COVID and active COVID impacts. Data tables for this analysis are included in Appendix C. The top findings from the analysis indicate:

- Pre-COVID, only 21 percent of the 85,041 boardings were cash fares. During COVID, 41 percent of the 37,594 boardings were cash fares. While ridership dropped by 55 percent overall, cash fares changed very little—from 17,964 in February 2020 to 15,570 in August 2021.

- The biggest drop in fare type (numerically) was from the Chico State Wildcat ID cards, which accounted for 31,239 boardings pre-COVID, and 7,242 during COVID. Percentagewise, the biggest drop was the local two-ride pass, which accounted for 1,791 boardings pre-COVID, and just 200 post-COVID (a 75 percent decline).
- Other than cash fares and Wildcat ID cards, other types of fares dropped in proportion to the overall ridership reduction.
- Fare use estimated from Genfare reports indicate fare revenues of \$196,765 in October 2019, dropping to just \$18,482 in October 2021. The fixed route fares were \$84,697 and paratransit fares were \$112,070 in October 2019, but in October 2021, fixed route fare revenues were \$16,800, while paratransit fares were just \$682.⁴
- The 30-Day Regional Passes had the biggest loss of revenue with only \$3,308 in sales in October 2021 compared to \$31,292 sold in October 2018, representing an 89 percent reduction in revenue. This was followed by the reduction in local 30-day passes, which saw a drop from \$42,719 in 2018 compared to \$26,940 in 2021—a 37 percent reduction.
- There was an increase in the sales of Paratransit \$25.00 cards, from \$5,400 in 2018 to \$8,600 in 2021; however, the \$50.00 fare cards were discontinued in 2020 accounting for some of this difference.

In sum, the fare types responsible for the greatest proportion of revenues have consistently been the 30-Day passes, specifically the 30-Day Local passes (40 percent of October 2018 revenues and 50 percent of October 2021 revenues). Cash fares also represent a significant proportion of overall boardings. Additionally, the ongoing partnership between California State University Chico and B-Line that provides students and staff with Wildcat ID cards contributes a significant level of ridership and revenue.

Specific Analysis of Impact of COVID Pandemic on Ridership

To gain insight into the impacts of COVID-19, LSC conducted an analysis of ridership both pre-COVID and during COVID. Figure 9 depicts the drop in annual ridership by route from FY 2018-19 (pre-COVID) to FY 2020-21 (COVID). The chart shows both the total loss in ridership, as well as the percentage loss. For example, Routes 8 and 9 both had high ridership loss of over 64,000 trips each (equivalent to 88 and 93 percent of their ridership, respectively), while Route 32 lost 81 percent of its ridership, but this only equated to 4,135 passenger trips. The routes with the highest percentage of loss were Routes 8, 9, 32, and 40 (all over 80 percent), while only a few routes lost less than 50 percent of ridership (Oroville Routes 25, 26, 27, and 30, and Airport Express/Route 52).

This trend is depicted chronologically in Figure 10, which groups the Chico routes, Intercity routes, and Oroville routes, and shows the total ridership. The sharp decline in ridership in March 2020 on the Chico routes (and therefore systemwide) is very apparent. The graph also shows the slow recovery that is occurring.

⁴ Based on fares by passenger type keyed by drivers, not ticket sales. From B-Line monthly route summary reports.

Figure 9: B-Line Route Ridership Loss over Pandemic Period

Change From FY 2018/19 to FY 2020/21

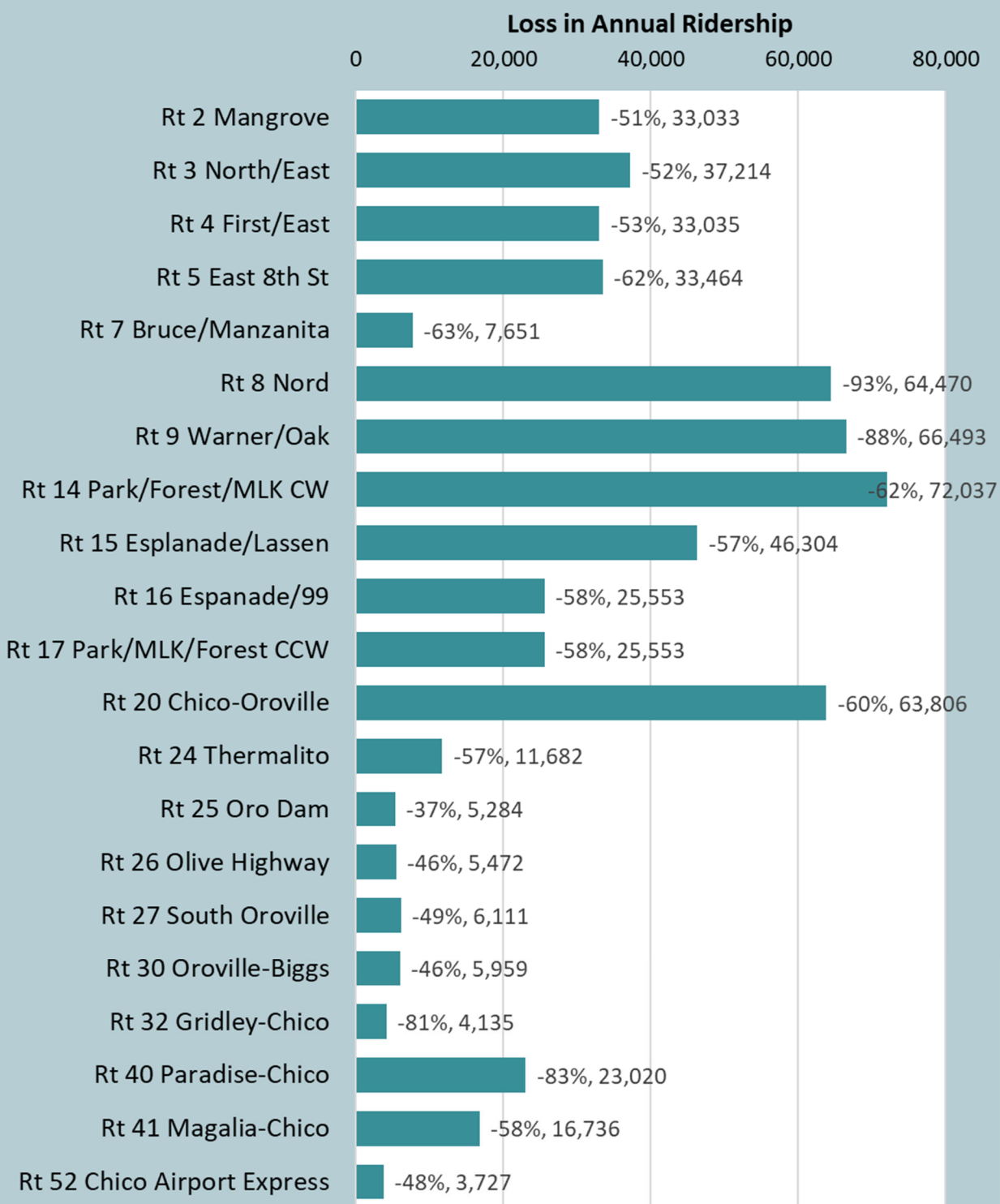
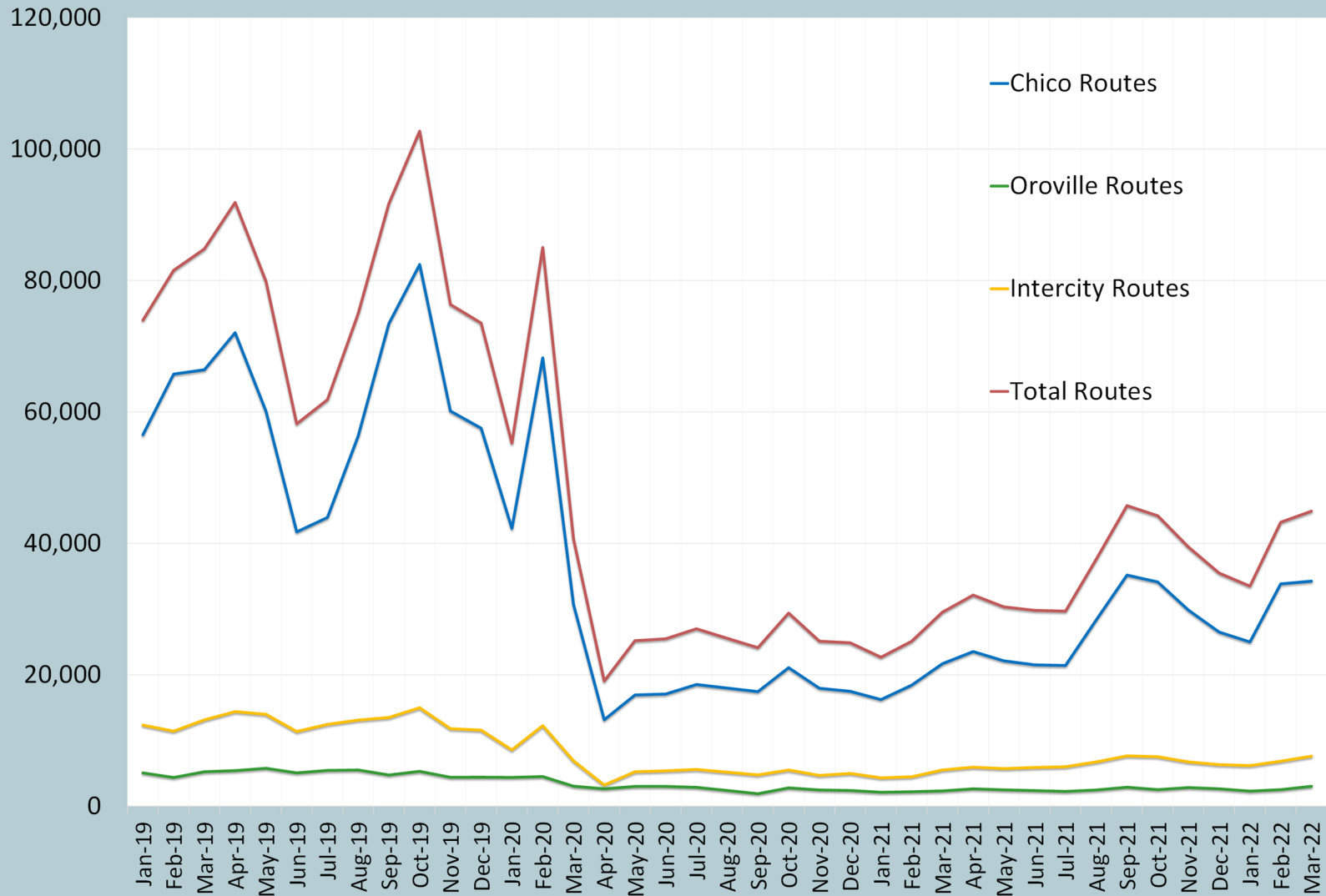


Figure 10: B-Line Fixed Route Ridership by Month by Service



B-LINE FINANCIAL ANALYSIS

The financial analysis for this study broadly reviews the operating costs and revenues of the public transit services, and not the administration costs of BCAG. The financial analysis focuses on the contract cost and potential impacts on these costs with service changes.

B-Line Expenses and Cost Allocation

B-Line operating budgets for fiscal years 2019-20 (actual) through 2022-23 (adopted) are shown in Table 11. Administration expenses, which cover items such as printing and signage, public outreach, software license and maintenance and support services, et cetera, account for between 7.4 to 8.6 percent of B-Line expenses annually, or \$753,000 on average. Operations and maintenance expenses were \$9.11 million in 2019-20, and are budgeted at \$10.4 million in 2022-23, in large part due to the increased contract cost, which has risen due to higher labor costs.

Table 11 also shows the operating parameters and cost factors which are used to determine costs. The contract is based on the maximum fixed route and paratransit hours for each year. For example, 67,392 fixed route hours and 37,000 paratransit hours were identified as the contract maximum in 2019-20 but have since been decreased to account for reduced ridership. The operating cost per service hour can be determined by applying the purchased transportation costs to the maximum service hours. Based on the contract maximum of 66,110 fixed route hours and 24,000 paratransit hours for 2022-23, the hourly costs for 2022-23 is calculated at \$88.86 in FY 2022/23 (increasing to \$94.72 in FY 2023/24).

B-Line Revenue Sources

B-Line operations are funded by a combination of state funds, federal funds, and fares. Prior to COVID, fares generated approximately \$1.5 million in revenues, which accounted for between 15 to 17 percent of operating revenues. Fare revenue dropped to \$1.3 million in FY 2019-20 (covering 14 percent of operating costs), and \$721,894 in FY 2020-21 (8 percent of operating costs), as shown in Table 11. Given the impacts of COVID-19, the B-Line budget assumes fare revenues will increase but continue to cover an estimated 8 percent of operating costs.

Transportation Development Act (TDA) funds, collected and administered by the State of California, generated between \$4.3 and \$5.0 million for transit operations pre-COVID (with additional funds going toward local jurisdictions for non-transit uses), but only \$2.6 million was used for B-Line in 2019-20 and \$3.2 million in 2020-21. The 2021-22 approved budget allocates \$6.5 million in TDA funds, and \$6.2 million was adopted for FY 2022-23, as also shown in Table 11.

Federal funds, primarily Federal Transit Administration's Urban 5311 grant funding program, generated between \$2.9 and \$3.3 million in operating revenues prior to COVID. During COVID, additional federal funds were made available through the Coronavirus Aid, Relief, and Economic Security Act (CARES Act) to support increased costs due to the pandemic. As shown in Table 11, \$5.8 million in federal funds were received in 2019-20 and \$5.5 million in 2020-21 (including additional COVID relief). The approved budget for 2021-22 had a decrease in federal funds, while the approved 2022-23 includes an increase in federal revenues.

Table 11: B-Line Operating Expenses and Revenues

B-Line Transit Expenses	Fiscal Years			
	2019/20 Actual	2020/21 Actual	2021/22 Approved	2022/23 Adopted
Administration Expense	\$703,515	\$673,986	\$738,248	\$896,646
Operations & Maintenance				
Communication	\$33,376	\$21,564	\$22,025	\$22,025
Fleet Insurance	\$376,580	\$405,017	\$428,434	\$428,434
Vehicle Maintenance	\$152,120	\$29,819	\$160,000	\$140,000
Maintenance Equipment	\$3,200	\$239,957	\$25,000	\$25,000
Purchased Transportation	\$7,129,146	\$6,935,999	\$7,762,812	\$8,007,513
Fuel	\$916,206	\$720,229	\$981,000	\$1,117,000
Transit Center Maint. - Chico/Oroville	\$172,371	\$204,976	\$204,000	\$215,000
Transit Kiosk Lease - Chico	\$7,500	\$6,000	\$6,000	\$6,000
Ops Facility Lease - to BRTC	\$20,821	\$20,821	\$20,821	\$20,821
BRT Facility Ops/Maintenance	\$306,082	\$270,951	\$375,350	\$429,350
Total Ops/Maintenance Expense	\$9,117,402	\$8,855,333	\$9,985,442	\$10,411,143
Appropriation for Contingencies	\$0	\$0	\$107,237	\$113,078
Total Operating Requirements	\$9,820,917	\$9,529,319	\$10,830,927	\$11,420,867
B-Line Transit Revenues				
Fixed Route Passenger Fares	\$1,067,423	\$589,126	\$693,070	\$780,416
Paratransit Fares	\$261,123	\$132,768	\$147,250	\$185,269
Total Operating Revenue	\$1,328,546	\$721,894	\$840,320	\$965,685
Non-Operating Revenues				
TDA	\$2,676,785	\$3,245,973	\$6,561,693	\$6,274,847
Federal / Other	\$5,815,586	\$5,561,452	\$3,428,914	\$4,180,335
Total Revenues	\$9,820,917	\$9,529,319	\$10,830,927	\$11,420,867
Operating Parameters & Cost Factors				
Fixed Route Vehicle Service Hours	67,382	64,793	64,793	66,110
Paratransit Vehicle Service Hours	37,000	30,400	33,000	24,000
Total Hours	104,382	95,193	97,793	90,110
Estimated Operating Cost per Hour				
Fixed Route Vehicle Service Hours	\$68.55	\$79.38	\$79.38	\$88.86
Paratransit Vehicle Service Hours	\$68.55	\$79.38	\$79.38	\$88.86
Source: BRT Annual Budgets				

B-LINE PERFORMANCE ANALYSIS

A performance analysis was conducted on B-Line routes for pre-COVID (FY 2018-19) and during COVID (FY 2020-21). Two key measures of transit performance are productivity (measured by the number of passengers carried per service hour) and effectiveness (measured by the marginal operating cost per passenger trip). This data is depicted in Table 12 and is discussed below.

Table 12: B-Line Route Performance

			Pre-COVID (FY 2018-19)				COVID (FY 2020-21)				CHANGE -- FY 18/19 to FY 20/21			
			Riders	Vehicle-Hrs	Productivity	Marginal Cost per Psgr	Riders	Vehicle-Hrs	Productivity	Marginal Cost per Psgr	Riders	Vehicle-Hrs	Productivity	Marginal Cost per
Chico	Route 2	Mangrove	65,289	4,385	14.9	\$4.10	32,256	4,432	7.3	\$9.79	-51%	1%	-51%	139%
	Route 3	North/East	71,282	4,404	16.2	\$3.78	34,068	4,427	7.7	\$9.26	-52%	1%	-52%	145%
	Route 4	First/East	62,110	5,076	12.2	\$4.99	29,075	5,084	5.7	\$12.46	-53%	0%	-53%	150%
	Route 5	East 8th St	53,552	5,206	10.3	\$5.94	20,088	4,063	4.9	\$14.42	-62%	-22%	-52%	143%
	Route 7	Bruce/Manzanita	12,163	1,842	6.6	\$9.25	4,512	1,849	2.4	\$29.21	-63%	0%	-63%	216%
	Route 8	Nord	69,345	1,449	47.9	\$1.28	4,875	1,032	4.7	\$15.09	-93%	-29%	-90%	1082%
	Route 9	Warner/Oak	75,876	2,604	29.1	\$2.10	9,383	1,929	4.9	\$14.66	-88%	-26%	-83%	599%
	Route 14	Park/Forest/MLK CW	115,965	6,291	18.4	\$3.31	43,928	6,313	7.0	\$10.24	-62%	0%	-62%	209%
	Route 15	Esplanade/Lassen	81,776	6,408	12.8	\$4.79	35,472	6,431	5.5	\$12.92	-57%	0%	-57%	170%
	Route 16	Espanade/99	44,199	3,391	13.0	\$4.69	18,646	3,547	5.3	\$13.56	-58%	5%	-60%	189%
	Route 17	Park/MLK/Forest CCW	44,199	3,292	13.4	\$4.55	18,646	3,251	5.7	\$12.43	-58%	-1%	-57%	173%
Inter	Route 20	Chico-Oroville	106,292	7,345	14.5	\$4.22	42,486	7,360	5.8	\$12.35	-60%	0%	-60%	192%
Oroville	Route 24	Thermalito	20,386	1,829	11.1	\$5.48	8,704	1,836	4.7	\$15.04	-57%	0%	-57%	174%
	Route 25	Oro Dam	14,322	1,041	13.8	\$4.44	9,038	1,046	8.6	\$8.25	-37%	0%	-37%	86%
	Route 26	Olive Highway	12,025	1,816	6.6	\$9.23	6,553	1,823	3.6	\$19.83	-46%	0%	-46%	115%
	Route 27	South Oroville	12,378	1,118	11.1	\$5.52	6,267	1,122	5.6	\$12.76	-49%	0%	-50%	131%
Intercommunity	Route 30	Oroville-Biggs	12,892	1,637	7.9	\$7.76	6,933	1,666	4.2	\$17.12	-46%	2%	-47%	121%
	Route 32	Gridley-Chico	5,114	508	10.1	\$6.07	979	510	1.9	\$37.13	-81%	0%	-81%	512%
	Route 40	Paradise-Chico	27,624	2,962	9.3	\$6.55	4,604	2,347	2.0	\$36.33	-83%	-21%	-79%	455%
	Route 41	Magalia-Chico	28,754	3,173	9.1	\$6.74	12,018	3,149	3.8	\$18.68	-58%	-1%	-58%	177%
Chico	Route 52	Chico Airport Express	7,826	1,791	4.4	\$13.98	4,099	1,525	2.7	\$26.52	-48%	-15%	-38%	90%
Subtotal: Chico			703,582	46,137	15.2	\$4.01	255,048	43,884	5.8	\$12.26	-64%	-5%	-62%	206%
Subtotal: Oroville			59,111	5,804	10.2	\$6.00	30,562	5,827	5.2	\$13.59	-48%	0%	-49%	126%
Subtotal: Inter			180,676	15,624	11.6	\$5.28	67,020	15,032	4.5	\$15.99	-63%	-4%	-61%	203%
TOTAL			943,369	67,565	14.0	\$4.38	352,630	64,742	5.4	\$13.09	-63%	-4%	-61%	199%

B-Line Productivity

Table 12 shows the passengers carried per service hour by route. Pre-COVID, 14.0 passengers were carried per service hour systemwide. The Chico routes were more productive, carrying 15.2 passengers per hour on average, while the Oroville routes carried 10.2 and intercity routes carried 11.6. The most productive route, by far, was Route 8, which averaged 47.9 passengers per hour, followed by Route 9 with 29.1 passengers. The least productive routes were Route 52 to the airport, with just 4.4 passengers per hour (the route also served Oroville at the time), followed by Routes 7 and 26, each of which carried 6.6 passengers per hour.

After COVID, productivity dropped to just 5.4 passengers per hour systemwide, with Route 25 being the most productive with 8.6 passengers per hour (down from 13.8 pre-COVID). Route 7 carried just 2.4 passengers per hour.

B-Line Effectiveness

The cost effectiveness of B-Line services was impacted by both a loss of ridership and an increase in cost. Pre-COVID, the contract cost was \$61.11 per service hour, which when applied to the hours of service and the riders per hour equated to a marginal cost per passenger trip of \$4.38. On longer routes with low ridership, the cost was highest—such as Route 52 (\$13.98 per passenger trip) and Routes 7 and 26 (\$9.25 and \$9.23, respectively). Routes 8, 9, 14, and 3 performed best, ranging between \$1.28 to \$3.78 per passenger trip.

In 2020-21, in addition to ridership dropping significantly, the contract cost per hour increased to \$71.28. The average cost per passenger trip was \$13.09—a tripling of the 2018-19 cost per passenger trip. Costs were as especially high on Route 32, Gridley-Chico (at \$37.13 per passenger carried) and Route 40, Paradise-Chico (\$36.33 per passenger carried). Even the most efficient Route 25 had a cost of \$8.25 per passenger trip.

B-LINE ASSETS

The assets needed to support the transit program include the maintenance and operations facility, fleet, and passenger amenities. These are all described below. Additionally, a Transit Asset Management Plan was developed on behalf of the B-Line system.

B-Line Operations Center

The Butte Regional Operations Center (BROC) in Chico was built in 2016 and consists of the maintenance facility, operations facility, and administrative center for the transit contractor and BCAG staff. BCAG's portion of the center includes offices, a front information desk, the BCAG board room, and conference rooms. The portion of the facility used by the contractor includes offices, dispatching center, conference and training rooms, locker rooms, and the maintenance facility including bus bays and a bus wash.

B-Line Fleet

The B-Line fleet consists of 29 fixed route vehicles and 22 paratransit vehicles (tables showing the B-Line fleet are included in Appendix C). All of the fixed route fleet are diesel fueled, while all the paratransit vehicles are gasoline fueled. The fixed-route buses have a useful benchmark life (UBL) of 12 years or 500,000 miles, indicating that four fixed route vehicles are on the cusp of expiring (in 2023). Four battery electric buses are on order in FY 2023-24. The paratransit vehicles have a UBL of seven years, with half of the fleet already past this benchmark. BCAG recently was awarded FTA Section 5310 funds for four paratransit vans.

BCAG recently developed the Zero Emission Bus Implementation Plan, with expectations to replace the fixed route fleet with zero-emission vehicles by the year 2040. The four buses that will be ordered in 2023 are the first that will be used by B-Line, and important infrastructure (charging equipment and necessary underground upgrades at the BROCC) is being developed now as well to facilitate the change.

All B-Line vehicles are fully equipped with wheelchair lifts or low-floor ramps and include a wheelchair securement area with space for two wheelchairs. Additionally, all fixed route buses are equipped with front-mounted bicycle racks.

B-Line Bus Stop Inventory

The B-Line service has a total of 544 bus stops systemwide (a table listing the assets is also listed in Appendix C). More than a quarter of the bus stops have shelters. Approximately a third of bus stops in Chico and Paradise have shelters, while just 18 percent in Oroville have shelters and the one stop in Biggs does not have a shelter. In general, shelters appear well spaced and serve locations with high use, though there are also shelters which do not receive use at all.

B-LINE MARKETING EFFORTS

B-Line is engaged in extensive marketing in multiple formats. Below is a discussion of the main marketing efforts.

Online Information

B-Line has a well-developed website, including a home page with a drop-down menu to navigate to basic information (complaints, budgeting, marketing, Title VI, etc.), schedules, rider tools, paratransit information, and contact information. The drop-down menu is reproduced in picture format below the top banner for quick navigation to top sites. Below the menu are important announcements and more detailed information. The website is color-coordinated in B-Line's black, green, and gold colors, along with white and blue. The pages are full of information without being cluttered.

Print Materials

Schedules which are available online are also generally available in print form as well. Additionally, B-Line has a printed riders' guide and flyers promoting Token Transit, as well as comment cards (available at outreach events and on buses).

Phone Information

B-Line has a phone line for inquiries. The phone number is posted on the website, on schedules, and at bus stops. In April 2022, B-Line received or made 7,941 calls, including missed calls. Of those, 5,690 calls were answered, which is an average of over 200 calls per day.

Social Media

B-Line has Instagram, Twitter, YouTube, and Facebook accounts. As of February 2023, the Instagram account had 38 followers and 59 posts. B-Line joined Twitter in February 2022 and has 22 subscribers. The YouTube account has 20 videos posted over eight years. The most popular videos are advertisements with content showing how to use the mobile app or how to track buses, and these have between 900- to 1,600 views. B-Line's Facebook account has been active since 2010, with approximately 1,400 followers as of February 2023. Service announcements are posted, as well as photos of outreach activities and public engagement. The public is allowed to post complaints and compliments on the page (whereas other transit agencies often only post information and do not allow public postings). Staff respond to postings, particularly complaints.

Outreach Activities and Events

B-Line regularly engages in outreach activities, often by hosting informational booths at events such as the Thursday Night Market. B-Line recently hosted a "community tour" where staff set up tables for several hours during specific mornings or afternoons at various public locations throughout the county to provide information on transit. To attract interest, they offered give-a-ways such as water bottles, reusable bags, and pens.

B-LINE ONBOARD PASSENGER SURVEY RESULTS

Onboard surveys were conducted on all B-Line routes to gather trip pattern information, passenger demographics, opinions on current service quality, and recommendations and suggestions for improvements. The results of the onboard survey, coupled with the performance review of previous chapters, constitute a key component in formulating service alternatives for improvements to B-Line. Detailed results of the survey effort are provided in Appendix D. Key findings are presented in this chapter.

Survey Methodology

Onboard surveys were conducted on all B-Line routes from December 6th to December 13th, 2021. Survey staff were available on buses for approximately 140 hours total during the survey period to assist and encourage passenger participation. During this time, survey materials were also available on all fixed routes for passengers to complete.

The survey instruments consisted of a one-page questionnaire printed on card stock. One form was in English on one side and Spanish on the reverse side, and a separate form was available in Hmong. The surveys included a simple introduction, with 16 questions in multiple choice, short-answer, or comment format. The number of answers per question varies because many respondents did not answer every single question.

Survey Participation

A total of 280 passengers participated in the survey. 269 passengers (96 percent) completed the survey in English, while 11 (4 percent) completed it in Spanish and no responses were received in Hmong. 36 of the forms were completed online and the remainder were completed on paper. Results by question are presented below.

- 280 passengers participated in the survey.
 - 269 completed the questions in English.
 - 11 completed the questions in Spanish.
 - 34 completed the survey online: the remainder filled out paper surveys.
 - Routes 9, 14, 15 produced the highest number of responses.

Trip Patterns

The survey results revealed trip patterns of passengers.

- Just over half of fixed route passengers (56 percent) make round trips on the B-Line.
- Just under a third (30 percent) of passengers used the bus to go to or from school (including primary, secondary and college).
- Work was the second most common reason for riding the bus (24 percent).

The survey also provides useful information regarding passenger trip origin versus destination within the Chico area. The Chico service area was divided into a series of 12 zones, as shown in Figure 11. Survey responses were analyzed to identify those that provided both valid origin and valid destination data. The results are shown in Table 13. As indicated, in total, the greatest passenger activity is generated by the Downtown Zone (61 percent of all passengers board or alight in Downtown), followed by 27 percent in the West Zone, 19 percent in the Southeast Zone and 18 percent in the CSUC Zone. This shows the prevalence of travel between the Downtown Zone and the South, Southeast and West Zones, which generates 34 percent of the total passenger-trips. Trips between CSUC and the West Zone generate 12 percent of all trips. Outside of trips to/from downtown and CSUC, other trips are widely scattered, with no origin-destination pair generating more than 2 percent of all passenger activity.

The survey questions also asked about other routes being used as part of the passenger's full trip. This provides an indication of the overall trip pattern for those passengers boarding/alighting in the Downtown Zone simply to transfer between buses. As shown previously in Table 5 (in Chapter 3), of all these passengers, 51 percent did not transfer between routes (indicating an actual full trip origin or destination in Downtown) while 49 percent transferred between routes. Of those transferring, the highest proportions were between Route 14 and Routes 2, 3, 4, and 20, and between Routes 15 and 20. There is substantial transfer activity between Route 20 and local routes in Chico and Oroville, but not significant transfers between other regional routes and the local routes.

Passenger Demographics

- Passengers are largely dependent on transit services:
 - Only 30 percent had a vehicle available to them that they could have used for their trip

instead of riding the bus.

- 54 percent did not have a driver's license.
- 6 percent required the wheelchair lift to board or exit the bus.
- Many passengers reported that they were students (108 persons).
- B-Line passengers represent a wide range in ages; about 30 percent are aged 19-24 (in line with student ridership); 40 percent are aged 25 to 61; and 16 percent are seniors.

Passenger Opinions and Desired Improvements

- Passengers have an overall good opinion of B-Line services – 78 percent rank the service as good or excellent (4 or 5 on a scale of 5) on all service factors, and 85 percent rank the overall service as good or excellent.
 - Passengers have the most positive opinions on driver courtesy, the affordability of the service, and how quickly service gets to their location, and ease of transfers.
 - The lowest opinion was regarding the bus shelters (19 percent indicating poor or very poor) followed by the availability of information at the bus stops.
- Most people get information about the B-Line by checking the website (53 percent), followed by the printed schedules. Few get information from social media or the Token app.
- The most desired improvement (cited by 46 percent of passengers) is more frequent weekend service, followed by more shelters at bus stops (29 percent) and later service (27 percent).
- There were 57 general comments which can be categorized as complaints (6), compliments (25) and suggestions (25). Common recommendations to improve B-Line service included:
 - improve bus shelters and their design
 - implement service to Sacramento (specifically the airport)
 - increased weekend and evening service
 - Sunday service
- Many passengers left compliments for some aspect of B-Line service, including many positive words for the bus drivers.

OTHER TRANSIT SERVICES IN THE REGION

While this study evaluates and plans B-Line services, it is important that regional connections remain intact. Other transportation services within Butte County, and their connections to B-Line, are described below.

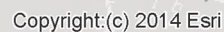


Table 13: Major Origin/Destination Pairs from Onboard Survey Results

Excludes Stops with 1 Boarding or 1 Alighting

Boarding Stop	Alighting Stop																	Grand Total (1)
	20th and Fair	20th and Park	4th and Cedar	Burlap Ave.	Chico Mall	Chico State	Chico Transit Center	Downtown	East Ave.	Esplanade	Forest Ave.	Lassen Ave.	Mall	Oroville Transit Center	University Village	W Sac. & Victorian	Walmart	
Total Survey Responses																		
20th St.																		2
7th and Oak																		2
8th and Forest																		2
Ceres & Lassen																		4
Chico Mall																		2
Chico State																		11
Chico Transit Center	1	1	3		1	1			2		1		1	2	1	3	48	
Costco																		2
Downtown																		3
E Lassen																		2
Esplanade																		5
Hickory																		6
Hlckory 7th St																		3
Nord Ave																		3
Oroville Transit Center																		3
University Village																		5
W Sacramento																		2
Walmart																		2
Warner & Legion																		2
Grand Total (1)	2	3	5	2	3	10	55	6	2	3	2	2	3	3	5	2	7	213
Percent of Total Valid Surveys																		
20th St.	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
7th and Oak	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
8th and Forest	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Ceres & Lassen	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Chico Mall	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Chico State	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
Chico Transit Center	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	1%	0%	1%	23%
Costco	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Downtown	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
E Lassen	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%
Esplanade	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
Hickory	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
Hlckory 7th St	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Nord Ave	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Oroville Transit Center	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
University Village	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
W Sacramento	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Walmart	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Warner & Legion	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Grand Total (1)	1%	1%	2%	1%	1%	5%	26%	3%	1%	1%	1%	1%	1%	1%	2%	1%	3%	100%
Note 1: Excluding stops with 1 boarding or 1 alighting.																		

Note 1: Excluding stops with 1 boarding or 1 alighting.

Glenn Ride

Glenn Ride is the public transit service for Glenn County. In addition to local on-demand paratransit service and medical transportation, Glenn Ride operates a fixed route from Willows to Chico, by way of Orland (where passengers can transfer to the TRAX Glenn-Tehama Connect route operated by Tehama County). Glenn Ride stops along East Avenue at Highway 32, Cussick and Esplanade, and then at the North Valley Pillsbury Road Transfer Center (where passengers can transfer to the Butte College Bus). The route then serves several stops on Cohasset Drive with the Chico Transit Center as the final destination.

Pre-COVID, seven round trips were operated weekdays, with two of these being “express” runs (95 minutes versus 110 minutes). On Saturdays, a morning, noon, and late afternoon round-trip were operated. In March 2020, weekday runs were reduced to just four departures (at 6:30 AM, 11:00 AM, 1:00 PM, and 5:00 PM). Saturday service remains unchanged, contingent on driver availability. Fares are \$2.00 for an in-county trip, \$3.00 for an out-of-county trip, and \$50.00 for a 30-day pass.

Butte College Transportation

Butte College’s main campus is located halfway between the Chico Transit Center and the Oroville Transfer Station, 14 miles southeast of Chico. The campus is on a hill that is not easily walkable or bikeable. The college operates a bus service for students and staff Mondays through Thursdays during the fall and spring semesters. The routes include:

- *Chico Routes* – A shuttle is operated throughout the day that circulates between the Main Campus, the Chico Center, and the Skyway Center. There are five routes which start in Chico at various locations, with the first runs departing between 7:05 and 7:10 AM and arriving at the main campus at 7:50 AM. There are five morning runs and three afternoon runs serving these five routes.
- *Durham Route* – One route operates between Durham (Midway and Durham Dayton Highway) and the main campus of Butte College. There are three morning runs and a 1:02 PM run to campus, and one morning run and three afternoon runs from campus.
- *Oroville Routes* – One route begins at Lincoln and Monte Vista in Oroville and another at Oro Dam and Oro Quincy in Oroville, with the first departure at 7:10 AM, arriving at campus at 7:45 AM. There are four morning runs and two afternoon runs to campus on these two routes, and one morning and three afternoon runs returning from campus.
- *Biggs, Gridley & Palermo* – One morning run departs Biggs at 6:33 AM and serves Gridley at 6:45 and Palermo at 7:04, arriving at campus at 7:45 AM. A return bus leaves campus at 4:00 PM.
- *Chico Shuttle* – Butte College operates a shuttle during the day that travels between its campuses and facilities within Chico.

The Butte College bus service provides a much-needed option to get to campus as well as move in between the multiple facilities. However, runs are limited. Due to a lack of midday runs, many students choose to not take the bus because it requires them to stay on campus much longer than desired. Furthermore, Butte College recently stopped providing bus services to Paradise, which leaves

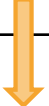





few transit options; to get to the main campus, students and staff would have to take the B-Line Route 40 or 41 to Chico and transfer to get to Butte College.

Greyhound

Greyhound has two northbound runs (departing Chico at 7:00 AM and 9:25 PM daily) and two southbound runs (departing at 6:20 AM and 6:55 PM daily). Fares to Redding (an hour and a half trip) are in the \$32-\$60 range, and to Portland (a 12-hour trip), in the \$104-\$197 range. Fares to Sacramento (a two-hour trip) are in the \$38-\$71 range, and to Los Angeles (a 10-hour trip) in the \$54-\$98 range.

Amtrak Train and Thruway Bus

Amtrak's Coast Starlight train from Los Angeles to Seattle serves stops in Chico just once per day in each direction in the early morning hours (1:37 AM northbound and 4:12 AM southbound). The Amtrak Thruway Bus Route 3 from Stockton to Redding departs Chico daily at 7:45 AM, 11:45 AM, and 3:45 PM southbound, and at 11:55 AM, 4:20 PM, and 8:10 PM northbound. However, passengers currently must transfer to an Amtrak train as part of their trip, though eventually the plan is that passengers will be able to make trips on Thruway buses independent of train trips. For now, Amtrak Thruway Route 3 still requires a connection. The Amtrak Thruway Bus Schedule is shown in Table 14.

Table 14: Amtrak <i>San Joaquins</i> Thruway Schedule								
Daily Service -- Redding • Chico • Sacramento								
712	716	718	← San Joaquins Connecting Train Number →			711	713	715
3812/ 3712	3816/ 3716	3718	← Thruway Number →			3711/ 3811	3713/ 3813	3715/ 3815
6:05 AM	10:05 AM	--	Depart 	Redding, CA Transit Center	Arrive 	--	5:45 PM	9:35 PM
6:40 AM	10:40 AM	--		Red Bluff, CA Transit Center		--	5:15 PM	9:05 PM
7:45 AM	11:45 AM	3:45 PM	Arrive / Depart	Chico, CA Amtrak Station	Arrive / Depart	11:55 AM	4:20 PM	8:10 PM
8:10 AM	12:10 PM	4:00 PM		Oroville, CA Park and Ride		11:25 AM	3:50 PM	7:40 PM
8:45 AM	--	4:35 PM		Marysville, CA Government Center		10:50 AM	3:15 PM	7:05 PM
9:40 AM	1:45 PM	5:50 PM	Arrive	Sacramento, CA ¹ Amtrak Station	Depart	10:00 AM	2:15 PM	6:15 PM
Note 1: Continues to and from Stockton. Source: Amtrak, 5/3/2022 <div style="text-align: right;">Bold = PM</div>								

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Chapter 4

B-LINE FIXED ROUTE SERVICE ANALYSIS

INTRODUCTION

This chapter provides greater detail and analysis of the B-Line fixed route services, focusing on passenger loads, on-time performance, boarding and alighting data, and ridership by route segments.

PASSENGER LOAD BY ROUTE

Average and peak passenger loads on each route were estimated based on available data, as summarized in Table 15. This was conducted for October 2019 (a busy month with schools in session prior to the pandemic) as well as for October 2021 (after the start of the pandemic). Note that data for deboarding (alighting) locations is not regularly tracked. However, good data regarding ridership by day and run is available. These estimates were developed as follows:

- The Total Ridership by Route reports were analyzed. These reports provide average ridership over the course of a month by route, run, direction and weekday vs. Saturday vs. Sunday. The average ridership per one-way run was defined for each route, as well as the peak ridership per one-way run (average over the week).
- Ridership by day of week data was analyzed to identify the ratio of the peak weekday ridership to the average weekday ridership. This factor was determined to be 1.10 for the October 2019 data and 1.07 for the October 2021 data. Weekday average peak ridership by run was factored by these values (for those routes with a peak load on a weekday).
- As deboarding location data is not available, it is not possible to define the proportion of total ridership by one-way run that is onboard at any one location. To be conservative, it is assumed that all riders are onboard at the peak load location.

As shown, prior to the pandemic, peak loads reached as high as 43 passengers (on Route 14), and a total of five routes (also including Routes 3, 8, 9 and 15) carried 40 or more passengers at peak. All of these are Chico routes. At the other extreme among the Chico routes, Route 52 had a peak load of 6 passengers and Route 7 had 10 passengers. On the Oroville routes, Route 24 and 27 both had a peak load of 11 passengers, while Route 25 and 26 had slightly lower peak loads (8 and 7, respectively). On the Intercity routes, Route 20 carried up to 36 passengers at peak, while the other routes ranged from 9 to 16 passengers.

Peak ridership figures in October 2021 were impacted by the pandemic. The Chico route with the greatest passenger load was Route 8 (19), followed by Route 3 (18). At the low end, Route 52 had an estimated peak ridership of 2, while Route 7 had a peak of 5. Of the Oroville routes, the largest peak passenger load was on Route 27 (6) while the lowest was on Route 26 (3). Route 20 had the highest passenger loads among the Intercity routes (15), followed by 12 passengers on Route 40, 7 on Routes 32 and 41, and 3 on Route 30.

As this analysis did not include a review of every individual day on every route and run, there could be specific unusual circumstances that resulted in peak passenger loads higher than those shown in

Table 15: B-Line Peak Load by Route					
		Pre-COVID (Oct 2019)		Post-COVID (Oct 2021)	
Route		Average	Est. Peak Load	Average	Est. Peak Load
2	Chico	8	24	4	10
3	Chico	12	40	6	18
4	Chico	8	26	4	12
6	Chico	8	24	3	9
7	Chico	2	10	1	5
8	Chico	15	40	8	19
9	Chico	12	40	3	9
14	Chico	12	43	5	17
15	Chico	11	41	5	16
16	Chico	7	20	3	9
17	Chico	7	20	3	8
20	Intercity	12	36	6	15
24	Oroville	4	11	2	4
25	Oroville	3	8	1	4
26	Oroville	3	7	1	3
27	Oroville	3	11	2	6
30	Intercity	2	9	1	3
32	Intercity	3	16	1	7
40	Intercity	2	15	1	12
41	Intercity	3	12	2	7
52	Chico	1	6	1	2
Total		137	461	64	195
<i>Source: B-Line</i>					

Table 15. However, as it is not efficient to plan for the absolute peak condition, these figures should be considered valid for fleet planning purposes.

B-LINE ON-TIME PERFORMANCE BY ROUTE

Data on schedule adherence and on-time performance is useful input to a transit operational plan. Providing dependable service is a particularly important factor in overall service quality. A review of actual running times and variation by time of day is also useful in establishing realistic schedules. To reflect ridership and traffic delay conditions absent the impacts of COVID, B-Line's on-time performance was analyzed by route for all weekdays in February 2021. This data tracks actual service times at key scheduled stops along each route. Appendix E presents individual tables summarizing the on-time performance of each individual route, by major stop. Note that the data reflects arrival times (other than the route start, for which departure times are used). In addition, these tables present the average running time by route segment and by hour of the day. This data is useful in comparing

scheduled times with actual times, in order to adjust schedules, as well as to identify specific times of day (such as school bell times) when running times are increased.

Table 16 presents a summary of on-time performance for the various routes. As the B-Line standard for on-time service is less than 5 minutes late, this summary focuses on the proportion of all service times that are moderately late (5 to 15 minutes behind schedule) and severely late (more than 15 minutes late). This data is also depicted in Figure 12. A review of this data indicates the following:

- Over all routes, 77 percent of services were provided on time (or early), while 22 percent were served late (20 percent 5-15 minutes behind schedule and 2 percent more than 15 minutes behind schedule).
- On-time performance is relatively good for the Chico-area routes (80 percent on-time) followed by the intercity routes (75 percent on-time) and relatively poor for the Oroville area routes (Routes 24, 25, 26 and 27). Routes 25, 26 and 27 had particularly low proportion of stops served on-time (56 percent, 53 percent, and 55 percent, respectively), and each had at least 10 percent of stops served more than 15 minutes behind schedule.
- Among the Chico-area routes (Routes 2 through 17, and 52), Routes 9 (Warner/Oak) and 16 (Esplanade/99) have the poorest on-time performance of 68 percent and 67 percent on-time, respectively. In addition, Routes 3 (Nord/East), 4 (First/East) and 15 (Esplanade/Lassen) also have relatively poor on-time performance ranging from 75 percent to 78 percent on-time. None of the Chico-area routes had more than 4 percent of runs severely (more than 15 minutes) late.
- Of the intercity routes (20, 30, 32, 40, and 41), Route 40 (Paradise-Chico) had the best on-time performance with only 11 percent of runs operating late. The other intercity routes ranged between 22 percent and 29 percent Late. However, the proportion of runs operated severely late was relatively low, at 3 percent for Route 20 and 1 percent or less on the other intercity routes.

B-LINE PASSENGER BOARDING DATA

Ridership data by stop is tracked by B-Line, and was mapped for each individual route profile included in Appendix B. A review of the data also indicates which stops have the highest overall boardings, as shown in Table 17. The data shows the busiest stops pre-COVID (October 2019) and during COVID (October 2021). Not surprisingly, the top five busiest stops were stops at the transit centers, followed by stops that serve student housing on Routes 8 and 9. After transit centers and student housing, other popular stops are at the Costco on MLK JR. Parkway, McDonalds at Notre Dame Blvd, and Grocery Outlet on Pillsbury Road. Additionally, an average of 56 passengers boarded daily at flag stops in 2019, and 19 daily in 2021 (approximately one percent of the daily ridership).

Ridership dropped by 44.7 percent between October 2019 and October 2021. Stops which had higher than average boardings based on this drop include the Chipotle stop on E. 20th Street, Target, and University Village. Stops which lost a greater proportion of ridership include Juvenile Hall and the CSUC Meriam Library.

Table 16: Summary of B-Line On-Time Performance

Weekdays in Month of February, 2020

Route	North/West Bound				South/East Bound				Loop/Extra Route				Total			
	Early/ On Time	5-15 Min Late	> 15 Min Late	Total Late	Early/ On Time	5-15 Min Late	> 15 Min Late	Total Late	Early/ On Time	5-15 Min Late	> 15 Min Late	Total Late	Early/ On Time	5-15 Min Late	> 15 Min Late	Total Late
2 Mangrove	91%	9%	0%	9%	88%	12%	0%	12%					89%	11%	0%	11%
3 Nord/East	75%	20%	5%	25%	75%	23%	2%	25%					75%	22%	3%	25%
4 First/East	80%	19%	1%	20%	74%	21%	5%	26%					77%	20%	3%	23%
5 E. 8th Street	89%	11%	0%	11%	90%	10%	0%	10%					89%	11%	0%	11%
7 Bruce/Manzanita	93%	7%	0%	7%	85%	15%	0%	15%					89%	11%	0%	11%
8 Nord									89%	10%	1%	11%	89%	10%	1%	11%
9 Warner/Oak - NB, SB, WB	58%	40%	2%	42%	95%	5%	0%	5%	78%	21%	1%	22%	68%	30%	2%	32%
9C Cedar Loop									100%	0%	0%	0%	100%	0%	0%	0%
14 Park/Forest/MLK									83%	16%	1%	17%	83%	16%	1%	17%
15 Esplanade/Lassen	85%	15%	0%	15%	71%	28%	1%	29%					78%	21%	1%	22%
16 Esplanade/SR 99	86%	13%	1%	14%	47%	46%	7%	53%					67%	29%	4%	33%
17 Park/MLK/Forest									83%	16%	1%	17%	83%	16%	1%	17%
20 Chico-Oroville	83%	14%	3%	17%	59%	38%	3%	41%					71%	26%	3%	29%
24 Thermalito									67%	28%	5%	33%	67%	28%	5%	33%
25 Oro Dam									56%	33%	11%	44%	56%	33%	11%	44%
26 Olive Highway - 26A, 26B	62%	30%	8%	38%	46%	36%	18%	54%					53%	33%	14%	47%
27 South Oroville									55%	35%	10%	45%	55%	35%	10%	45%
30 Oroville-Biggs	83%	17%	0%	17%	73%	27%	0%	27%					78%	22%	0%	22%
32 Gridley-Chico	88%	12%	0%	12%	68%	31%	1%	32%					76%	23%	1%	24%
40 Paradise-Chico	95%	5%	0%	5%	82%	17%	1%	18%					89%	11%	0%	11%
41 Paradise Pines-Chico	76%	23%	1%	24%	68%	31%	1%	32%					72%	27%	1%	28%
52 Chico Airport Express - NB,SB	93%	7%	0%	7%	85%	15%	0%	15%					90%	10%	0%	10%
52 Chico Airport Express - IPM,OAM	91%	9%	0%	9%	100%	0%	0%	0%					95%	5%	0%	5%
Subtotal: Chico Routes													80%	18%	2%	20%
Subtotal: Oroville Routes													58%	32%	10%	42%
Subtotal: Intercity Routes													75%	23%	2%	25%
TOTAL: All Routes													77%	20%	2%	22%
<i>Note: Route 31 (Paradise - Oroville) not in operation.</i>																

Figure 12: B-Line Ontime Performance

Weekdays in February 2020

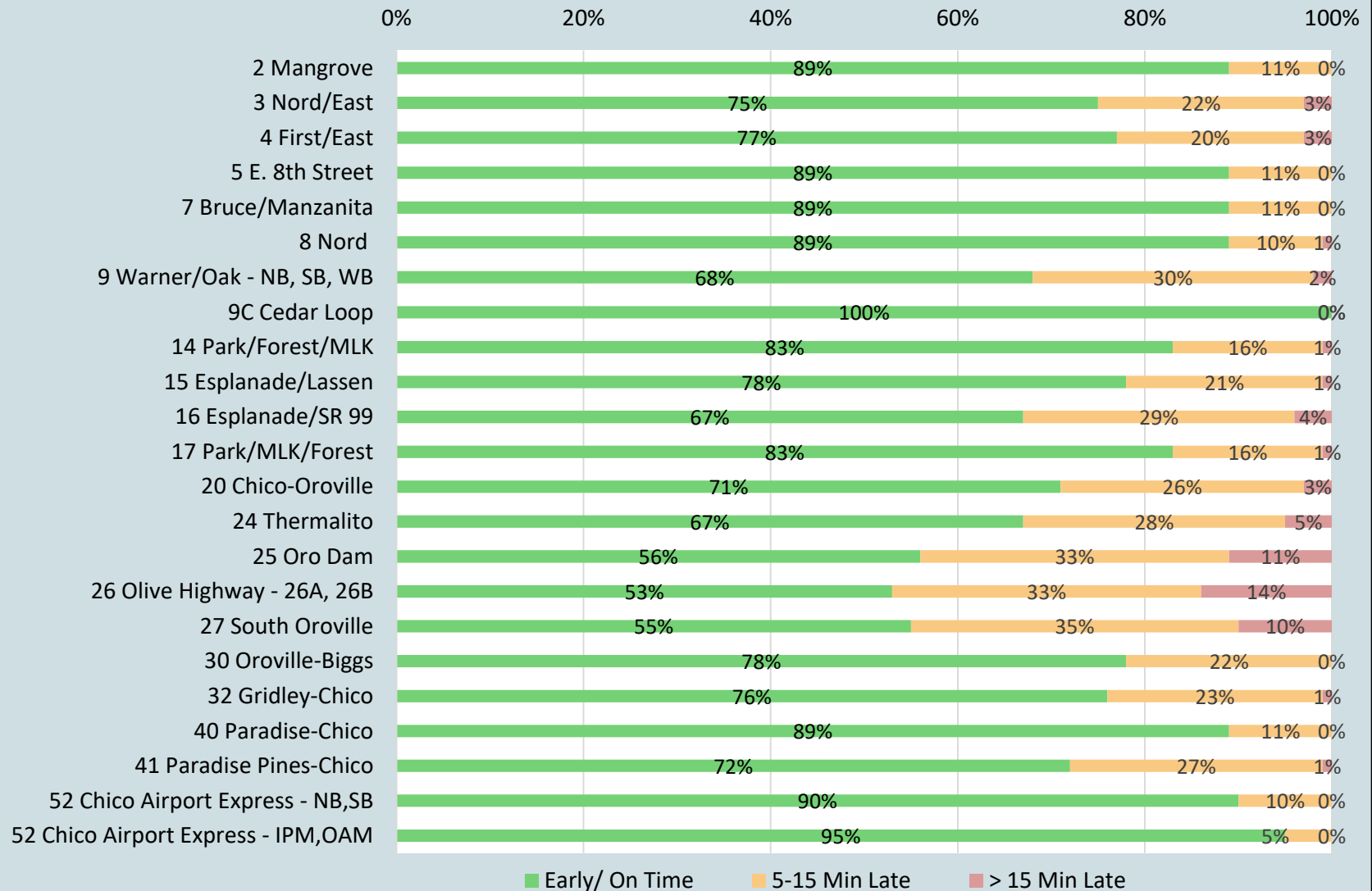


Table 17: Top Boarding Locations

#	Bus Stop		Routes Served	Average Weekday Ridership	
	Nearby Landmark or Street	Cross Street		Oct 2019	Oct 2021
397	Chico Transit Center	W. 2nd St	2, 3, 4, 5, 15, 16	512	275
52	Oroville Transit Center	Mitchell Ave	20, 24, 25, 26, 27, 30, 52	302	128
398	Chico Transit Center	Normal Ave	2, 3, 4, 5, 15, 16	263	96
327	Chico Transit Center	Salem St	14, 17	255	126
326	Chico Transit Center	Normal Ave	8, 9	211	101
383	University Village Apts	Nord Ave	3, 8	206	122
314	Residential W 4th Ave	at N. Cedar	9	102	24
277	Westwood Trees Apts	Nord Ave	3, 8	90	38
178	Timber Cove Apartments	Hickory St	9	80	28
313	CSUC - Whitney Hall	Warner St	8, 9	79	NA
321	CSUC Parking Structure	Warner St	8, 9	61	15
371	Costco	MLK Parkway	14	59	12
198	McDonald's	Notre Dame Blvd	14, 20, 40, 41	58	23
94	Grocery Outlet	Pillsbury Rd	2, 3, 4, 52	58	32
312	CSUC - Meriam Library	Warner St	9	58	11
296	WalMart	Forest Ave	14, 20, 40, 41	57	22
Flagstop *		*		56	19
324	Wildcat Recreation Center	W. 2nd St	3, 8, 9	47	23
37	Juvenile Hall	County Center Dr	20, 24	43	7
369	Chipotle	E. 20th St	17, 20, 40, 41	42	33
389	Residential W 4th Ave	at N. Cherry	9	41	NA
85	CVS	Pillsbury Rd	2, 3, 52	39	23
388	Residential N. Cedar St.	at W. 2nd Ave.	9	39	NA
39	County Public Works	County Center Dr	20, 24	39	8
385	by train tracks	W. Sacramento Ave	8	35	NA
309	Jesus Center	Park Ave	14, 17, 32	34	9
38	County Administration	County Center Dr	20, 24	33	10
360	Chevron Gas	W. Sacramento Ave	8	33	NA
370	Pier 1	E. 20th St	14, 20, 40, 41	31	20
301	Barnes & Noble	MLK Parkway	14	31	9
295	Target	Forest Ave	14, 20, 40, 41	30	17
147	Bloodsource	Rio Lindo Ave	2, 16	29	10
454	Social Security	Lassen Ave	2, 15	29	NA
280	Senior Housing Complex	Park Ave	14, 17, 32	28	NA
384	Woodglenn Condos	W. Sacramento Ave	8	28	NA
190	Park 'n Ride lot	Fir St	5, 20	26	na
43	CEC	Table Mountain Blvd	20, 24	24	11
220	Winco	Forest Ave	5, 7	24	12
424	Butte College Chico Campus	Forest Ave	9c, 14, 20, 32, 40, 41, 52	23	NA
116	Veteran's Memorial Hall	Esplanade	15, 16	23	15
306	Perfection Pools	E. 20th St	14, 17	22	7
293	Rabobank	Forest Ave	5, 17, 20, 40, 41	22	12
386	TransPacific Gardens	Nord Ave	3	22	12
133	Ceres Plaza Apts	Lassen Ave	7, 15	20	7
392	Residential Oak St.	at W. 7th Street	9	20	NA
217	Raley's	Notre Dame Blvd	17, 20, 40, 41	20	12
479	Gold County Casino	Olive Hwy	26	18	7
571	Residential E. 20th Street	at C Street	14, 17, 40, 41	18	7
453	Ceres Plaza Apts	Ceres Ave	2, 15	18	7
149	Enloe Medical Center	Cohasset Rd	2, 16	18	7

Note: "NA" = not applicable, as not all stops served both years.

B-LINE ROUTE SEGMENT ANALYSIS

The evaluation of the individual routes presented in Chapter 3 can “hide” portions that are relatively productive or unproductive along a route. To evaluate at a finer level of detail, a “route segment analysis” was conducted, in which each route was divided into three or four segments. For each segment, the passenger boardings and the hours/miles of service were used to identify costs and revenues, and in turn to assess a variety of performance measures. In addition, the passenger load information was considered for each segment. Note that there are some caveats that should be considered when reviewing the results of a route segment analysis. First, passenger activity is considered only for boardings (but not deboardings) to avoid “double counting” individual passengers. Some route segments may see more activity of passengers getting off the bus rather than boarding the bus. Secondly, some segments may not have many passenger boardings but will carry high loads of passengers that are traveling between other segments, and thus may have a higher level of utility than the boarding data might indicate. Finally, transfers impact the number of passenger boardings on routes departing the Transit Centers in Chico and Oroville; these segments inherently benefit from the fact that other routes generate passenger boardings, rather than the land uses along the route segment.

Tables 18 and 19 present the route segment analysis. The marginal operating cost (based on the hourly contract cost) was applied to each route segment based on the hours of service to operate each segment. Boarding data was used to determine the ridership for each segment. This data was applied both pre-COVID and during COVID. As a result, the productivity (passengers carried per service hour) and the marginal operating cost per passenger trip were determined. As indicated, pre-COVID there was an average of 14.0 passengers carried per hour (15.2 in Chico, 10.2 in Oroville, and 11.6 intercommunity). These numbers dropped to a systemwide average of 5.4 (5.8 in Chico, 5.2 in Oroville, and 4.5 intercommunity). The cost effectiveness also dropped significantly, from \$4.38 per passenger trip pre-COVID to \$13.09 during COVID.

Route productivity was mapped for route segments based on FY 2018-19 data. Applying data in the table, productivity of fewer than 7.0 passenger trips per hour was shown to be poor (red), between 7.0 and 16.9 trips was moderate (shown in gold), and anything with 17.0 or more passengers per hour was considered good (green). As shown in Figure 13, there are several key corridors where ridership is particularly productive, such as along 8th and 9th Streets, Park Avenue, Esplanade, University apartments, and around North Valley Plaza. On the other hand, much of eastern Chico has poor productivity, as do portions of southeast Chico (around Oak and W 7th Street, and Ivy and 8th Street).

Route segment productivity is also shown for Oroville in Figure 14 and Paradise in Figure 15. Figure 14 reflects the productivity of Routes 24 and 15 in the downtown area, and the poor productivity of Route 24 in the outlying areas. Figure 15 reflects the poor productivity of the Paradise routes, particularly in Magalia.

Table 18: B-Line Route Segment Analysis - Chico Routes

Routes & Segments				Avg Daily Boardings: Oct 2021	Pre-COVID (FY 2018-19)					COVID (FY 2020-21)				
					Annual Boardings	Annual Hours	Marginal Cost	Productivity	Marginal Cost per Psgr	Annual Boardings	Annual Hours	Marginal Cost	Productivity	Marginal Cost per Psgr
Chico	Route 2	Mangrove	1	50.2	13,182	1,879	\$114,830	7.0	\$8.71	6,512	1,899	\$135,390	3.4	\$20.79
			2	70.6	18,537	1,611	\$98,426	11.5	\$5.31	9,158	1,628	\$116,048	5.6	\$12.67
			3	127.9	33,570	895	\$54,681	37.5	\$1.63	16,585	904	\$64,471	18.3	\$3.89
	Route 3	North/ East	1	181.2	35,895	1,843	\$112,651	19.5	\$3.14	17,155	1,853	\$132,103	9.3	\$7.70
			2	103.3	20,456	1,331	\$81,359	15.4	\$3.98	9,777	1,338	\$95,408	7.3	\$9.76
			3	75.4	14,931	1,229	\$75,101	12.1	\$5.03	7,136	1,236	\$88,069	5.8	\$12.34
	Route 4	First/ East	1	66.1	15,976	1,827	\$111,678	8.7	\$6.99	7,478	1,830	\$130,457	4.1	\$17.44
			2	53.5	12,947	1,320	\$80,656	9.8	\$6.23	6,061	1,322	\$94,219	4.6	\$15.55
			3	137.2	33,187	1,929	\$117,882	17.2	\$3.55	15,536	1,932	\$137,705	8.0	\$8.86
	Route 5	East 8th St	1	37.3	8,073	1,700	\$103,877	4.7	\$12.87	3,028	1,327	\$94,564	2.3	\$31.23
			2	125.9	27,220	1,169	\$71,415	23.3	\$2.62	10,211	912	\$65,013	11.2	\$6.37
			3	84.5	18,259	2,337	\$142,831	7.8	\$7.82	6,849	1,824	\$130,025	3.8	\$18.98
	Route 7	Bruce/ Manzanita	1	27.6	6,785	737	\$45,014	9.2	\$6.63	2,517	740	\$52,712	3.4	\$20.94
			2	10.5	2,586	700	\$42,763	3.7	\$16.53	959	703	\$50,076	1.4	\$52.19
			3	11.4	2,791	405	\$24,757	6.9	\$8.87	1,035	407	\$28,991	2.5	\$28.00
	Route 8	Nord	1	21.7	12,907	845	\$51,650	15.3	\$4.00	907	602	\$42,920	1.5	\$47.30
			2	95.1	56,438	604	\$36,893	93.5	\$0.65	3,968	430	\$30,657	9.2	\$7.73
	Route 9	Warner/ Oak	1	64.3	7,576	1,061	\$64,831	7.1	\$8.56	937	786	\$56,028	1.2	\$59.81
			2	552.2	65,028	482	\$29,469	134.9	\$0.45	8,042	357	\$25,467	22.5	\$3.17
			3	27.8	3,272	1,061	\$64,831	3.1	\$19.81	405	786	\$56,028	0.5	\$138.46
	Route 14	Park/ Forest/ MLK CW	1	83.2	23,699	1,797	\$109,833	13.2	\$4.63	8,977	1,804	\$128,572	5.0	\$14.32
			2	176.3	50,188	2,157	\$131,800	23.3	\$2.63	19,012	2,165	\$154,286	8.8	\$8.12
			3	147.8	42,078	2,336	\$142,783	18.0	\$3.39	15,939	2,345	\$167,144	6.8	\$10.49
	Route 15	Esplanade/ Lassen	1	175.8	42,761	2,767	\$169,102	15.5	\$3.95	18,548	2,777	\$197,955	6.7	\$10.67
			2	30.1	7,313	1,165	\$71,201	6.3	\$9.74	3,172	1,169	\$83,350	2.7	\$26.27
			3	130.3	31,702	2,476	\$151,302	12.8	\$4.77	13,751	2,485	\$177,118	5.5	\$12.88
	Route 16	Espanade/ 99	1	106.9	26,676	1,956	\$119,554	13.6	\$4.48	11,254	2,046	\$145,857	5.5	\$12.96
			2	45.9	11,439	587	\$35,866	19.5	\$3.14	4,826	614	\$43,757	7.9	\$9.07
			3	24.4	6,084	848	\$51,807	7.2	\$8.52	2,567	887	\$63,205	2.9	\$24.63
	Route 17	Park/ MLK/ Forest CCW	1	69.4	19,692	941	\$57,481	20.9	\$2.92	8,307	929	\$66,208	8.9	\$7.97
			2	56.9	16,138	1,129	\$68,977	14.3	\$4.27	6,808	1,115	\$79,450	6.1	\$11.67
			3	29.5	8,370	1,223	\$74,725	6.8	\$8.93	3,531	1,208	\$86,071	2.9	\$24.38
	Route 52	Chico Airport Express	1	16.6	4,548	1,061	\$64,847	4.3	\$14.26	2,382	904	\$64,412	2.6	\$27.04
			2	12.0	3,278	730	\$44,582	4.5	\$13.60	1,717	621	\$44,283	2.8	\$25.79
Subtotal: Chico					703,582	46,137	\$2,819,457	15.2	\$4.01	255,048	43,884	\$3,128,021	5.8	\$12.26

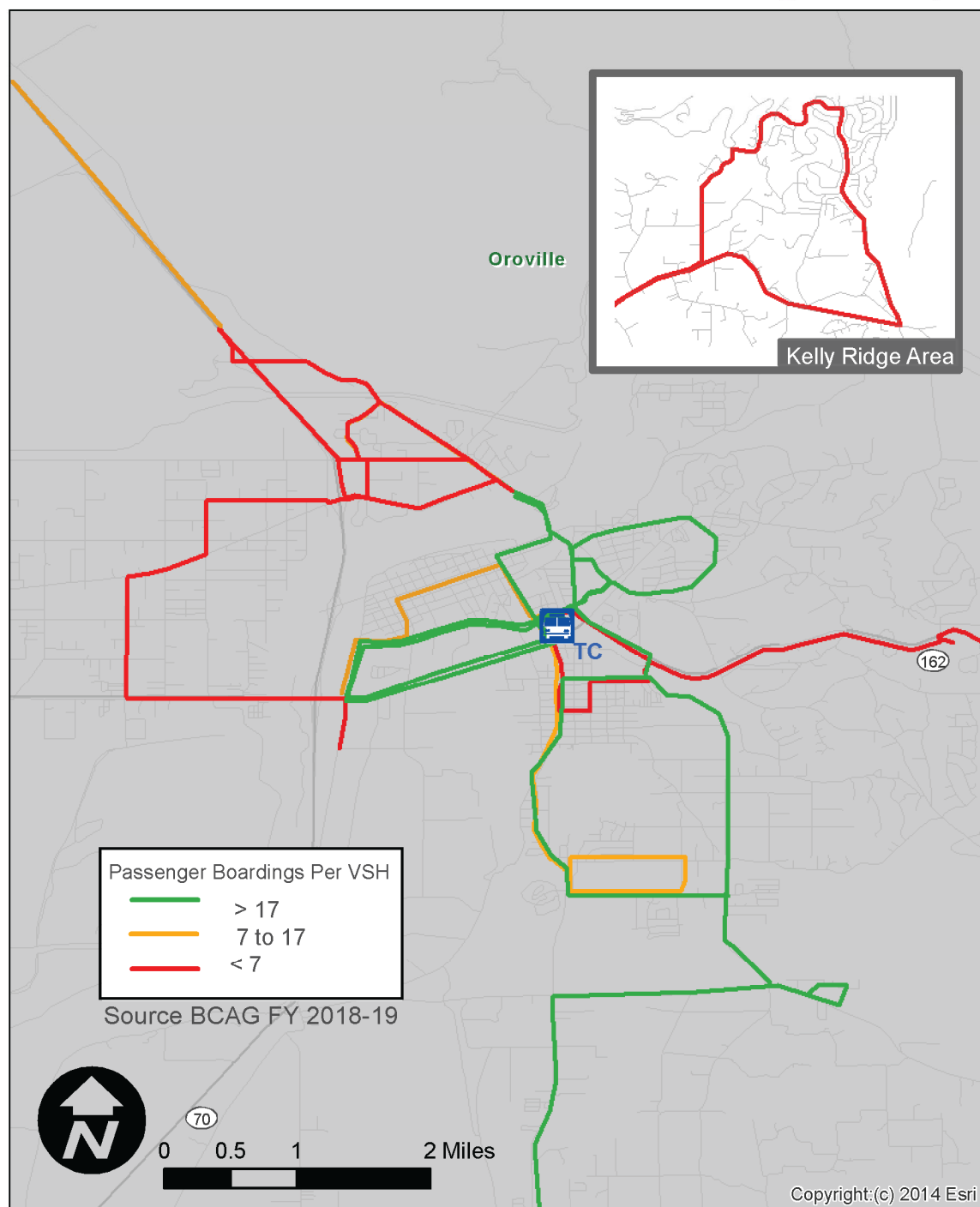
Table 19: B-Line Route Segment Analysis - Oroville & Intercommunity Routes

Routes & Segments				Avg Daily Boardings: Oct 2021	Pre-COVID (FY 2018-19)					COVID (FY 2020-21)				
					Annual Boardings	Annual Hours	Marginal Cost	Productivity	Marginal Cost per Psgr	Annual Boardings	Annual Hours	Marginal Cost	Productivity	Marginal Cost per Psgr
Inter	Route 20	Chico-Oroville	1	247.2	64,076	5,225	\$319,291	12.3	\$4.98	25,612	5,236	\$373,189	4.9	\$14.57
			2	24.3	6,291	1,136	\$69,411	5.5	\$11.03	2,515	1,138	\$81,128	2.2	\$32.26
			3	138.6	35,925	984	\$60,156	36.5	\$1.67	14,359	986	\$70,311	14.6	\$4.90
Oroville	Route 24	Thermalito	1	40.8	12,353	559	\$34,148	22.1	\$2.76	5,274	561	\$39,988	9.4	\$7.58
			2	25.5	7,731	813	\$49,670	9.5	\$6.42	3,301	816	\$58,164	4.0	\$17.62
			3	1.0	302	457	\$27,939	0.7	\$92.41	129	459	\$32,718	0.3	\$253.46
	Route 25	Oro Dam	1	36.3	9,277	289	\$17,678	32.1	\$1.91	5,855	290	\$20,701	20.2	\$3.54
			2	18.1	4,639	521	\$31,820	8.9	\$6.86	2,927	523	\$37,262	5.6	\$12.73
			3	1.6	406	231	\$14,142	1.8	\$34.84	256	232	\$16,561	1.1	\$64.66
	Route 26	Olive Highway	1	10.5	2,356	1,139	\$69,579	2.1	\$29.53	1,284	1,143	\$81,478	1.1	\$63.46
			2	1.9	437	423	\$25,877	1.0	\$59.26	238	425	\$30,302	0.6	\$127.35
			3	41.0	9,232	254	\$15,526	36.3	\$1.68	5,031	255	\$18,181	19.7	\$3.61
	Route 24	Route 24	1	28.5	8,190	726	\$44,393	11.3	\$5.42	4,147	729	\$51,985	5.7	\$12.54
			2	14.6	4,188	391	\$23,904	10.7	\$5.71	2,120	393	\$27,992	5.4	\$13.20
Intercommunity	Route 30	Oroville-Biggs	1	11.2	3,556	754	\$46,087	4.7	\$12.96	1,913	768	\$54,708	2.5	\$28.60
			2	26.7	8,487	706	\$43,145	12.0	\$5.08	4,564	719	\$51,216	6.4	\$11.22
			3	2.7	849	177	\$10,786	4.8	\$12.71	456	180	\$12,804	2.5	\$28.05
	Route 32	Gridley-Chico	1	14.5	2,709	205	\$12,514	13.2	\$4.62	519	206	\$14,654	2.5	\$28.26
			2	2.1	384	264	\$16,124	1.5	\$41.98	74	265	\$18,881	0.3	\$256.81
			3	10.8	2,021	39	\$2,407	51.3	\$1.19	387	40	\$2,818	9.8	\$7.28
	Route 40	Paradise-Chico	1	19.0	18,836	820	\$50,094	23.0	\$2.66	3,139	650	\$46,302	4.8	\$14.75
			2	3.8	3,754	1,428	\$87,261	2.6	\$23.24	626	1,132	\$80,656	0.6	\$128.90
			3	5.1	5,034	714	\$43,630	7.1	\$8.67	839	566	\$40,328	1.5	\$48.06
	Route 41	Magalia-Chico	1	9.8	3,223	757	\$46,234	4.3	\$14.34	1,347	751	\$53,529	1.8	\$39.73
			2	58.1	19,205	1,416	\$86,503	13.6	\$4.50	8,027	1,405	\$100,152	5.7	\$12.48
			3	19.1	6,325	1,001	\$61,149	6.3	\$9.67	2,644	993	\$70,797	2.7	\$26.78
Subtotal: Oroville					59,111	5,804	\$354,676	10.2	\$6.00	30,562	5,827	\$415,331	5.2	\$13.59
Subtotal: Inter					180,676	15,624	\$954,791	11.6	\$5.28	67,020	15,032	\$1,071,474	4.5	\$15.99
Subtotal: Chico ¹					703,582	46,137	\$2,819,457	15.2	\$4.01	255,048	43,884	\$3,128,021	5.8	\$12.26
Total					943,369	67,565	\$4,128,925	14.0	\$4.38	352,630	64,742	\$4,614,825	5.4	\$13.09
Note 1: Chico total from Table 17.														

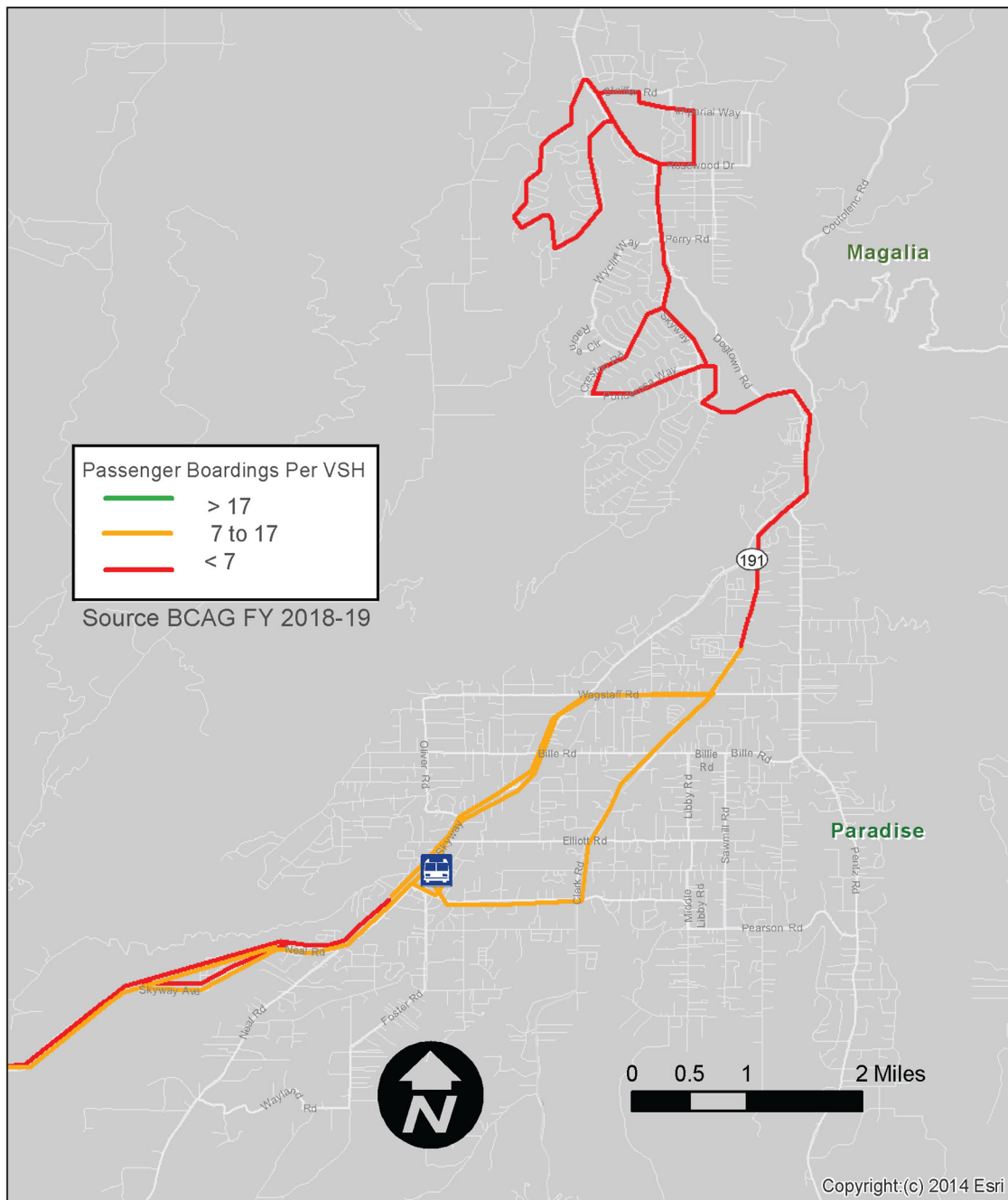
**Figure 13:
Chico Area Route Segment Analysis**



**Figure 14:
Oroville Area Route Segment Analysis**



**Figure 15:
Paradise Area Route Segment Analysis**



Key Findings of the B-Line Route Segment Analysis

Tables 18 and 19 also present the route segment analysis results for Fiscal Year 2020-21, representing conditions during the pandemic. Route segments that saw the largest drop in productivity are those on Route 8 and 9 (serving the Chico State off-campus housing areas, as well as Route 30 (Oroville-Biggs) and Route 32 (Gridley-Chico), all of which dropped by 79 percent or more. Route segments in Oroville saw a relatively small drop in productivity (37 to 50 percent). In Chico, segments along Routes 2, 3, 4 and 5 also saw relatively small drops in productivity, along with Route 52.

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Chapter 5

REVIEW OF EXISTING PARATRANSIT SERVICES

INTRODUCTION

This chapter presents an overview of the B-Line Paratransit Service. It is prepared as part of the B-Line Routing Study to provide a resource for assessment of potential changes in paratransit services.

B-LINE PARATRANSIT SERVICE

B-Line Paratransit is a shared ride service designed to meet the needs of seniors and persons with qualifying disabilities who are unable to use the B-Line fixed-route services. B-Line Paratransit is available in Chico, Oroville, and Paradise for local trips, but not for inter-city trips or trips within any other portion of Butte County, such as Gridley/Biggs or other unincorporated areas. B-Line offers two types of paratransit services (all served by the same fleet):

1. ADA paratransit for individuals who cannot utilize the fixed-route system. They must receive Americans with Disabilities Act (ADA) certification to utilize this service. This certification ensures trips are given priority status over Dial-a-Ride trips.
2. Dial-a-Ride service for riders who are age 70 or older. Dial-a-Ride trips are not given priority status should individuals with ADA certification need the service.

B-Line Paratransit serves all destinations within $\frac{3}{4}$ of a mile of any B-Line fixed-route service. B-Line also provides supplemental service to areas up to three miles outside the ADA boundaries at an additional cost (given that there is a direct, easily accessible route from the core service area). All trips provided outside the core service area are considered non-ADA and are provided on a space available basis. The paratransit service area showing the core areas and zones is shown in Figure 16. Note that Chico, with a core area and zones, represents the “urban area” and the core service area and supplemental zones in Oroville and Paradise/Magalia represent the “rural areas”⁵.

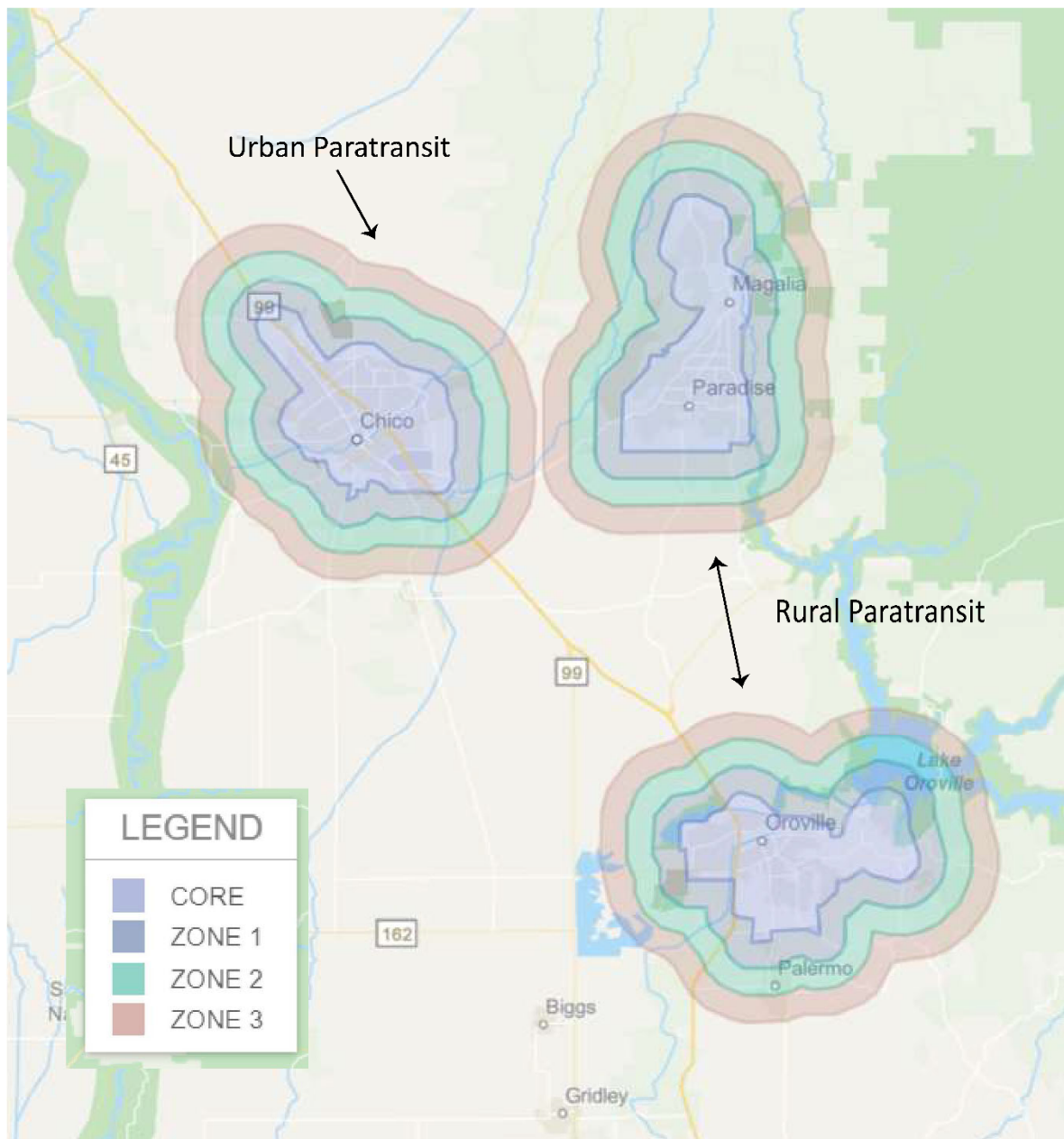
B-Line Paratransit operates between 5:50 AM and 10:00 PM on weekdays, 7:00 AM and 10:00 PM on Saturdays, and 7:50 AM and 6:00 PM on Sundays. The base fare for B-Line Paratransit is \$3.50 per one-way ride, with additional zone-based fares. B-Line Paratransit trips can be scheduled by calling into dispatch up to one week prior to the requested trip.

B-Line Paratransit Fares

The B-Line has a complex system of fares, divided by type of service, type of rider, zone or region, and finally by type or number of rides. Paratransit fares (including Dial-a-Ride) for the ADA paratransit service area are \$3.50 for an advanced reservation and \$5.25 for a same day request. For service to outlying areas, fares are \$8.75 for Zone 1, \$10.75 for Zone 2, and \$12.75 for Zone 3. A 2-Ride Pass can

⁵ The urban and rural designations are for the purposes of tracking FTA 5307 (urbanized) and FTA 5311 (rural) grant funding.

**Figure 16:
B-Line Paratransit Service Areas**



be purchased for \$7.00 (good for the core zone only), and for convenience, a \$25.00 value card can be purchased and used until the value is expended.

B-Line Paratransit Application Process

As mentioned, there are two types of services offered: ADA paratransit for those with qualifying disabilities, and Dial-a-Ride for riders over the age of 70. Both types of riders require an application to access services, as described below:

- **Dial-a-Ride Application:** A form must be completed which asks for the rider's name, address, date of birth, and whether the applicant requires a Personal Care Attendant (PCA) or mobility device (such as a wheelchair). A photocopy of proof of age must be provided with the application. Acceptable documents include an official State Identification/Driver's License, Birth Certificate, Passport or any other State or Federal issued identification.
- **ADA Paratransit Application:** A form must be completed which asks for contact information, whether a Personal Care Attendant (PCA) is required, the nature of the rider's disability and functional mobility. After completing the form, the applicant must provide information for a healthcare or social service professional who can certify to their functional mobility needs and who may be contacted if staff needs clarification on the application. B-Line takes up to 21 days to review the application and grant or deny eligibility.⁶

B-LINE PARATRANSIT RIDERSHIP ANALYSIS

B-Line ridership characteristics are evaluated below, with additional detailed supporting tables and figures presented in Appendix C.

Annual Ridership by Month and Area

Ridership by route by month is depicted for the past four years in Figure 17 and Table 20. As shown, ridership has historically peaked in July to October, while spring ridership was lowest. The impacts of COVID are also evident, showing a sharp decline in March and April 2020, with some recovery starting in spring 2021. Prior to COVID (July 2018 to February 2020), paratransit ridership averaged 11,418 trips per month. The year after COVID started, this dropped to an average of 3,653 passengers per month, or 32 percent of the pre-COVID average. Over the year from July 2021 to June 2022 the average was 5,381 passenger trips per month, which is 47 percent of the pre-COVID average. Table 20 also shows the urban paratransit ridership (including the Chico core service and the three zones around Chico) versus rural paratransit ridership (all non-Chico service). The urban ridership was just over half of all ridership from July to December 2018 but while the number of passengers has decreased since the pandemic, the urban ridership has since increased as a percentage to make up approximately three quarters of the paratransit ridership.

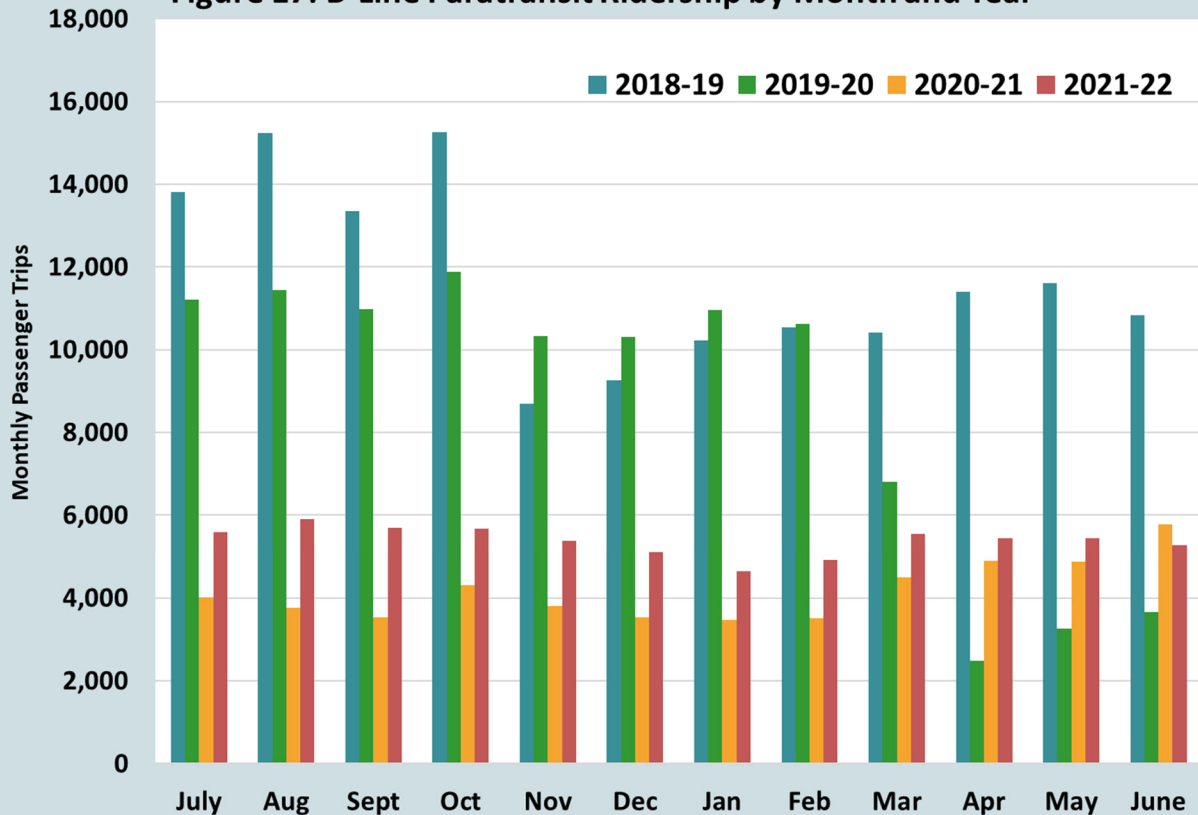
⁶ Presumptive eligibility is given at the start of the application process for 30 days to accommodate more urgent needs to use the system.

Table 20: B-Line Paratransit Annual Ridership by Month

Fiscal Year	Months (Fiscal Calendar)												Annual
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	
Urban	7,264	7,946	7,079	8,201	5,708	6,704	7,613	7,981	7,588	8,333	8,492	8,151	91,060
Rural	6,556	7,286	6,276	7,057	2,978	2,549	2,614	2,553	2,825	3,062	3,127	2,674	49,557
2018-19	13,820	15,232	13,355	15,258	8,686	9,253	10,227	10,534	10,413	11,395	11,619	10,825	140,617
Urban	8,422	8,626	8,366	8,983	7,894	7,892	8,366	8,125	5,130	1,674	2,090	2,273	77,841
Rural	2,790	2,807	2,611	2,908	2,432	2,418	2,592	2,505	1,683	809	1,169	1,387	26,111
2019-20	11,212	11,433	10,977	11,891	10,326	10,310	10,958	10,630	6,813	2,483	3,259	3,660	103,952
Urban	2,596	2,522	2,592	3,020	2,612	2,393	2,453	2,428	3,242	3,731	3,781	4,450	35,820
Rural	1,422	1,233	941	1,298	1,188	1,137	1,014	1,081	1,264	1,158	1,102	1,317	14,155
2020-21	4,018	3,755	3,533	4,318	3,800	3,530	3,467	3,509	4,506	4,889	4,883	5,767	49,975
Urban	4,260	4,535	4,404	4,426	4,148	3,798	3,396	3,627	3,943	3,982	4,017	3,796	48,332
Rural	1,321	1,375	1,282	1,237	1,240	1,307	1,247	1,285	1,593	1,465	1,420	1,470	16,242
2021-22	5,581	5,910	5,686	5,663	5,388	5,105	4,643	4,912	5,536	5,447	5,437	5,266	64,574
Urban Average	5,636	5,907	5,610	6,158	5,091	5,197	5,457	5,540	4,976	4,430	4,595	4,668	63,263
Rural Average	3,022	3,175	2,778	3,125	1,960	1,853	1,867	1,856	1,841	1,624	1,705	1,712	26,516
Average	5,772	9,083	8,388	9,283	7,050	7,050	7,324	7,396	6,817	6,054	6,300	6,380	89,780

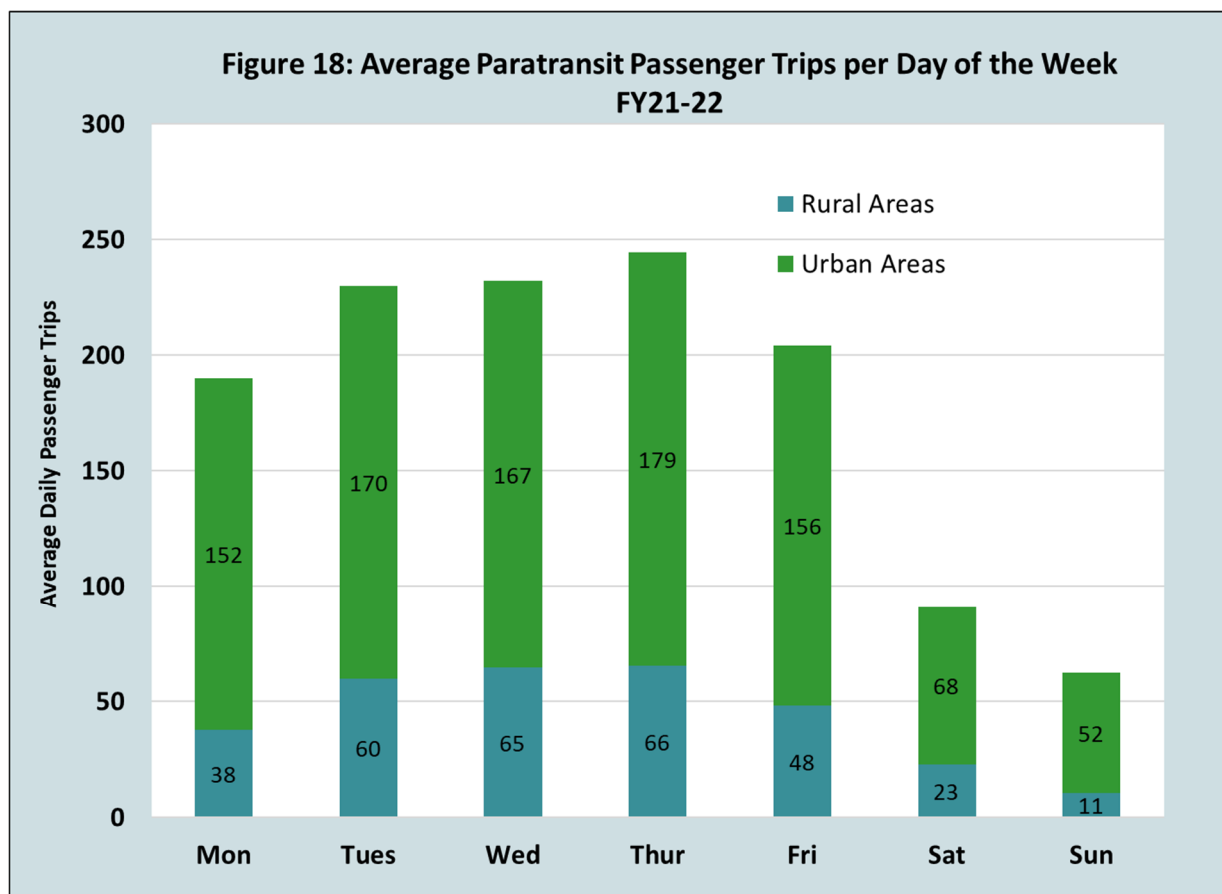
Note 1: Urban paratransit includes the core area and three zones in Chico. Rural paratransit includes the core of Oroville and Paradise and their three zones.

Source: BCAG

Figure 17: B-Line Paratransit Ridership by Month and Year

Ridership by Day of the Week

Average daily ridership by day of the week for FY 2021-22 is shown in Figure 18. As shown, ridership was highest on Thursdays, followed by Wednesdays and then Tuesdays. Ridership was lowest on Sundays, and then Saturdays. Weekdays averaged 220 passengers per day, while weekends averaged 77 passengers per day. Rural ridership accounted for between 17.5 percent of total ridership (on Sundays) to 28.0 percent of total ridership (on Wednesdays).



B-Line Paratransit Trip Requests

For paratransit to run efficiently, policies must be in place to limit the number of missed and cancelled trips, both by the contractor and by the passenger. The contractor had no missed trips in FY 2021-22. Of 57,821 paratransit trip requests in FY 2021-22, 8.2 percent of trips were cancelled in advance, meaning the prospective rider cancelled by 5:00 PM the day before the requested trip. An additional 7.8 percent were same day cancellations, meaning they cancelled between 5:00 PM of the day before the requested trip and 2 hours before the requested trip. Additionally, 2.4 percent were late cancellations with less than two hours' notice before the requested trip. B-Line also tracks site closures⁷, which affected 0.5 percent of trip requests. Finally, in tallying the data, there are inherent

⁷ A "site closure" notation is used to denote cancelled trips when the actual business the trip is planned to serve will not be open at the time of the trip. This became a regular occurrence during COVID and wildfires.

data errors which in FY 2021-22 accounted for 2.7 percent of the trip requests. These errors could be from incomplete calls, mis-entered data, et cetera. Trip request data is summarized in Table 21.

Table 21: B-Line Paratransit Requested Trip Information			
	Urban	Rural	Total
Total Requested	43,880	13,941	57,821
Unscheduled	89	40	129
Cancelled In Advance	3,543	1,223	4,766
Late Cancels	1,049	332	1,381
Same Day Cancels	3,395	1,094	4,489
Site Closure	270	31	301
User Error	1,231	302	1,533
Total Requested	100.0%	100.0%	100.0%
Unscheduled	0.2%	0.3%	0.2%
Cancelled in Advance	8.1%	8.8%	8.2%
Late Cancels	2.4%	2.4%	2.4%
Same Day Cancels	7.7%	7.8%	7.8%
Site Closure	0.6%	0.2%	0.5%
User Error	2.8%	2.2%	2.7%
Source: BCAG, LSC			

B-LINE PARATRANSIT PERFORMANCE ANALYSIS

A performance analysis was conducted on B-Line Paratransit for pre-COVID (FY 2018-19) and during COVID (FY 2021-22). Two key measures of transit performance are productivity (measured by the number of passengers carried per service hour) and effectiveness (measured by the marginal operating cost per passenger trip). This data is depicted in Table 22 and is discussed below.

B-Line Paratransit Productivity

Table 22 shows the passengers carried per service hour by route. Pre-COVID, 3.4 passengers were carried per service hour on paratransit services. The rural services were actually more productive than the urban services, carrying 3.6 passengers per hour compared with 3.3 in the urban areas. After COVID, 3.1 passenger trips were carried overall, with 2.9 on the rural paratransit and 3.2 on the urban paratransit. Both before and after COVID, clients made up 67 to 71 percent of passenger trips, with companions and attendants accounting for 29 to 33 percent of passenger trips.

B-Line Paratransit Efficiency

Efficiency can be measured in part by the number of passengers carried per passenger mile, also shown in Table 22. Pre-COVID, 0.4 passenger trips were carried per mile of service. That dropped to 0.3 passengers per service mile in the past year overall, and just 0.2 on the rural services.

B-Line Paratransit Cost Effectiveness

The cost effectiveness of B-Line services since COVID was impacted by both a loss of ridership and an increase in cost. Pre-COVID, the contract cost was \$61.11 per service hour, which when applied to the hours of service and the riders per hour equated to a marginal cost per passenger trip of \$18.25 per urban passenger trip, \$16.94 per rural passenger trip, or \$17.85 overall per paratransit passenger trip. This increased to a marginal cost per passenger trip of \$24.66 per urban passenger trip, \$27.00 per rural passenger trip, or \$25.25 overall paratransit passenger trip—primarily due to increased costs. Using 2018 dollars, this would be \$18.99 per urban passenger trip, \$20.79 per rural passenger trip, or \$19.44 overall marginal cost per paratransit passenger trip, indicating the increase per passenger trip due to lost productivity would have been an 8.2 percent increase.

Table 22: B-Line Paratransit Performance									
	Pre-COVID (FY 2018-19)			FY 2021-22			Change FY 18/19 to FY 21/22		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Clients	62,859	34,404	97,263	34,129	10,880	45,009	-46%	-68%	-54%
Companions	28,092	15,110	43,202	14,157	5,356	19,513	-50%	-65%	-55%
Attendants	109	43	152	45	10	55	-59%	-77%	-64%
Passenger Trips	91,060	49,557	140,617	48,331	16,246	64,577	-47%	-67%	-54%
Vehicle Hours	27,339	13,735	41,074	15,014	5,526	20,540	-45%	-60%	-50%
Psgs/Hour	3.3	3.6	3.4	3.2	2.9	3.1	-3%	-19%	-8%
Vehicle Miles	230,957	118,582	349,539	150,596	74,775	225,371	-35%	-37%	-36%
Psgs/Mile	0.4	0.4	0.4	0.3	0.2	0.3	-19%	-48%	-29%
Marginal Operating Cost	\$1,670,710	\$839,346	\$2,510,055	\$1,191,811	\$438,654	\$1,630,465	-29%	-48%	-35%
Marginal Op. Cost per Psgr	\$18.35	\$16.94	\$17.85	\$24.66	\$27.00	\$25.25	34%	59%	41%
Note: Based on operating cost of \$61.11 per hour in 2018-19 and \$79.38 per hour, as shown in Tables 11 and 12 in Chapter 3.									
Source: BCAG, LSC									

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Chapter 6

FIXED ROUTE SERVICE ALTERNATIVES

INTRODUCTION

This chapter presents alternatives regarding the fixed route structure, as well as the potential replacement of fixed route services with microtransit services (as discussed below). The following chapters will discuss changes in the span of service (i.e., days and hours of service), as well as changes in paratransit services and capital needs. Finally, the recommended elements are used to define the overall Plan.

Two near-term comprehensive alternative scenarios were developed for implementation over the next 1 to 5 years. The first incorporates the conversion of some fixed route service areas to microtransit service. The second assumes reliance on fixed route services only. The primary focus of these near-term scenarios is to improve the overall services using the existing resources. The recommendations can be implemented with minimal net increases in operating cost and minimal capital costs for new bus stops.

In addition, a mid-term scenario (5 to 10 years implementation) is also presented. This assumes additional financial resources are available to expand service levels and span of service.

NEAR-TERM SERVICE SCENARIO WITH MICROTRANSIT SERVICES

Introduction to Microtransit Services

This scenario is designed to build on the foundation of the existing B-Line fixed route network. The recommended service plan is focused on the implementation of a network that improves on-time performance, ridership and productivity of the service through an emphasis on service reliability, faster more direct routing, and improving overall coverage through lower-cost and innovative service delivery such as microtransit.

Analyzing all the information gathered for this effort from previous reports and the public outreach effort, as well as historical performance trends for B-Line, several key operational/service issues were identified:

- On-time performance issues
- Out of direction, circuitous routing segments
- Low ridership and productivity on route segments
- Improved service needs to potential transit generators such as points of service for social service organizations such as the Jesus Center
- Use of new technology and innovative services to provide coverage to low density areas
- Faster travel times on primary corridors

B-Line will need to continue to provide equitable service that meets the requirements of the Title VI Civil Rights Act of 1964 (Title VI). Title VI ensures that no person shall be excluded from participation in, denied benefits of or be subjected to discrimination on the basis of race, color, or national origin

under any program receiving federal financial assistance. B-Line will also need to continue to meet the requirements for public transit services under the Americans with Disabilities Act.

The Concept of Microtransit Service

Over the last several years, the concept of “microtransit” has seen increasingly widespread application across the nation. The goal of microtransit service is to provide coverage over an area not served efficiently by fixed-route service with a short response time, typically within 15 minutes of the request. Microtransit applies the app-based technology developed for transportation network companies (such as Uber and Lyft) to provide a new form of public transit service in lower demand and lower density areas. While the concept of real-time, demand-response service has been envisioned for many years, it could not be effectively implemented until recently with the advent of new technology. Passengers typically use an app downloaded on their smartphone or computer to request a ride and a routing algorithm assigns the ride request to a specific driver/vehicle. The passenger is provided with an estimated service time, and fares are typically handled through the app. In addition, to ensure equitable accommodation, rides may also be requested directly over the phone. However, most trips are assigned without the need for manual dispatching. Unlike traditional dial-a-ride services, there is no need for a 24-hour-or-more advance reservation. As microtransit is a shared-ride service, multiple passengers may be on the vehicle at the same time. Requirements of the Americans with Disabilities Act may be met by ensuring that a sufficient number of accessible vehicles are available to serve those who require accessible service.

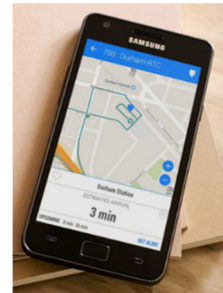


Table 23 presents a summary of various existing microtransit services in Northern California and Nevada, including Napa, Bakersfield, Sacramento and Reno. This reflects the substantial ridership that can be served by a microtransit program, as well as the variation in service area size and level of service. In addition, other transit services are currently planning to implement microtransit services, including Woodland (Yolobus), Fairfield (FAST Transit) and Placer County (Placer County Transit).

Chico Service Modifications

The existing route network in Chico works well overall. The system provides connections in downtown Chico as well at secondary transfer points at the North Valley Plaza and Forest Avenue in the south. However as identified in Chapter 4, there are a number of low ridership route segments throughout the system especially in the lower density areas to the north and east. Other service challenges are primarily related to on-time performance of some routes at various times of the day. This scenario has been developed to address those issues and improve the system overall. The guiding principles to redesign the services in Chico include:

- Retain key services in downtown Chico
- Reflect community unmet needs
- Address on-time performance issues on existing Chico routes
- Replace low performing routes with microtransit service

Table 23: Example Existing Microtransit Services in Similar Areas

	SmART Ride (Sacramento) ⁵												
	City of Napa On-Demand ¹	FlexRide Sparks-Spanish Village Zone ² (Washoe RTC)	Golden Empire Transit On-Demand ³ (Bakersfield, CA)	KART "Smart" Services - Hanford ⁴ (Kings County)	Citrus Heights Zone	Franklin Zone	Gerber Zone	Rancho Cordova Zone	Downtown / CSUS Zone	Natomas / N. Sac Zone	Arden/ Carmichael Zone	Folsom Zone	Elk Grove Zone
Service Area (Sq. Mi.)	6	13.1	24	17.5	35.9	14	10	6.9	7.7	15.1	15	27.9	26.4
Hours of Operation (1)	M - F: 7AM - 5:30PM Sat: 7:30AM - 5:30PM	M - F: 5:30AM - 11PM Sat - Sun: 6AM - 10:30PM	M - F: 6AM - 11PM Sat: 7AM - 7PM	M - F: 7AM - 8PM	M - F: 6AM - 9PM	M - F: 7AM - 7PM	M - F: 7AM - 7PM	M - F: 7AM - 7PM	M - F: 6AM - 9PM	M - F: 7AM - 7PM	M - F: 7AM - 7PM	M - F: 7AM - 7PM	M - F: 7AM - 7PM
Annual Vehicle Revenue Hours	11,867	9,410	16,912	--	12,700	6,782	3,581	5,842	12,014	7,290	3,581	4,775	3,581
Annual Vehicle Revenue Miles	113,367	152,305	215,084	--	--	--	--	--	--	--	--	--	--
Peak Vehicles in Operation	6	5	--	1	6	4	2	3	6	4	2	3	2
Annual Ridership	25,787	36,256	29,590	6,000	34,544	20,320	10,414	30,988	36,576	21,590	10,160	16,002	10,160
Average Daily Ridership	84	99	81	24	136	80	41	122	144	85	40	63	40

Note 1: Statistics are for FY 2021-22. Data sourced from Napa Short Range Transit Plan 2023-2028 and staff. Staff indicated a desire to reduce peak vehicles to 4 in FY 2022-23 in response to rebounding fixed route ridership.

Note 2: Statistics for FY 2021-2022. Data sourced from RTC Washoe staff.

Note 3: Statistics for Golden Empire Transit (GET) On-Demand Zone prior to July 2022 expansion. Statistics for FY 2019-20. Data sourced from GET Short-Range Transit Plan FY 2022-23.

Note 4: Statistics for FY 2022-2023. Annual ridership projections made based on average monthly ridership. Data sourced from Transit Manager.

Note 5: Statistics for FY 2021-22. Data sourced from SacRT Short-Range Transit Plan FY 2022-2027 and SacRT staff.

- Add direct service in the southeast of the City and to new destinations such as the Jesus Center, which was recently relocated to a location on Fair Street.
- Emphasize North Valley Plaza as the secondary transit center

Figure 19 and Figure 20 illustrate the existing and the proposed new transit system in the Chico service area.

The following describes the recommended changes for each route.

Route 2 Mangrove

Route 2 continues to operate from downtown Chico to northeast Chico primarily by the Mangrove Avenue and Cohasset Road corridors. Route 2 has productive service throughout the day with connections to the North Valley Transit Center and downtown Chico.

There are two changes to Route 2 under this scenario. First, the route would no longer serve the DMV loop on Rio Lindo Avenue and Parmac Road. The change would allow for faster travel times and more reliable service. In addition, the north end of the route is revised to better serve the Social Security office and shorten the travel time. The route would no longer operate on Ceres Avenue and Eaton Road south of Lassen Avenue. The new route would travel north on Ridgewood Drive, south on Ceres Avenue and west on Lassen Avenue. The overall revised route is 9.0 miles in length compared with the current 11.1 miles in length. This reduction in length will significantly improve the ability for this route to stay on schedule.

Route 3 Nord/East

There are no service changes proposed for Route 3. It is recommended to consider implementing a transit signal priority (TSP) program to improve the travel time and reliability of the service. Potential locations for TSP could include Nord Avenue and West Sacramento Avenue, Nord Avenue and West 8th Avenue, East Avenue and Esplanade, and East Avenue at the SR 99 interchange.

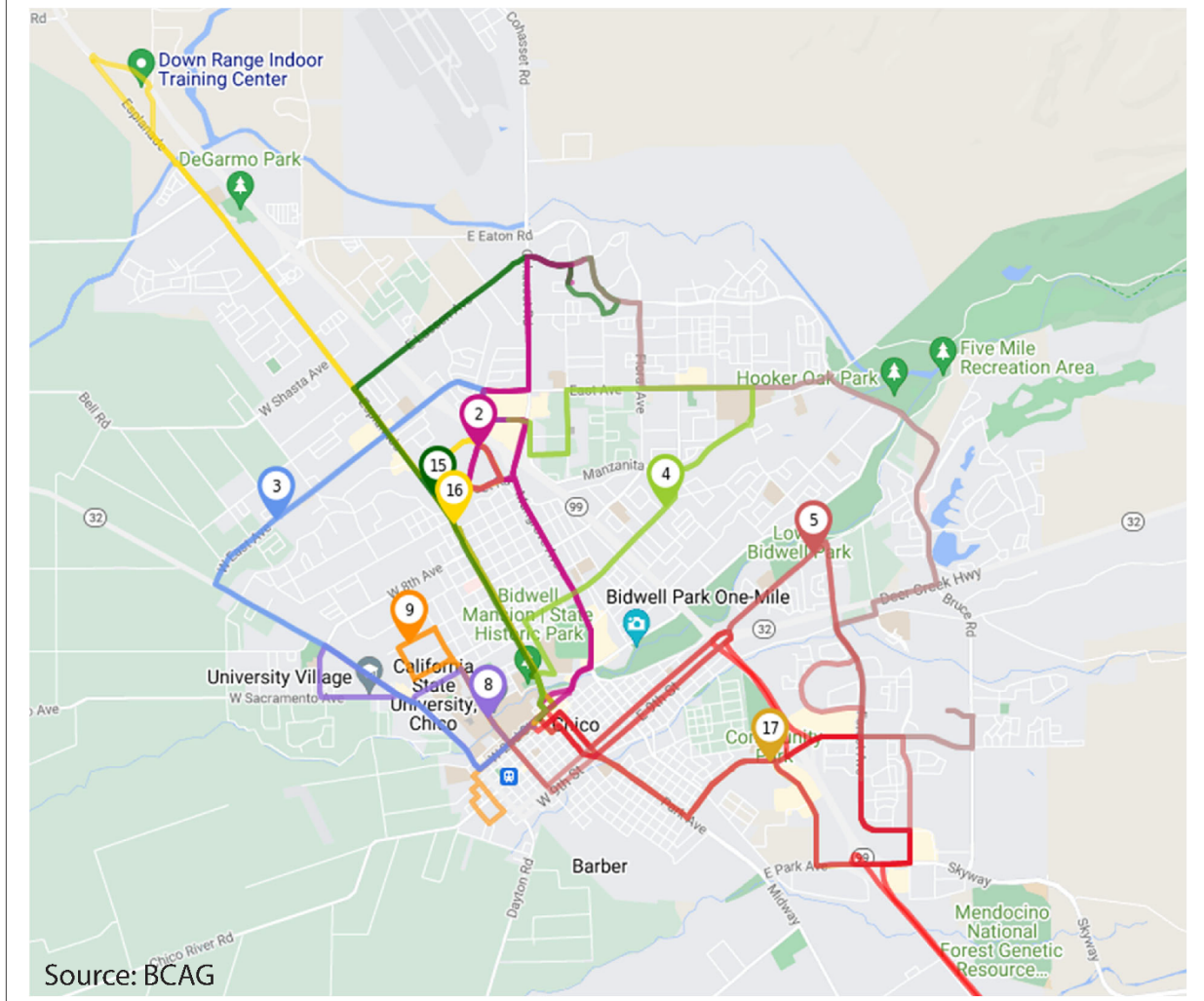
Route 4 First/East

No changes are proposed for Route 4.

Route 5 East 8th Street

Under this scenario there are two proposed changes to the route. First, the Springfield Drive loop would be operated in both the inbound and outbound directions, rather than the current route which only travels on the loop in the inbound direction. This will provide more convenient service to the Chico Marketplace Mall, Kohl's, as well as the residential neighborhoods. The second change is to shorten the southern terminus loop to operate south on Forest Avenue, east on Parkway Village Drive and north on Huntington Drive. This new route shortens the travel time while still making the connection to Walmart and to other routes at the Forest Avenue Transit Center. The Notre Dame Boulevard loop would be discontinued on Route 5 but would be served by a new microtransit zone, as discussed below. The revised route would be 11.2 miles in length, 0.3 miles less than at present. This will reduce running time by several minutes, improving on-time performance.

**Figure 19:
Existing B-Line Map in Chico**



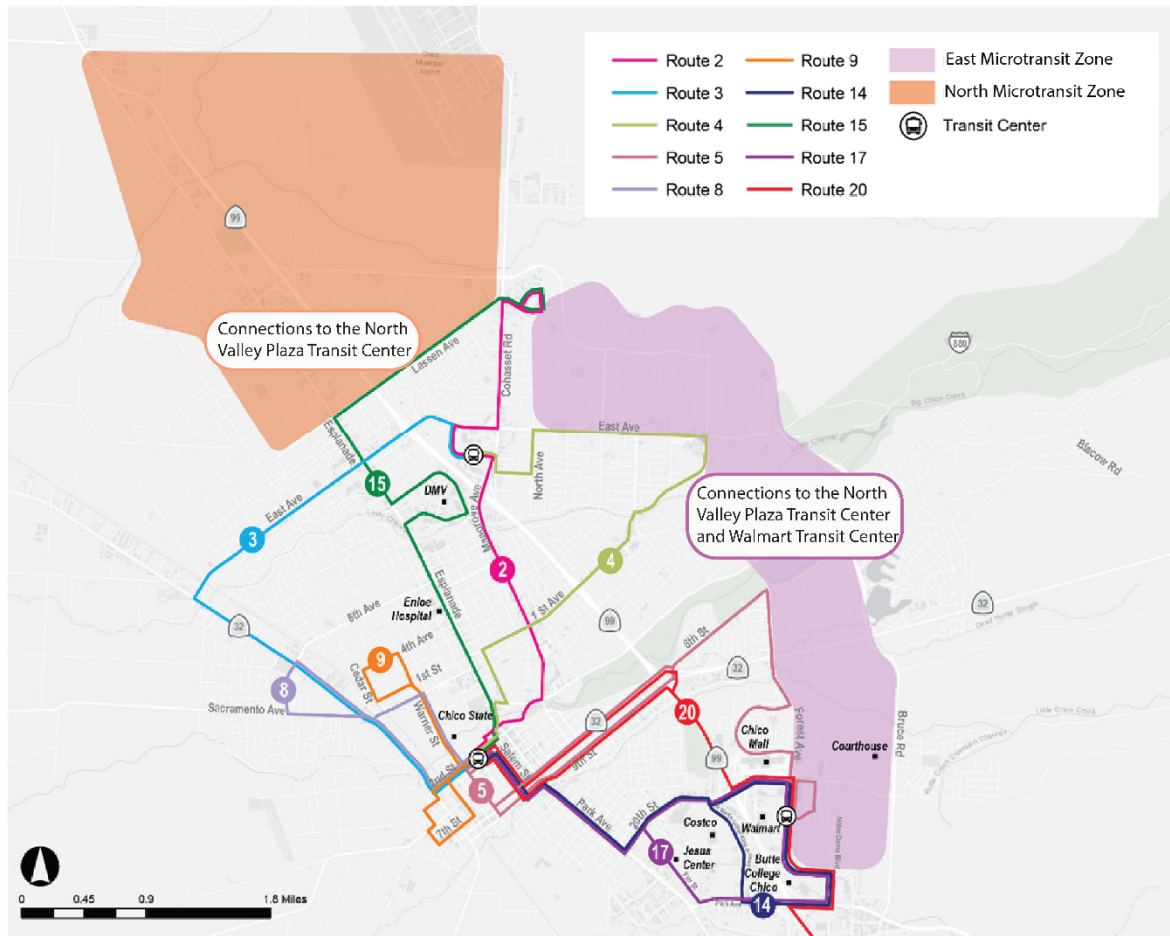
Route 8 Nord

No routing changes are proposed for Route 8.

Route 9 Orange/Warner/Cedar

Route 9 will continue to operate the existing route in the CSUC area. The only proposed change to the service is to shift the southern terminus loop to Orange Street instead of Oak Street to provide additional coverage in the neighborhood. This does not change the length or operating time of the route but will provide more convenient service along West Seventh Street and Orange Street, as well as provide service to the Amtrak station and Amtrak Thruway buses. Only one existing stop (on Oak Street just north of West Seventh Street) will need to be moved.

Figure 20:
B-Line System Map in Chico – Near Term Microtransit Scenario



Source: AECOM

Route 14 Park/Forest/MLK

No changes are proposed for Route 14.

Route 15 Esplanade/Lassen

Route 15 will continue to provide service from downtown Chico to north Chico via the Esplanade corridor. Under this scenario, Route 15 would take over the Rio Lindo Avenue / Cohasset Road loop to serve the DMV. In addition, the northern terminus routing would shift north to Ridgewood Drive to better serve the Social Security office and to offset some of the additional running time needed to serve the Rio Linda / Cohasset Road loop. While this adds route length and running time, at 11.3 miles in length, this route can still maintain its schedule.

Route 16 Esplanade/ Hwy 99

Route 16 would be eliminated under this scenario. This addresses the inefficient overlap between Routes 15 and 16 on Esplanade south of Lassen Boulevard (with Route 15 continuing to provide service). North of Lassen Avenue, service would be provided by microtransit, as discussed below.

Route 17 Park/Fair/Forest

Route 17 provides service from the Downtown Transit Center to the Walmart and Butte College Chico Campus on Forest Avenue. The proposed routing would shift the service from MLK JR. Parkway to Fair Street in the outbound direction to provide direct service to the Jesus Center and Fairgrounds. Stops along MLK JR. Parkway would continue to be served by Route 14. The resulting route would be 7.0 miles in length, 0.5 miles shorter than the current route.

Route 52 Chico Airport Express

Route 52 operates limited express service to the airport (five runs per weekday). This service would be discontinued and replaced by microtransit.

North Microtransit Zone

The zone is designed to replace the low-performing Routes 16 and 52 that are currently serving the community in northwest Chico. It consists of the area north of Lassen Avenue as far west as Alamo Avenue and as far east as Cohasset Road, extending as far north as the airport terminal on the northeast and the SR 99 / Wilson Landing Road intersection on the northwest. The microtransit van would also serve the key stops at North Valley Plaza and at the Social Security office on Lassen Avenue to connect the on-demand service with the fixed route system.

The Northwest Zone will utilize the revenue hours from the existing Route 16 to operate weekdays and Saturdays. One vehicle will be sufficient to provide service in the zone.

East Microtransit Zone

The East Zone is designed to replace the existing poorly performing Route 7. It would serve the areas on the east side of Chico between Forest Avenue and Bruce Road/Manzanita Avenue, as well as the area north of East Avenue and east of Cohasset Road. Route 7 currently has the lowest ridership in the system. The area is made up of lower density land uses that can be better served by microtransit than fixed routes. The vehicle will also serve transfer points at North Valley Plaza, Social Security office and Forest Avenue Transfer Point, to provide connections with fixed routes, and serve the existing bus stops at Pleasant Valley High School.

The zone will utilize the revenue hours from the existing Routes 7 and 52 to operate weekday service. One vehicle will be sufficient to provide service in the zone.

Chico Operations

The primary change to revenue hours is the addition of two microtransit zones. The new microtransit service will utilize resources from discontinued services such as Routes 7, 16, and 52. On weekdays, the new service will utilize five fewer revenue hours and on Saturdays the service will need 10 additional revenue hours to accommodate Saturday service for the East Microtransit zone.

Overall, this scenario for Chico saves 374 revenue hours per year as shown in Table 24.

Table 24: Near Term Microtransit Scenario Impact on Chico Service Revenue Hours				
Route	Vehicle Revenue-Hours of Service			
	Weekday	Saturday	Sunday	Total Annual
2	15.5	11.0	0	4,457
3	15.8	10.0	0	4,453
4	17.8	10.0	0	5,114
5	14.3	11.0	0	4,083
East Microtransit	11.8	10.0	0	3,540
8	14.0	0.0	0	1,369
9	14.5	0.0	0	2,066
14	23.0	11.0	0	6,360
15	22.5	11.0	0	6,480
North Microtransit	11.5	10.0	0	3,476
17	10.5	9.5	0	3,265
Total	171.1	93.5	0	44,662
Total Existing ¹	176.1	83.5	0	45,035
Difference	-5.0	10.0	0	(374)
Note 1: FY 2021/22				

Scenario Benefits

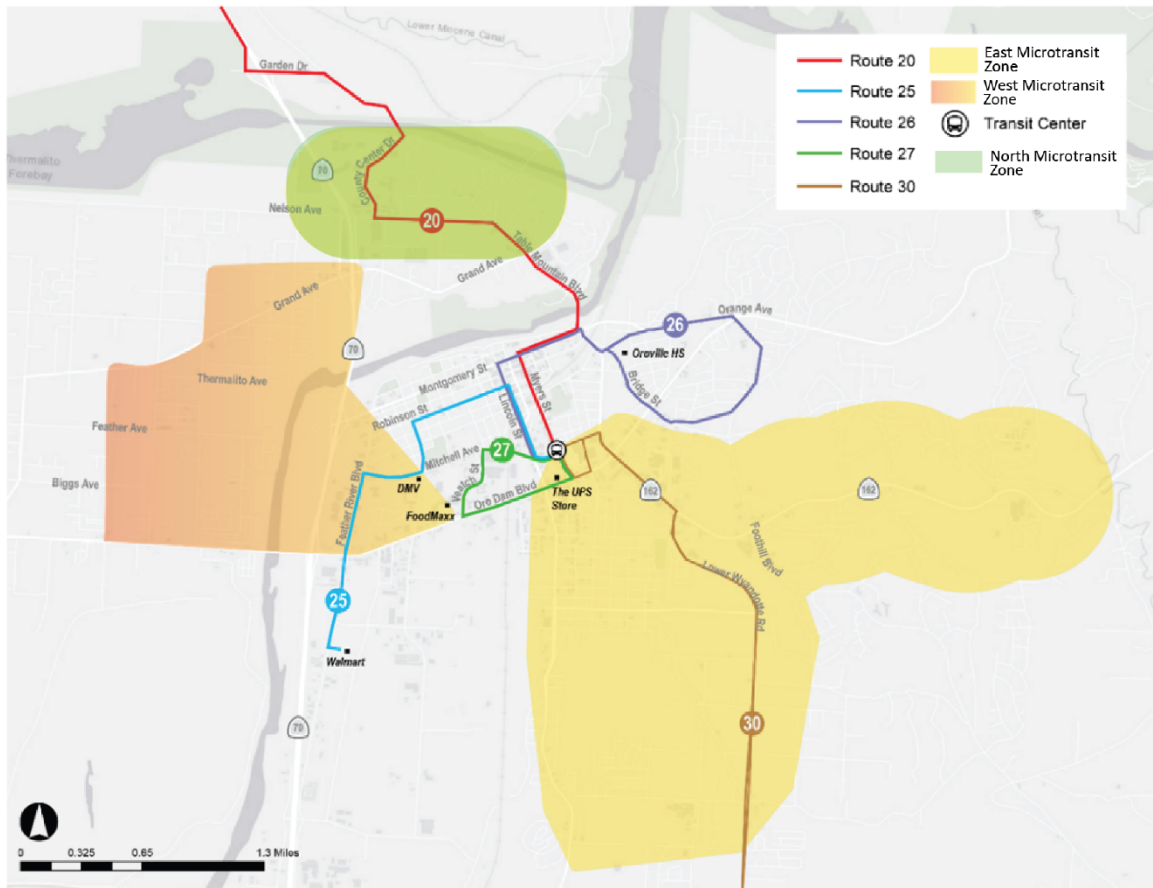
Overall, this scenario has the following benefits in the Chico Area:

- Travel times are reduced on Routes 2 and 5, improving the on-time performance.
- Lower performing routes have been replaced with microtransit to better align the service with the market it serves.
- Transit coverage is extended with microtransit in the east and north areas, with continued connection points at Downtown Chico, North Valley Plaza and Forest Avenue.
- Direct fixed route local service on Fair Street to the Jesus Center

Oroville Service

The existing service in Oroville operates four routes at 60-minute headways using two buses. This scenario reallocates the service hours to improve on-time performance and coverage in the area. The service plan introduces three microtransit zones and three fixed routes to expand the service to more areas. The key components of the services in Oroville include:

**Figure 22:
Oroville Microtransit Scenario Service Map**



Source: AECOM

Route 25 Feather River Boulevard

Route 25 provides service from the Oroville Transit Center to Walmart and the retail area along Feather River Boulevard in the southwest part of the city. Under this scenario, the route would operate in a bi-directional pattern along the existing service on Feather River, Mitchell Avenue to the DMV, north on 5th Avenue to Robinson Street and Lincoln Street to the Transit Center. The route would follow the same route in the outbound direction back to Feather River and Walmart. The route would no longer serve the Oro Dam corridor.

Route 26 Orange Avenue

The new Route 26 extends the loop along Orange Avenue, Canyon Highlands Drive, and Bridge Street to service the High School, as well as the retail and residential in that area. The route connects to other routes at the transit center. It is interlined with Route 27.

Route 27 Oro Dam/Veatch

Route 27 would take over the segment of Oro Dam Boulevard between the Transit Center and Veatch Street near FoodMaxx and Las Plumas Plaza. The route would travel in a small loop to provide service along Oro Dam and connect back to the Transit Center for connections to other routes. The route would be interlined with Routes 25 and 26.

West Microtransit Zone

The existing Route 24, which serves the Thermalito area, has very low ridership and productivity. Under this scenario a West Zone encompassing the Thermalito area would be operated as a combined paratransit and general public demand response service. The service in the zone would connect riders from Thermalito to areas in central Oroville for transfer opportunities to other routes and zones.

Southeast Microtransit Zone

The Southeast Zone provides coverage to the areas along Olive Highway (as far east as Gold Country Casino) and along Lincoln Street and Lower Wyandotte Road as far south as Monte Vista Avenue, serving the areas currently served by Route 27 and Route 26 would no longer operate on Olive Highway. These areas would be covered as part of the Southeast Zone. The zone would also cover Las Plumas High School, Gold Country Casino and connect to the Transit Center for transfer opportunities. Route 30 would also continue to serve the southern portion of this zone. The number of weekday vehicle-hours for this and the North microtransit zone would be similar to those operated by existing Routes 24/27.

North Microtransit Zone

The North Zone would share a vehicle with the Southeast Zone. The zone would provide microtransit service to County Center Road and Grand Avenue area. This would take over the discontinued portion of the existing Route 24. Trips to and from the Oroville Transit Center would also be accommodated to allow transfers to the fixed routes. Note that Route 20 would continue to serve this area on a more direct route (as discussed below).

Oroville Operations

As shown in Table 25, there are no changes to the total revenue hours between the existing service and this scenario. This scenario utilizes two buses:

- Bus 1: Operates Routes 25, 26, 27 at hourly headways
- Bus 2: Operates the North and Southeast Microtransit Zones
- West Zone is a shared service with the existing paratransit service

Benefits of Scenario in Oroville

This scenario would have the following benefits in Oroville

- Improved on-time performance for fixed route

Table 25: Near Term Microtransit Scenario Impact on Oroville Service Revenue Hours

Route	Vehicle Revenue-Hours of Service			
	Weekday	Saturday	Sunday	Total Annual
25	6.0	0.0	0	1,257
26	5.5	0.0	0	1,137
27	2.9	0.0	0	599
Southeast	3.0	0.0	0	1,451
North	3.0	0.0	0	1,451
Thermalito	0.0	0.0	0	0
Total	24.3	0.0	0	5,895
Total Existing ¹	24.3	0.0	0	5,895
Difference	0	0	0	0
Note 1: FY 2021/22				

- Lower performing routes have been replaced with microtransit to better align the service with the market it serves. This has the potential to expand ridership in the future.
- Extended transit coverage with microtransit in the southeast and north areas
- No additional revenue hours

Paradise/Magalia Service

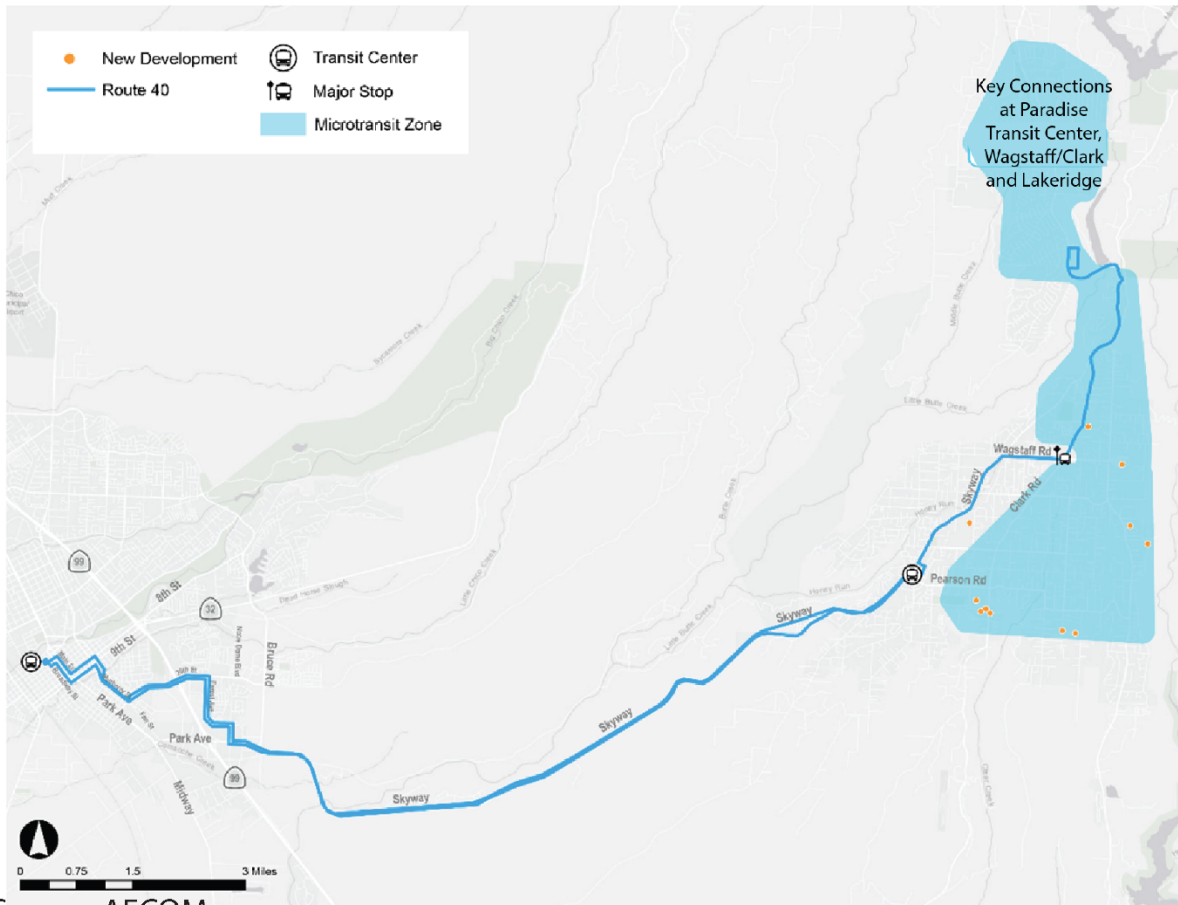
Route 40

The scenario would combine Routes 40 and 41 and provide a consistent and faster service connecting Magalia, Paradise and Chico. As shown in Figure 23, the route operates along most of the segment of the old Route 40 to Wagstaff/Clark and continues north to the Lakeridge Loop. The Paradise Transit Center would be served in both directions. Note that the existing Route 41 service along Fair Street in Chico would be eliminated (all service would be along the existing Route 40 in Chico), but the revisions to Route 17 would replace and expand service along Fair Street. As current ridership demand in the corridor does not presently warrant an expansion in overall service, the number of weekday runs would be reduced to save costs. Five westbound runs would be provided along with four eastbound runs on weekdays, which would serve commute trips (in both directions) as well as two mid-day runs. The current three daily runs on Saturdays would be maintained.

Paradise/Magalia Microtransit

Outlying areas of Paradise and Magalia would be served by a microtransit zone. This would replace the various low-ridership loops operated currently by Route 41 and also substantially expand the transit service area to encompass new developments in Paradise that are part of rebuilding the community (these new development sites are also shown in Figure 23.) To provide connections with the fixed route, service would operate from 6:30 AM– 6:00 PM on weekdays and 9:30 AM – 5:30 PM on Saturdays. Initially, one van would be in operation. If demand grows to the point when a consistent average response time exceeds 30 minutes, a second van could be put into operation during peak periods (approximately 6 AM to 10 AM and 3 PM to 7 PM) on weekdays.

**Figure 23:
Paradise/Magalia Service Under Microtransit Scenario**



Source: AECOM

Paradise/Magalia Operations

As shown in Table 26, this scenario would increase the overall vehicle-hours of service provided to serve Paradise and Magalia slightly (192 vehicle-hours per year), largely through the provision of Saturday microtransit service.

Benefits of Scenario in Paradise/Magalia

This scenario would have the following benefits in Paradise and Magalia:

- Improved on-time performance for fixed route.
- Lower ridership fixed route runs have been cut, to provide resources for microtransit.
- Lower performing route segments have been replaced with microtransit to better align the service with the market it serves.
- Microtransit significantly expands the portions of the Ridge communities that have transit service. Importantly, this includes scattered multifamily residential developments that cannot be efficiently served by fixed routes.

Table 26: Near Term Microtransit Scenario Impact on Paradise/Magalia Service Revenue Hours

Route	Vehicle Revenue-Hours of Service			
	Weekday	Saturday	Sunday	Total Annual
40	8.1	5.4	0	2,366
Microtransit	11.5	8	0	3,367
All Paradise/Magalia Services	19.6	13.4	0	5,733
Total Existing ¹	20.0	7.5	0	5,541
Difference	-0.4	5.9	0	192
Note 1: FY 2021/22				

Other Intercity Services

Beyond the Paradise/Magalia service, the existing intercity network provides coverage and delivers the needs from communities within the B-Line service area. The system provides regional connections between Chico, Oroville, Gridley, and Biggs. However as identified in Chapter 4, the primary service challenge of the intercity routes is related to on-time performance at various times of the day. This Plan has been developed to address this issue and improve the system coverage. The guiding principle to redesign the service is to improve on-time performance issues on existing intercity routes.

Figure 24 illustrates the existing and the proposed changed intercity routes.

Route 20

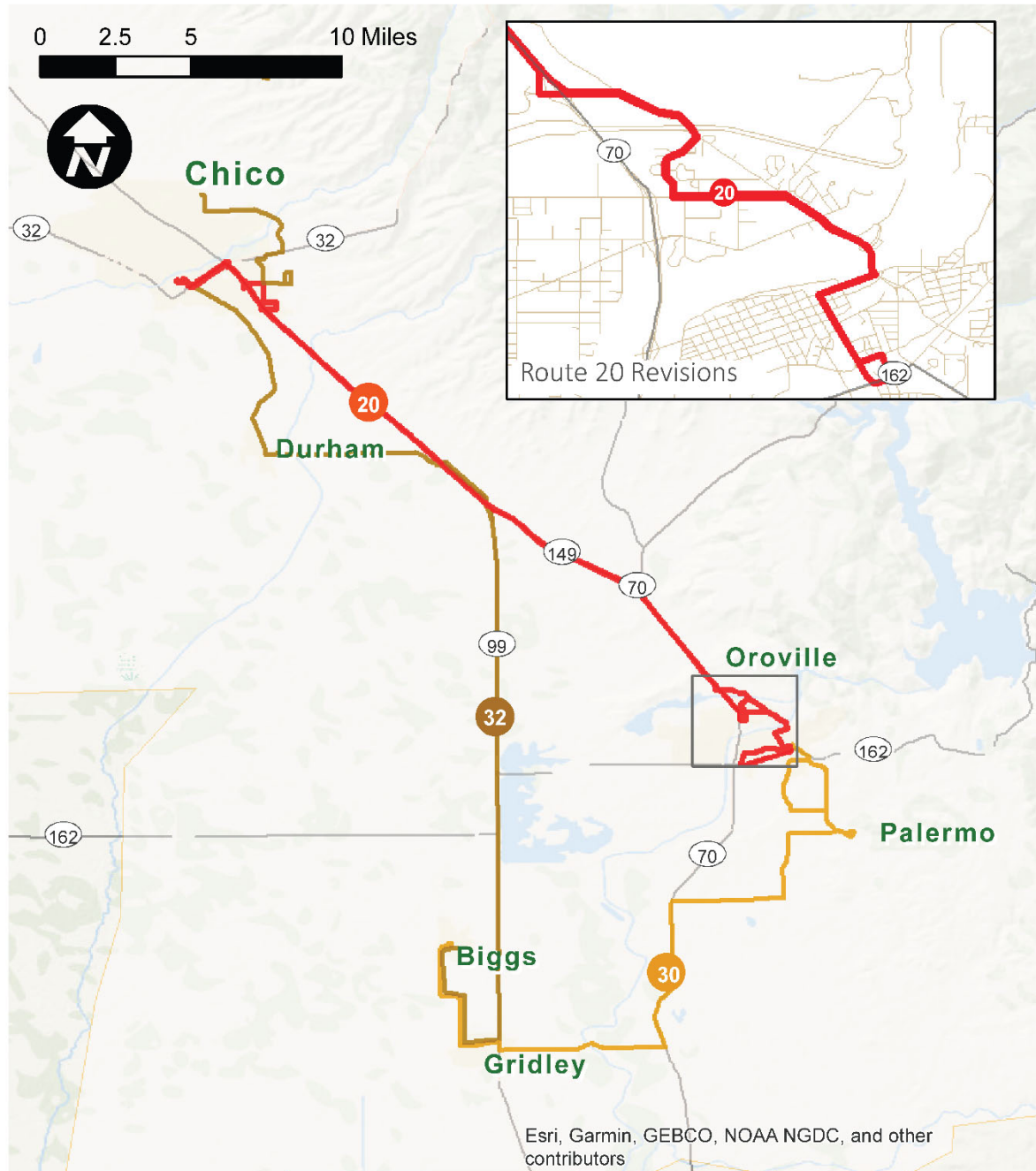
Route 20 is currently providing critical connections between the most populous areas within the B-Line system – Chico and Oroville. In this scenario most of the routing of Route 20 will remain the same. The proposed rerouting will be focused on the Butte County public service complex in Oroville as illustrated in Figure 24. The proposed new Route 20 will be bidirectional along SR-70, Garden Dr, Table Mountain Blvd, County Center Dr, Nelson Ave, and back to Table Mountain Blvd. This will reduce running time by 1 to 2 minutes and improve on-time performance.

Route 30

No major routing changes to Route 30. Consideration was given to making the bus stop at the Feather Falls Casino on Route 30 an on-demand stop in order to reduce the total travel time and address the on time performance issue, but the time saved is small in comparison with the inconvenience to riders.



Figure 24:
Existing B-Line Intercity Routes and Potential Revisions
Excluding Paradise/Magalia Routes



Route 31

Prior to the Camp Fire, Route 31 provided service between Paradise and Oroville. Even before the pandemic and fire, ridership on this route was very low. Given that the bulk of the need for a transit connection to Paradise/Magalia is to/from Chico, available transit resources are better used in expanding that service (as discussed above) and reinstatement of Route 51 is not part of this scenario.

Route 32

No changes are considered for Route 32. While ridership is low, it is an important lifeline service, and serves disadvantaged communities.

Operations

Under this scenario, no changes in vehicle-hours of service would be made for Routes 20, 30, and 32. As Route 31 has not operated for several years, the impact of the elimination of this route is not included in the calculations.

Benefits to Intercity Services

- Improved on-time performance for intercity routes
- Maintain key service areas of the intercity routes
- Improve regional service efficiency

Total Systemwide Operations Impacts

Over the B-Line system, the Near-Term Scenario would require 65,882 annual vehicle-hours of revenue service, as shown in Table 27. This is 182 less than the total services under the existing service plan. As reflected in this table, this reflects a small increase in service for Paradise/Magalia, a slight decrease in Chico service, and no change in other services.

Table 27: Summary of Near Term Microtransit Scenario Impact on Revenue Hours				
	Annual Vehicle Revenue-Hours of Service			
	Existing ¹	With Scenario	Change	% Change
Chico	45,035	44,662	(374)	-1%
Oroville	5,895	5,895	0	0%
Paradise/Magalia	5,541	5,733	192	3%
Other Intercity	9,592	9,592	0	0%
Total Systemwide	66,064	65,882	(182)	0%
Note 1: FY 2021/22				

Ridership Impacts

Table 28 presents the ridership impacts under the near-term microtransit scenario. Overall, systemwide ridership is forecast to increase by 8 percent, or 31,300 boardings per year. (Note that this does not reflect any changes from external factors such as the continued rebound from the impacts of the pandemic.) By service area, this consists of:

Chico: 6 percent increase

Paradise/Magalia: 16 percent increase

Oroville: 2 percent increase

Other Intercity: 3 percent increase

Ridership improvements vary by route. For example, Route 17 has an increase of over 60% due to the new routing on Fair Street which serves a higher density residential area and the social service organization, the Jesus Center. Other routes such as Route 2 had a more modest ridership increase (7%) due to faster travel times with the removal of the DMV loop. Route 26 in Oroville had a reduction in ridership as the eastern portion of the route along Olive Highway was removed from the route and replaced by microtransit.

Fixed route ridership estimates were calculated using an elasticity of demand model which measures the demand shift based on demographic and operational changes. Microtransit ridership was calculated based on the total population and jobs in each zone. We have found that these two metrics have the strongest correlation to ridership for the microtransit service. The ridership formula was developed using a regression model that found that as population and employment increased so did ridership. By using existing ridership from fixed route segments in the area, the team used the following formula as part of the projections: $Y \text{ (Weekly Ridership)} = 11 \text{ (intercept)} + \text{Regression coefficient} * X \text{ (Sum of population and employment in the zone)}$. The microtransit ridership ranges show the population and employment potential growth scenarios. All ridership projections were checked through the ridership statistics produced through the Remix transit planning tool. As a new service to the region, however, the ridership estimates for the microtransit services have a relatively high level of uncertainty. These should be considered to have a possible error range of + or – 50 percent.

NEAR TERM SERVICE SCENARIO WITH FIXED ROUTE SERVICE ONLY

Under this scenario, Routes 7 and 11 would remain unchanged, as would the Oroville Services and Routes 30 and 32. Route 52 would be eliminated. Routes that would be modified are defined below. Note that other routes not mentioned would remain unchanged.

Table 28: Ridership Impacts - Near Term Scenario With Microtransit Service

Excluding Impacts of Change in Service Span

Route	Annual Ridership			
	Existing - Factored 2022 Estimated	Factored 2022 Estimated With Plan	Change	% Change
<u>Chico Area</u>				
2 Mangrove	34,200	36,500	2,300	7%
3 North/East	58,400	61,400	3,000	5%
4 First/East	37,900	37,900	0	0%
5 East 8th St	27,000	30,400	3,400	13%
7 Bruce/Manzanita	6,700	0	-6,700	-100%
8 Nord	30,400	30,400	0	0%
9 Warner/Oak	47,800	47,800	0	0%
14 Park/Forest/MLK CW	29,600	29,600	0	0%
15 Esplanade/Lassen	44,000	64,900	20,900	48%
16 Espanade/99	25,900	0	-25,900	-100%
17 Park/Fair/Forest CCW	14,100	23,000	8,900	63%
52 Chico Airport Express	1,800	0	-1,800	-100%
Chico East Microtransit Zone	0	9,800	9,800	--
Chico North Microtransit Zone	0	7,500	7,500	--
<i>Subtotal: Chico Area</i>	<i>357,800</i>	<i>379,200</i>	<i>21,400</i>	<i>6%</i>
<u>Oroville</u>				
24 Thermalito	5,300	0	-5,300	-100%
25 Feather River	4,400	4,700	300	7%
26 Orange/Bridge St	3,800	3,100	-700	-18%
27 Oro Dam/Foodmaxx	4,300	1,700	-2,600	0%
Oroville Microtransit Zones	--	8,600	8,580	--
<i>Subtotal: Oroville</i>	<i>17,800</i>	<i>18,100</i>	<i>280</i>	<i>2%</i>
<u>Paradise/Magalia</u>				
40 Paradise/Magalia-Chico	26,600	41,600	15,000	56%
41 Magalia-Chico	19,300	0	-19,300	-100%
Paradise/Magalia Microtransit Zone	0	11,700	11,700	--
<i>Subtotal: Paradise/Magalia</i>	<i>45,900</i>	<i>53,300</i>	<i>7,400</i>	<i>16%</i>
<u>Intercity (Excluding Paradise/Magalia)</u>				
20 Chico-Oroville	57,900	60,100	2,200	4%
30 Oroville-Biggs	5,700	5,700	0	0%
32 Gridley-Chico	1,500	1,500	0	0%
<i>Subtotal: Intercity</i>	<i>65,100</i>	<i>67,300</i>	<i>2,200</i>	<i>3%</i>
TOTAL SYSTEMWIDE	486,600	517,900	31,300	6%

Chico Service

Route 5 East 8th Street

This scenario would include two changes to the route. First, the Springfield Drive loop would be operated in both the inbound and outbound directions, rather than the current route which only travels on the loop in the inbound direction. The second change is to shorten the southern terminus loop to operate south on Forest Avenue, east on Parkway Village Drive and north on Huntington Drive. Service would be eliminated along the Notre Dame Boulevard loop. The revised route would be 11.2 miles in length, 0.3 miles less than at present. This will reduce running time by several minutes, improving on-time performance.

Route 9 Orange/Warner/Cedar

Route 9 would be modified to shift the southern terminus loop to Orange Street instead of Oak Street to provide additional coverage in the neighborhood. This does not change the length or operating time of the route but will provide more convenient service along West Seventh Street and Orange Street as well as provide service to the Amtrak station and Amtrak Thruway buses.

Route 15 Esplanade/Lassen

Under this scenario, Route 15 would take over the Rio Lindo Avenue / Cohasset Road loop to serve the DMV. In addition, the northern terminus would shift north to Ridgewood Drive to serve the Social Security office and to offset some of the additional time needed to serve the Rio Linda / Cohasset Road loop. While this adds length and time, at 11.3 miles this route can still maintain its schedule.

Route 17 Park/Fair/Forest

The proposed routing would shift the service from MLK JR. Parkway to Fair Street in the outbound direction to provide direct service to the Jesus Center and Fairgrounds. Stops along MLK JR. Parkway would continue to be served by Route 14. The resulting route would be 7.0 miles in length, 0.5 miles shorter than the current route.

Route 52

Reflecting the low ridership, Route 52 would be eliminated.

Chico Operations

Under this scenario the annual revenue vehicle hours in the Chico area would be unchanged, except for the elimination of Route 52 (a reduction of 1,543 annual vehicle-hours).

Scenario Benefits

Overall, this scenario has the following benefits in the Chico Area:

- Travel times are reduced on Routes 2 and 5, improving the on-time performance.
- Direct fixed route local service is provided on Fair Street to the Jesus Center

Paradise/Magalia Service

Route 40

Under this scenario, the combination of Routes 40 and 41 discussed in the previous scenario would be implemented. This would provide a consistent and faster service connecting Magalia, Paradise and Chico. Additional runs from the old Route 41 will be added to the new Route 40. The Paradise Transit Center would be served in both directions.

Paradise Local Route

To provide service to the dispersed developments in Paradise, it would be necessary to operate a “Paradise Local” route. As shown in Figure 25, one bus would operate hourly over a 10.7-mile one-way loop. Service would be provided from 6 AM to 6:30 PM on weekdays and from 9:30 AM to 5:30 on Saturdays.

Magalia Local Route

A local route would also be needed to serve the outlying areas of Magalia, making transfers to Route 40 at the Lakeridge Loop. Service would be provided from 6:00 AM to 6:30 PM on weekdays, and 9:30 AM to 5:30 PM on weekends.

Paradise/Magalia Operations

As shown in Table 29, this scenario would increase the overall vehicle-hours of service provided to serve Paradise and Magalia by 3,559 vehicle-hours per year, 11.1 hours per weekday and 13.9 hours per Saturday.

Benefits of Scenario in Paradise/Magalia

This scenario would have the following benefits in Paradise and Magalia:

- Improved on-time performance for fixed route.
- Reduced travel times along the fixed route.
- Expansion of fixed route services to additional neighborhoods of Paradise.

Other Intercity Routes

Route 20

Route 20 would be revised to streamline service at the County public service complex in Oroville. The proposed new Route 20 will be bidirectional along SR-70, Garden Dr, Table Mountain Blvd, County Center Dr, Nelson Ave, and back to Table Mountain Blvd. This will reduce running time by 1 to 2 minutes and improve on-time performance.

Figure 25:

Paradise/Magalia Service under All Fixed Route Scenario

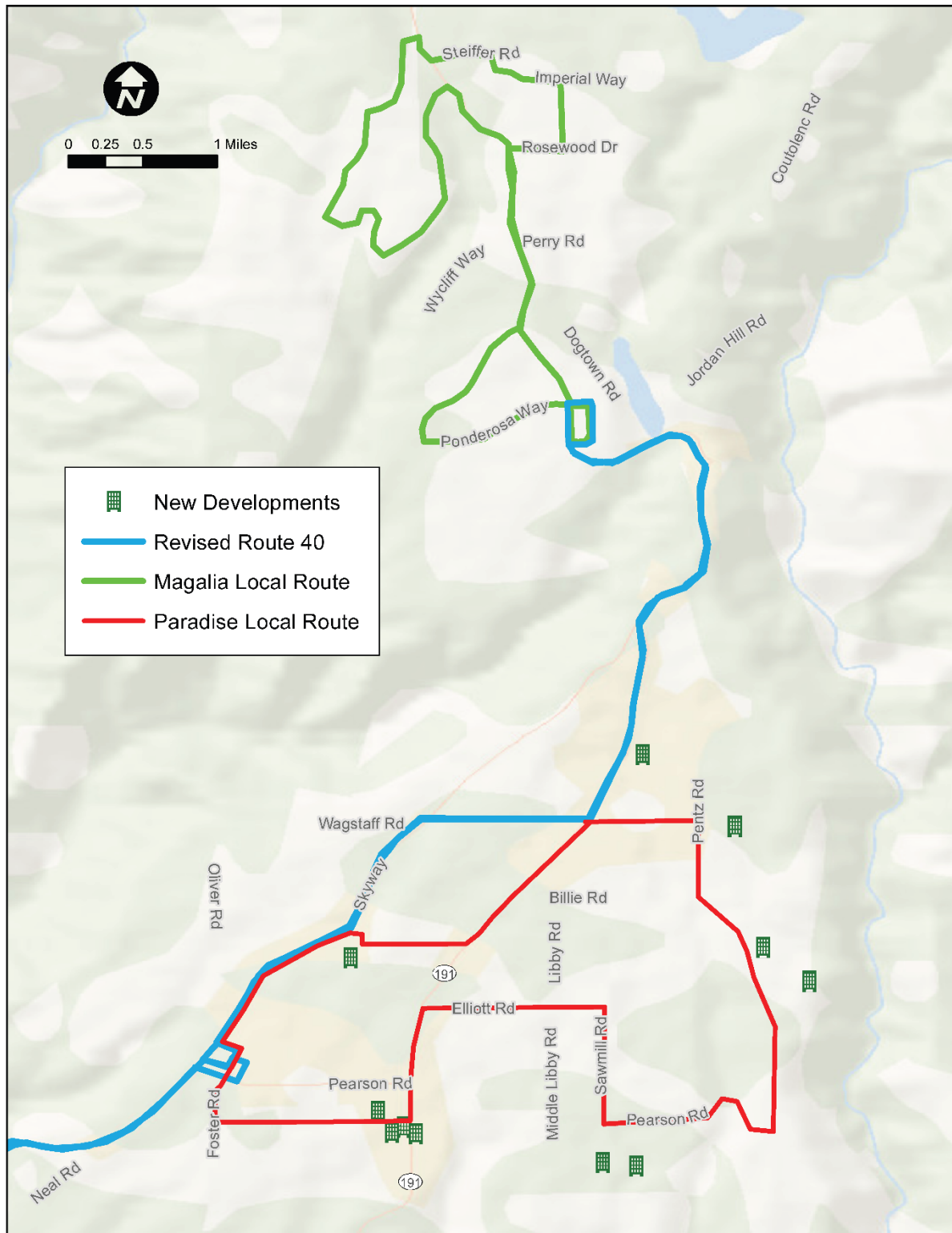


Table 29: Near Term Fixed Route Scenario Impact on Paradise/Magalia Service Revenue Hours

Route	Vehicle Revenue-Hours of Service			
	Weekday	Saturday	Sunday	Total Annual
40	8.1	5.4	0.0	2,366
Paradise Local FR	11.5	8.0	0	3,367
Magalia Local FR	11.5	8.0	0	3,367
All Paradise/Magalia Services	31.1	21.4	0	9,100
Total Existing ¹	20.0	7.5	0	5,541
Difference	11.1	13.9	0	3,559
Note 1: FY 2021/22				

Total Systemwide Operations Impacts

With fixed route service only, the scenario would require an additional 2,547 annual vehicle-hours, as shown in Table 30. This is a 4 percent increase over the current service level of 66,064. Vehicle-hours would be increased to serve Paradise/Magalia and reduced in Chico.

Table 30: Summary of Near Term Fixed Route Scenario Impact on Revenue Hours

	Annual Vehicle Revenue-Hours of Service			
	Existing ¹	With Scenario	Change	% Change
Chico	45,035	43,493	(1,543)	-3%
Oroville	5,895	6,426	531	9%
Paradise/Magalia	5,541	9,100	3,559	64%
Other Intercity	9,592	9,592	0	0%
Total Systemwide	66,064	68,610	2,547	4%
Note 1: FY 2021/22				

Ridership Impacts

Ridership forecasts for this scenario are shown in Table 31. Total systemwide ridership is forecast to increase by 5 percent, or 22,800 boardings per year. By service area, this consists of:

Chico: 4 percent increase
Oroville: no change

Paradise/Magalia: 10 percent increase
Other Intercity: 3 percent increase

Ridership improvements vary by route. For example, Route 17 has an increase of over 60% due to the new routing on Fair Street which serves a higher density residential and the Jesus Center social service organization. Other routes would have a more modest ridership increase, such as a 13 percent increase on Route 5 due to new service areas and faster travel times, and a 7% increase on Route 2 due to faster travel times with the removal of the DMV loop.

Comparison of Near-Term Scenarios

Table 32 presents a comparison of the systemwide annual ridership and vehicle-hours of service of the two scenarios, indicating the following:

- While both scenarios would increase ridership, the Microtransit Scenario would generate more ridership for the system as a whole: 8,500 annual boardings or 1.1 percent more than the All Fixed Route Scenario.
- The All Fixed Route Scenario would require an increase of 2,547 annual vehicle-hours of service, while the Microtransit Scenario would result in a slight (182) decrease.
- At the marginal contractor operating cost of \$88.86 per revenue vehicle-hour and considering \$47,500 per year for microtransit software costs, the Microtransit Scenario would increase annual operating cost by \$31,500, compared with \$226,000 for the All Fixed Route Scenario.
- Both scenarios would improve the cost-effectiveness of B-Line operations, as measured by the operating cost per passenger-trip. Compared with the current overall B-Line fixed route value of \$18.97, the Microtransit Scenario reduces this cost by 6 percent to \$17.88, while the Fixed Route Scenario reduces it by 2 percent to \$18.57.
- The marginal change in operating cost per additional passenger-trip would equal \$1.01 for the Microtransit Scenario, versus \$9.91 for the All Fixed Route Scenario. By this measure, the Microtransit Scenario is a much more effective a use of operating dollars as the All Fixed Route Scenario.
- Total systemwide productivity (passenger-trips per revenue vehicle hour) would be 7.86 under the Microtransit Scenario and 7.42 under the All Fixed Route Scenario. Compared with the current systemwide value of 7.37, the Microtransit Scenario generates a 7 percent improvement, compared with a 1 percent improvement for the Fixed Route Scenario.
- As discussed in more detail in Chapter 9, below, the Microtransit Scenario would reduce average annualized capital costs by \$169,600, while the Fixed Route Scenario would increase these costs by \$107,200.

Table 31: Ridership Impacts - Near Term Scenario With All Fixed Route Service

Excluding Impacts of Change in Service Span

Route	Annual Ridership			
	Existing - Factored 2022 Estimated	Factored 2022 Estimated With Plan	Change	% Change
<u>Chico Area</u>				
2 Mangrove	34,200	36,500	2,300	7%
3 North/East	58,400	61,400	3,000	5%
4 First/East	37,900	37,900	0	0%
5 East 8th St	27,000	30,400	3,400	13%
7 Bruce/Manzanita	6,700	6,700	0	0%
8 Nord	30,400	30,400	0	0%
9 Warner/Oak	47,800	47,800	0	0%
14 Park/Forest/MLK CW	29,600	29,600	0	0%
15 Esplanade/Lassen	44,000	54,450	10,450	24%
16 Espanade/99	25,900	15,450	-10,450	-40%
17 Park/Fair/Forest CCW	14,100	23,000	8,900	63%
52 Chico Airport Express	1,800	0	-1,800	-100%
<i>Subtotal: Chico Area</i>	<i>357,800</i>	<i>373,600</i>	<i>15,800</i>	<i>4%</i>
<u>Oroville</u>				
24 Thermalito	5,300	5,300	0	0%
25 Feather River	4,400	4,400	0	0%
26 Orange/Bridge St	3,800	3,800	0	0%
27 Oro Dam/Foodmaxx	4,300	4,300	0	0%
<i>Subtotal: Oroville</i>	<i>17,800</i>	<i>17,800</i>	<i>0</i>	<i>0%</i>
<u>Paradise/Magalia</u>				
40 Paradise/Magalia-Chico	26,600	41,600	15,000	56%
41 Magalia-Chico	19,300	0	-19,300	-100%
Paradise Local Route	0	5,100	5,100	--
Magalia Local Route	0	4,000	4,000	--
<i>Subtotal: Paradise/Magalia</i>	<i>45,900</i>	<i>50,700</i>	<i>4,800</i>	<i>10%</i>
<u>Intercity (Excluding Paradise/Magalia)</u>				
20 Chico-Oroville	57,900	60,100	2,200	4%
30 Oroville-Biggs	5,700	5,700	0	0%
32 Gridley-Chico	1,500	1,500	0	0%
<i>Subtotal: Intercity</i>	<i>65,100</i>	<i>67,300</i>	<i>2,200</i>	<i>3%</i>
TOTAL SYSTEMWIDE	486,600	509,400	22,800	5%

Table 32: Summary of Near-Term Scenarios

	<i>Existing</i> ²	With Microtransit Scenario	All Fixed Route Scenario
Annual Fixed Route Ridership	486,600	517,900	509,400
<i>Change in Annual Ridership</i>		31,300	22,800
Annual Fixed Route Revenue Vehicle-Hours	66,064	65,882	68,610
<i>Change in Annual Revenue Vehicle-Hours</i>		(182)	2,547
Operating Cost per Passenger-Trip	\$18.97	\$17.88	\$18.57
<i>Change in Operating Cost per Passenger-Trip</i>		-6%	-2%
<i>Marginal Operating Cost per Passenger-Trip</i>		\$1.01	\$9.91
Total Productivity (Psgrs per Revenue Vehicle Hr)	7.37	7.86	7.42
<i>Change in Productivity</i>		7%	1%
Impact On Annual B-Line Non-Paratransit Costs			
Existing Costs			
<i>Operations and Maintenance</i>	\$8,334,367	\$8,365,867	\$8,560,367
<i>Administration</i>	\$896,646	\$896,646	\$896,646
<i>Total: Operating/Administration</i>	\$9,231,013	\$9,262,513	\$9,457,013
Change in Annual Operating Costs ⁽¹⁾		\$31,500	\$226,000
<i>Percent Change in Annual Operating Costs</i>		0.3%	2.4%
<i>Capital</i>	<i>Varies Depending Largely on Vehicle Purchases</i>	-\$33,920	\$21,440
Note 1: At a marginal cost per revenue vehicle-hour of \$88.86 plus \$47,500 per year for microtransit software costs.			

MID-TERM SERVICE SCENARIO

An additional service scenario was developed for possible implementation in the mid-term (5 to 10 years) planning horizon. This assumes that future ridership warrants expansion⁸. A potentially viable means of enhancing transit quality and generating increased ridership is to provide high frequency (every 15 minutes) on high ridership potential corridors connecting key activity centers in Chico. As shown in Figure 26, this consists of 15-minute weekday service on Routes 3 and 14 from approximately 6:30 AM to 6:00 PM. Route 3 is identified over Route 2 for 15-minute service due to the higher existing ridership (70 percent higher). Similarly, Route 14 ridership is currently 108 percent higher than Route 17 ridership.

⁸ Chico fixed routes (excepting Routes 8 and 9 largely serving CSUC ridership), reflecting the ridership impact of the pandemic, currently have an average productivity of 6.8 passenger-trips per vehicle-hour, with the most productive route (Route 3) generating a productivity of 13.1. While B-Line does not have specific standards that would warrant 15-minute service, these values are substantially below those typically considered to warrant significant frequency improvements in other similar transit systems.

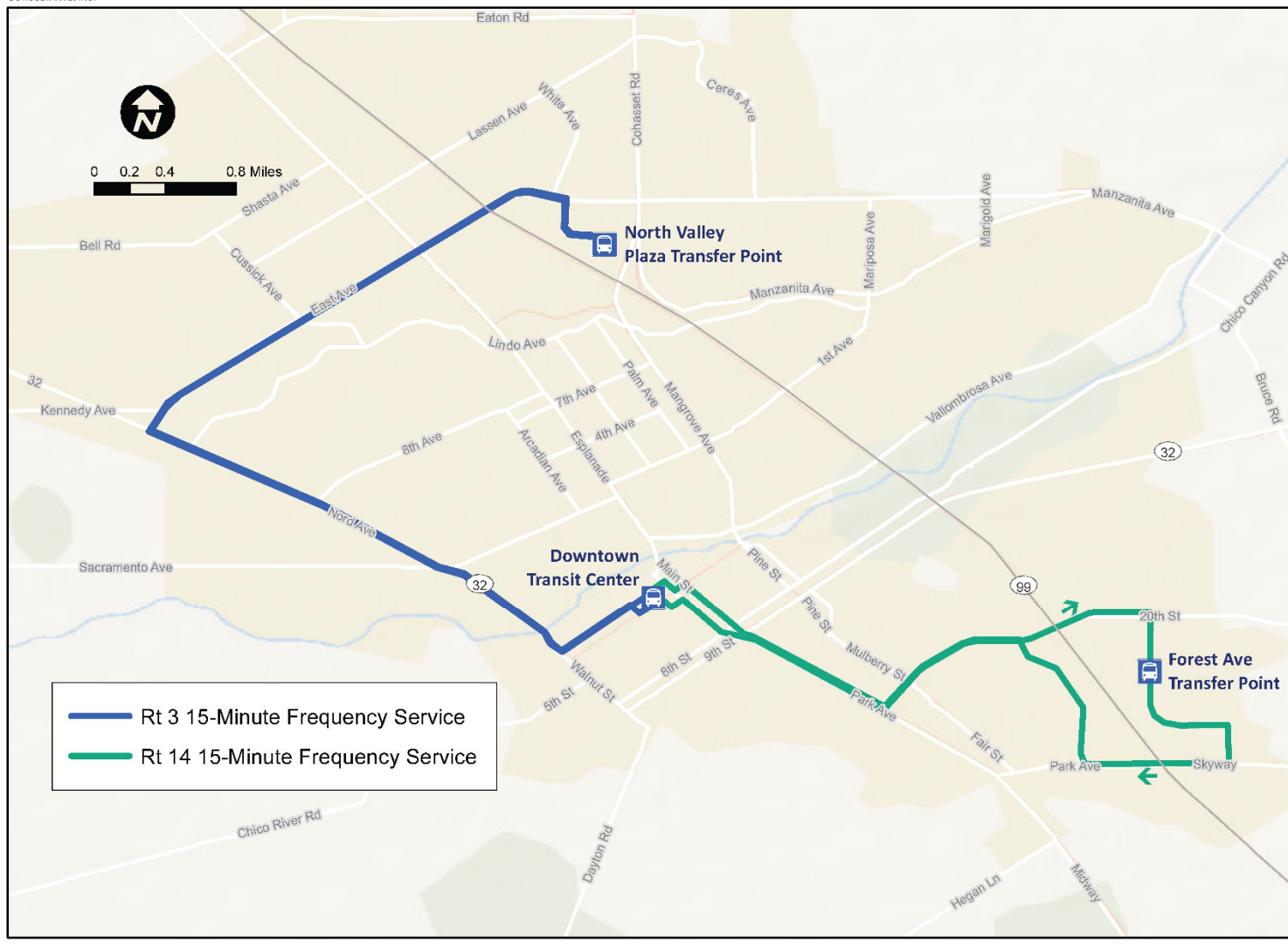
This service enhancement would require 32 additional daily Route 3 runs along with 29 additional daily Route 14 runs. As shown in Table 33, over the course of a year a total of 16,254 additional vehicle-hours would be operated in revenue service. At current marginal contract rates, this would increase annual operating costs by \$1.18 Million.

Table 33: Mid Term Service Improvements Vehicle Revenue-Hours				
Route	Additional Vehicle Revenue-Hours of Service			
	Weekday	Saturday	Sunday	Total Annual
3	32.0	0.0	0	8,256
14	19.3	0.0	0	4,988
Total	51.3	0.0	0	13,244
Annual Operating Cost				\$1,177,000
Note 1: At a marginal cost per revenue vehicle-hour of \$88.86 plus \$47,500 per year for microtransit software costs.				

Ridership Impact

Ridership elasticity analysis indicates that enhancing service frequency to every 15 minutes would increase total ridership by approximately 56,000 boardings per year, or a 62 percent increase over the near-term scenario ridership. Note that this ridership estimate does not assume any “background” increase in ridership (due to rebound from pandemic ridership patterns, for example) nor does it reflect ridership generated by any new development along the high frequency corridor.

Figure 26:
Mid-Term Service Improvements



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Chapter 7

SPAN OF SERVICE ALTERNATIVES

This chapter focuses on alternatives to the current hours and days of B-Line services, also known as the “span of service.” One of the most often requested improvements is the expansion of B-Line service hours. This chapter presents an evaluation of service expansion on routes which are likely to have the greatest potential to generate additional ridership, or that have been a common request. These alternatives are evaluated in comparison with the status quo, and separately from other alternatives developed as part of the route design effort. Note that no changes in B-Line Paratransit services would be needed, as paratransit services are already provided in the potential additional hours of fixed route service.

Operate Routes 8 and 9 Friday Evenings while CSU Chico In Session

Routes 8 and 9 are referred to as the student shuttles because they focus on serving student housing, the Chico State campus, and the Chico Transit Center during CSU Chico sessions. The routes operate on half-hourly headways Monday through Thursday from approximately 7:30 AM to 9:34 PM (Route 8) and 10:01 PM (Route 9). On Fridays, service ends at just after 4:00 PM, and there is no Saturday service. A reduced route, Route 9C, operates on hourly headways on a portion of Route 9 on Friday evenings (until 8:24 PM), Saturdays (8:30 AM to 6:24 PM), and when Routes 8 and 9 are not operating (during CSUC’s winter breaks and summers).

Weekends, including Friday evenings and Saturdays, are typically busy times for students as they visit restaurants, bars, and events. To serve this active time, several options were considered. In the first option, Route 8 would end at 9:34 PM and Route 9 at 10:01 PM on Fridays. Route 9C would continue to be operated during winter and summer breaks, but not on Friday evenings while CSUC is in session. This option would add 219 hours of service annually at a marginal cost of \$19,400⁹. Given current Route 8 and 9 ridership, it is expected that 1,300 additional passenger trips would be generated annually.

Under the current agreement, CSUC provides funding to B-Line at a rate of \$1.75 per student boarding the local routes. As students comprise 96 percent of ridership on these routes, the overall average revenue per new passenger would be \$1.69, indicating that an additional \$3,200 in fare and student subsidy revenue would be generated. The net subsidy needed to fund this additional service would be \$17,300 per year.

Operate Routes 8 and 9 Friday Evenings and Saturdays while CSU Chico In Session

While the above alternative is a low-cost option to expand service on Fridays, there is a demand for Saturday service on Routes 8 and 9 as well. Under this alternative, Routes 8 and 9 would be served Friday evenings, as described above, and Saturday service would be operated from approximately

⁹ Based on a Fiscal Year 2022/23 marginal operating cost of \$88.86 per vehicle-hour of service.

Table 34: B-Line Span of Service Alternatives

Alternative	Days per Year	Change in ...					
		Daily Vehicle-Hours ¹	Annual Vehicle-Hours ¹	Marginal Operating Cost ¹	Annual Ridership ²	Fare Revenue ³	Marginal Subsidy ⁴
Routes 8 & 9 Fri. Eve. When CSUC in Session	32	6.9	219	\$19,500	1,300	\$2,200	\$17,300
Routes 8 and 9 Fri Eve, Saturdays When CSUC in Session	64	25.3	869	\$77,300	12,600	\$21,300	\$56,000
Expand Chico Saturday Service to Match Weekday Span ⁵	52	77.8	4,048	\$359,700	23,800	\$28,500	\$331,200
Expand Chico Weekday Service to 10:00 PM ⁶	257	9.5	2,442	\$217,000	7,240	\$8,700	\$208,300
Route 20 One Additional Evening Run	358	2.0	716	\$63,600	1,900	\$1,700	\$61,900
Route 40 - Additional Saturday Run	52	2.0	104	\$9,200	440	\$370	\$8,830
Route 40 - Sunday Service	49	4.8	233	\$20,700	910	\$770	\$19,930
Drop Last Run on Oroville Routes	257	-2.0	-514	(\$45,700)	(1,500)	(\$1,330)	(\$44,370)
<p>Note 1: Compared with status quo, and applying a FY 2022-23 operating cost of \$88.86 per VSH. A negative operating cost represents savings.</p> <p>Note 2: Ridership based on ridership patterns in Sept 2021 and Sept 2022 (changes in ridership per hour, day of week).</p> <p>Note 3: Based on average fare collected per passenger trip in October of 2021 and 2022.</p> <p>Note 4: Marginal subsidy is calculated by subtracting fare revenue from operating cost. However, Routes 8 and 9 are designed to serve CSU Chico, and the increased operating cost should be negotiated with the college.</p> <p>Note 5: Excludes Routes 7, 16 and 52 which will be replaced by microtransit. Would add 8.5 hours Fridays (Routes 8 & 9) and 71.25 Saturdays.</p> <p>Note 6: Excludes Route 7, 16 and 52.</p> <p style="text-align: right;">Source: LSC</p>							

8:20 AM until 10:00 PM while CSUC is in session. Route 9C would continue to be operated during winter and summer breaks, but not on Friday evenings or Saturdays while Chico State is in session.

As shown in Table 34, the combined Friday evening and Saturday service on Routes 8 and 9 during CSUC session would add 869 hours of service annually, at a marginal cost of \$77,300. Saturday service would generate an estimated 11,300 passenger trips, bringing the Friday and Saturday ridership to 12,600, and generating \$21,300 in passenger revenue. The net subsidy needed to fund this additional service would be \$56,000 per year.

Expand Saturday Hours on Chico Routes to Match Weekday Hours

In this alternative, operating hours of all Chico Routes would be expanded to operate the same on Saturdays as on weekdays, except Routes 7, 16, and 52 which would be served by microtransit. Routes 8 and 9 would also be expanded on Friday evenings to match Monday through Thursday hours. As shown in Table 34, this would increase operating hours by 4,048 hours annually at a marginal operating cost of \$359,700. It is projected ridership would increase by 23,800 passenger trips annually, with \$28,500 generated in revenue, for a subsidy of \$331,200.

Expand Chico Weekday Service to 10:00 PM

In this alternative, operating hours of all Chico Routes would be expanded to operate until 10:00 PM on weekdays, again excluding Routes 7, 16 and 52. As shown in Table 34, this would increase

operating hours by 2,442 hours annually at a marginal operating cost of \$217,000. It is projected ridership would increase by 7,240 annually, generating \$8,700 in fare revenues. This would result in a marginal subsidy of \$208,300 annually.

Expand Route 20 Evening Hours

At present, the last southbound departure from Chico is at 6:10 PM on weekdays and 4:10 PM on weekends. Under this alternative, Route 20 would be expanded on weekday and weekend evenings by adding one round trip at the end of each service day. Weekdays, Route 20 would be operated until 9:00 PM by adding one southbound run at 7:10 PM, arriving in Oroville Transit Center at 8:00 PM, departing northbound at 8:10 PM, and arriving at the Chico Transit Center at 9:00 PM. Similarly, on weekends, one round trip would be added at 5:10 PM southbound, returning to the Chico Transit Center to end Route 20 service at 7:00 PM.

As shown in Table 34, this alternative would add 716 hours of service annually, at a marginal cost of \$63,600. Given current end-of-day ridership on Route 20 and considering recent ridership recovery from 2021 to 2022, it is expected that this alternative would generate 1,900 additional passenger trips annually, generating \$1,700 in farebox revenue. The subsidy required would be \$61,900.

Add One Run to Route 40 on Saturdays

Paradise continues to recover from the Camp Fire and COVID. Over the years, residents have asked for more consistent service between Paradise and Chico, and later service after the current last departure time at 6:10 PM. Under this alternative, an additional round-trip would be operated on Saturdays, departing eastbound from Chico at 8:10 PM. This would add 104 hours annually at a cost of \$8,830 and add an estimated 440 passenger trips annually, as shown in Table 34.

Operate Route 40 on Sundays

Residents in Butte County, including in Paradise, have long sought Sunday service. Currently, only Route 20 provides Sunday service, but comparisons of ridership in September 2021 versus September 2022 show Sundays have among the better ridership recovery rates. However, as mentioned, Route 40 is among one of the few routes for which ridership has not improved on Saturdays from September 2021 to September 2022 (though weekday ridership improved by a small margin). Under this alternative, Route 40 would operate the same schedule as the current Saturday service. This would add 233 hours of service at a marginal operating cost of \$19,930 annually, but it is expected based on ridership patterns that this service would serve just 910 additional passenger trips per year, also shown in Table 34.

End Oroville Routes Earlier on Weekdays

In addition to considering expansion of services, it is important to consider potential reductions to routes which operate inefficiently, as these resources might be better spent elsewhere. Productivity on Oroville routes drops off starting after 4:00 PM, with a sharp decline in ridership after 6:00 PM. Furthermore, ridership from September 2021 to September 2022 improved only slightly for Routes 24 and 26 and declined slightly for Routes 25 and 27. Under this alternative, the last run of each

Oroville route would be dropped, meaning that service would end at 6:30 PM on Route 24, 5:50 PM on Route 25, 5:27 PM on Route 26, and 5:50 PM on Route 27. This would reduce annual hours by 514, saving \$44,370 in marginal operating costs. It can be expected that some passengers (on the order of 20 percent) would shift to earlier runs, but some additional ridership would be lost on earlier runs because the round trip would no longer work for some passengers. It is estimated that annual ridership would be reduced by 1,500 passenger trips overall. Considering the \$1,330 loss in passenger revenue, this option would reduce subsidy requirements by \$44,370.

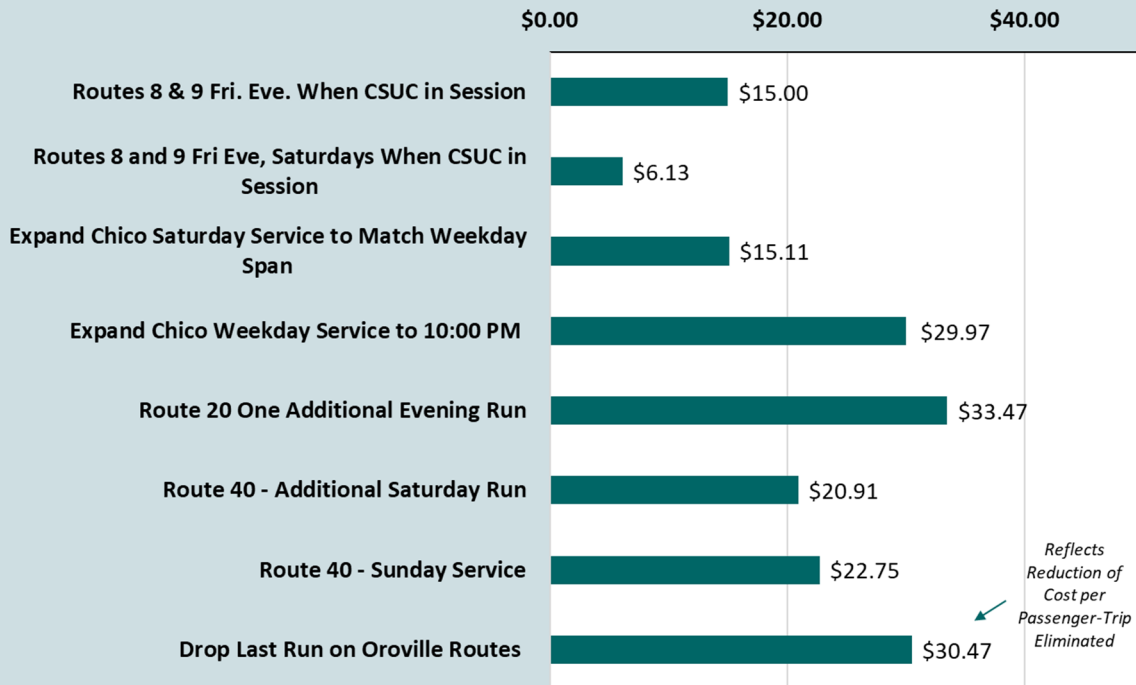
Performance Comparison of Span of Service Alternatives

Table 35 shows a comparison of the marginal passenger-trips per vehicle-hour and marginal operating cost per passenger-trip for the various alternatives. As reference points, the systemwide fixed route average values are also provided for both pre-pandemic and pandemic years.

Alternative	Change in ...	
	Operating Cost per Passenger Trip	Passengers per Service Hour
Systemwide Fixed Route		
<i>FY 2018-19</i>	<i>\$4.38</i>	<i>14.0</i>
<i>FY 2020-21</i>	<i>\$13.09</i>	<i>5.4</i>
Routes 8 & 9 Fri. Eve. When CSUC in Session	\$15.00	5.9
Routes 8 and 9 Fri Eve, Saturdays When CSUC in Session	\$6.13	14.5
Expand Chico Saturday Service to Match Weekday Span	\$15.11	5.9
Expand Chico Weekday Service to 10:00 PM	\$29.97	3.0
Route 20 One Additional Evening Run	\$33.47	2.7
Route 40 - Additional Saturday Run	\$20.91	4.2
Route 40 - Sunday Service	\$22.75	3.9
Drop Last Run on Oroville Routes (Note 1)	\$30.47	2.9
Note 1: A positive value reflects a reduction in both parameters.		
Source: LSC		

The number of passengers carried per service hour is a measure of productivity. As shown in Table 35 and Figure 27, the most efficient alternative would be Routes 8 and 9 on Friday evenings and Saturdays while CSUC is in session, which would carry an estimated 14.5 passenger trips per hour of service. This is above the average systemwide efficiency, even for pre-pandemic conditions. Evening service on Routes 8 and 9 performs better than average at 5.9 passenger-trips per vehicle-hour and expanding Saturday service to match weekday service generates an estimated 5.8 passengers per hour added. Other span-of-service alternatives perform relatively poorly, at values less than current systemwide averages. Note that the value for eliminating the last weekday Oroville runs (2.9) reflects the drop in ridership over the drop in vehicle-hours, indicating that few riders would be eliminated for every vehicle-hour of service reduced, as ridership in this period is currently very low.

Figure 27: B-Line Span of Service Alternatives - Operating Cost per Passenger Trip

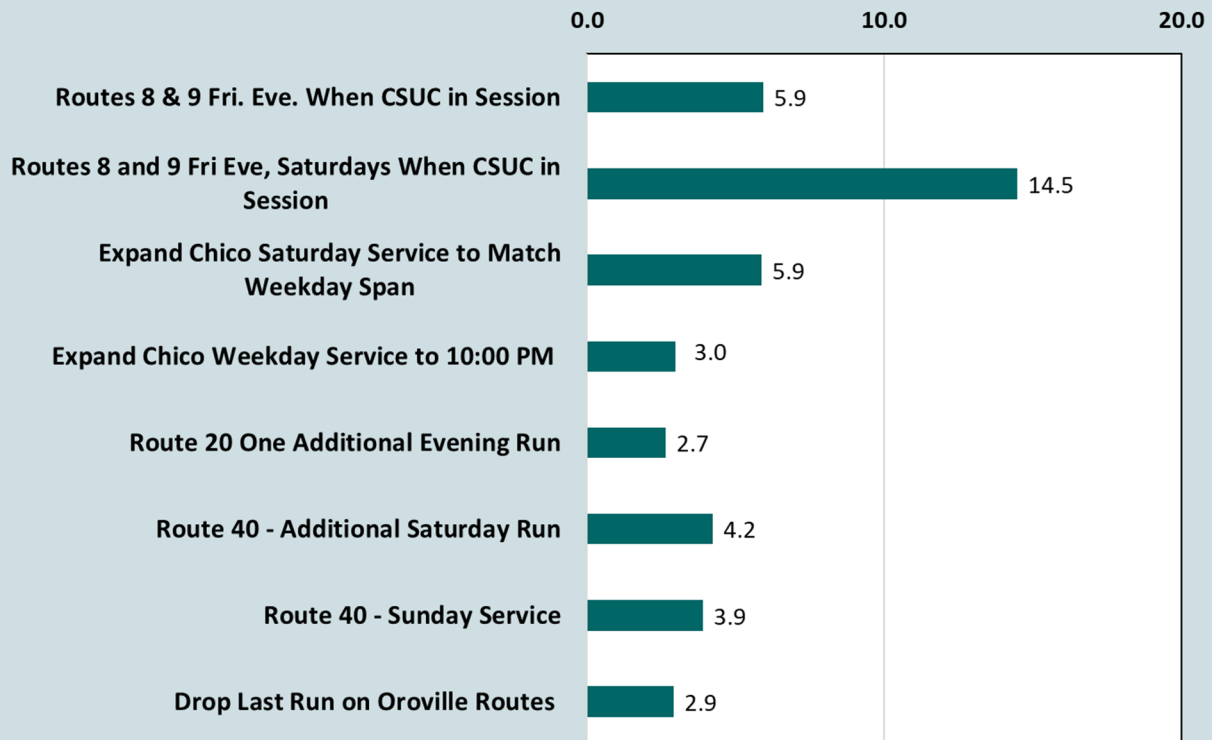


For the operating cost per passenger-trip performance measure, a lower value reflects a better performing alternative. As shown in Figure 28, the provision of Routes 8 and 9 service on Friday evenings and Saturdays performs relatively well, with a value of \$6.13 per passenger-trip (less than the existing systemwide average). Friday evening Routes 8 and 9 service would require \$15.00 per passenger-trip and full expansion of Chico Saturday service would require \$15.00, slightly higher than the current systemwide average. All other options would require over \$20 per additional passenger-trip, well above the current average. Dropping the last runs of the Oroville routes would save \$30.47 in operating cost for every passenger-trip eliminated, indicating that this option would improve overall cost-effectiveness.

Conclusions

This analysis indicates that increased span of service could be considered on Routes 8 and 9 (both Friday evenings and Saturdays). Cutting the last hour of Oroville service would offer cost savings without significant loss of ridership. All other options would reduce the overall cost-efficiency and productivity of B-Line fixed route services.

Figure 28: B-Line Span of Service Alternatives - Passenger Trips per Service Hour



PARATRANSIT SERVICE ALTERNATIVES

INTRODUCTION

This chapter presents an overview of the B-Line Paratransit Service alternatives. It is prepared as part of the B-Line Routing Study to provide a resource for assessment of potential changes in paratransit services.

EXPAND PARATRANSIT SERVICE AREA

B-Line already provides paratransit service in a relatively broad area. While the ADA only requires service within $\frac{3}{4}$ of a mile of fixed routes, B-Line also offers service up to 3 miles beyond the $\frac{3}{4}$ mile area (a total of 3.75 miles).

As is common for a service area defined by travel distance, there are some areas where regions of relatively consistent development are split by the service boundaries. A review of the existing service areas indicates two such areas:

- To the south, the existing Zone 3 outer boundary narrowly excludes residences in the northern Durham area, as well as rural residential areas along Lott Road, Cummings Road, Esquon Road and adjacent streets.
- To the north, there is a rural residential area along Meridian Road, Munjer Road and adjacent streets that is within a mile of the existing outer edge of Zone 3.

Other portions of the existing Zone 3 boundary are largely undeveloped.

Service could be expanded by establishing a Zone 4, allowing service to an additional 1-mile ring around the existing Zone 3 boundary. Due to the long travel distances, an average service request in this new area would require approximately 40 minutes of vehicle time (compared with the current systemwide average of 19 minutes). At the FY 22/23 contractor cost of \$88.86, this would incur a cost of approximately \$63. Due to the low density of development, the potential for shared rides in this new area would be very low. Based on the current fare structure, the fare would be \$14.75 per one-way trip, indicating a subsidy of approximately \$48 per passenger-trip.

While B-Line does not have defined performance measures for paratransit services, it is useful to compare these figures against the existing system averages. The current paratransit service generates a marginal operating cost of approximately \$25.25 per passenger-trip, and an operating subsidy need of \$22.75. Providing service to an expanded Zone 4 would generate operating costs approximately 2.5 times the existing average cost, while operating subsidy would be over twice the current average.

REPLACE GRIDLEY GOLDEN FEATHER FLYER PROGRAM WITH B-LINE PARATRANSIT SERVICE

At present, paratransit service in Gridley is provided by the *Golden Feather Flyer* service, operated by the City of Gridley Mondays through Fridays from 8 AM to 6 PM. Available information (such as recent unmet needs hearing minutes or the most recent Triennial Performance Audit) does not indicate any particular operational or service issues with the current service. As this is the only paratransit service in Butte County not operated through B-Line, however, it is worth reviewing whether service should instead be provided by B-Line Paratransit.

Recent operating and performance data for the Golder Feather Flyer is provided in Table 36. Data is provided both for a pre-COVID year (FY 2018/19) as well as the most recent available data year (FY 2020/21). As is commonly seen, ridership has dropped substantially. Of most importance to this evaluation, however, is the cost per vehicle service-hour. In FY 2020/21, this equaled \$55.57. To provide a current figure, the City budget documents were reviewed to identify a 15 percent increase in costs between FY 2020/21 and FY 2022/23. This in turn indicates a current rate of \$64.20 per vehicle service hour. In comparison, the current B-Line contract rate is \$88.86, which indicates that the City of Gridley is providing service at 28 percent lower costs than could B-Line. This also does not consider the additional out-of-service travel time (approximately one daily vehicle-hour, round trip). In conclusion, shifting paratransit service in Gridley from the Feather Flyer program to B-Line would substantially increase costs, with no defined benefits.

Table 36: Gridley Golden Feather Flyer Performance Analysis		
	FY 2018/19	FY 2020-21
Annual Operating Cost	\$124,527	\$96,412
Vehicle Service Hours	2,023	1,735
Vehicle Service Miles	15,426	8,532
Passenger-Trips	7,713	2,364
Passenger Revenues	\$15,838	\$4,322
Operating Subsidy	\$108,689	\$92,090
Cost per Vehicle Service-Hour	\$61.56	\$55.57
Cost per Passenger-Trip	\$16.15	\$40.78
Subsidy per Passenger-Trip	\$14.09	\$38.96
Source: FY 2018/19 - FY 2020/21 TDA Triennial Performance Audit of the City of Gridley.		

While the focus of this study is not on the capital improvements to the B-Line system, the routing strategies do impact the capital requirements of the system. This chapter presents a discussion of the capital requirements to implement routing changes, including bus stop modifications, assuming implementation of the Microtransit Service Scenario.

PLAN CAPITAL REQUIREMENTS

Added and Eliminated Service and Bus Stops

The recommended route network will have impacts on the locations of the bus stops. In some cases, stops have been added but overall there is a greater number of stops removed as part of the replacement of fixed route with microtransit. A complete list of impacted bus stops is provided in Appendix F.

Chico

In Chico, the primary locations of added stops are along the southern terminus of Route 9, the new northern loop for Routes 2 and 15 on Ridgewood Drive and the Route 5 southern loop on Huntington Drive. The new bus stop locations are shown in Figure 29.

With the discontinuation of Routes 7, 16 and 52, there are numerous proposed bus stops to be removed in the recommended route network. As shown in Figure 30, the northern portion of Esplanade and the eastern portion of Chico will be served by the Northwest and Northeast microtransit zones. These areas will continue to have transit service but will no longer have designated bus stops.

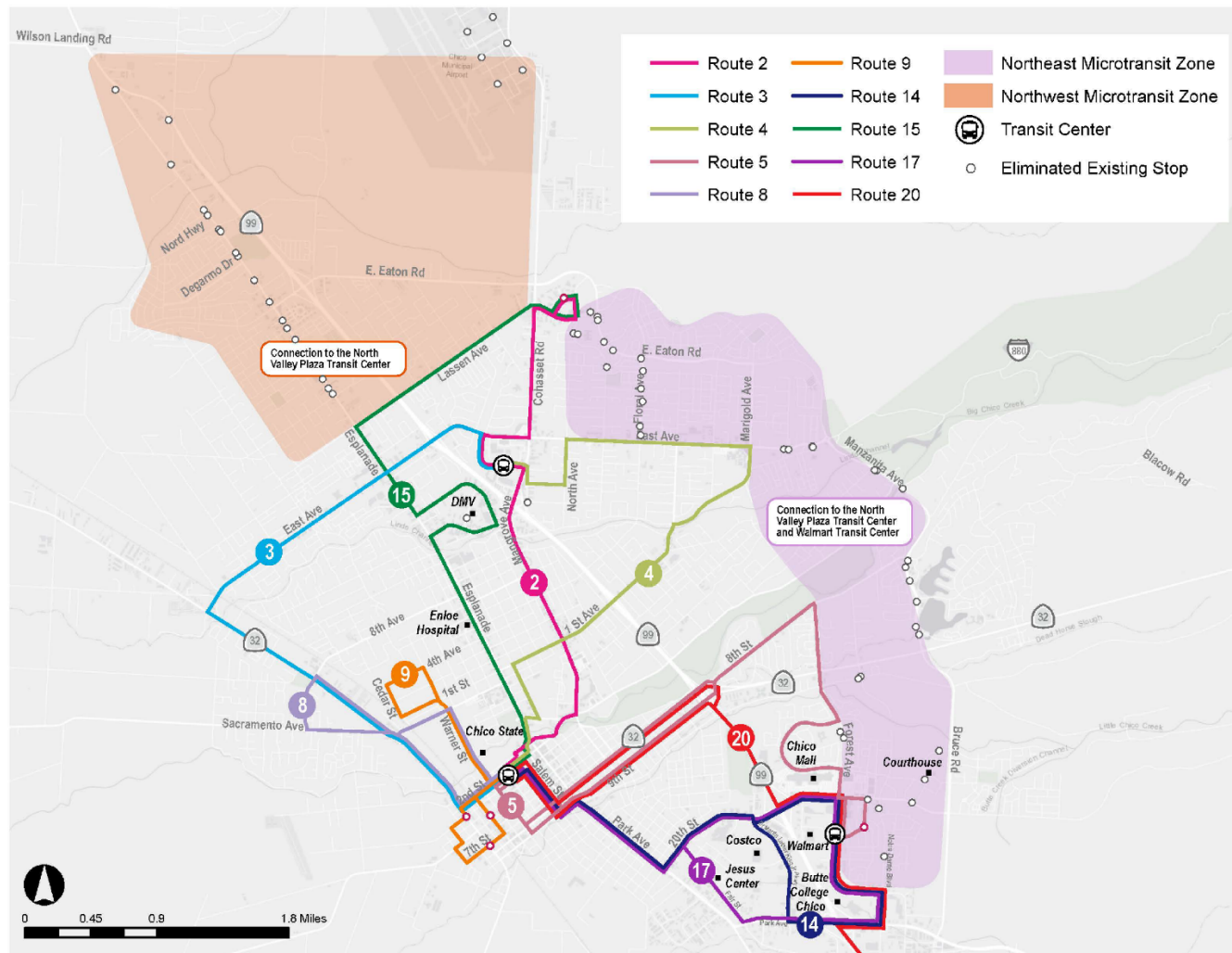
Oroville

In Oroville there are a minimal number of stops added as most of the proposed fixed route service follows existing lines. The only added stops are a layover location at the Walmart on Route 25 and a stop along Veatch Street on Route 27 to serve FoodMaxx. A number of stops have been removed as part of the recommended service changes. The impacted stops in Thermalito and in north and south Oroville will be served by new microtransit zones. The proposed added and removed bus stops are shown in Figures 31 and 32.

Paradise/Magalia

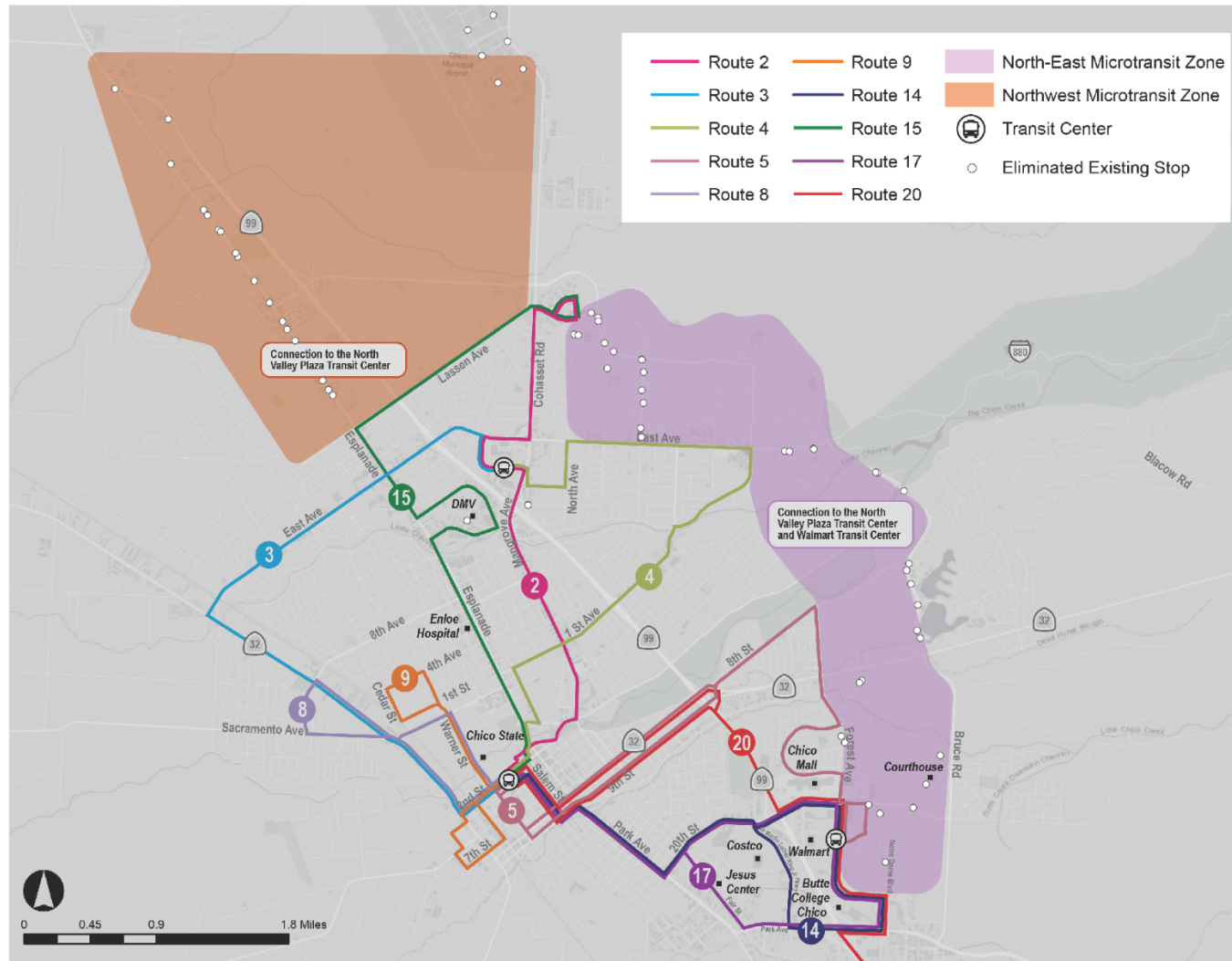
The recommended plan includes a combined route that takes over portions of Routes 40 and 41. The service plan does not add any new stops but replaces stops in northern Magalia and along Clark Road and Pearson Road in Paradise with microtransit service as shown in Figure 33.

**Figure 29:
Proposed Added Stops in Chico**



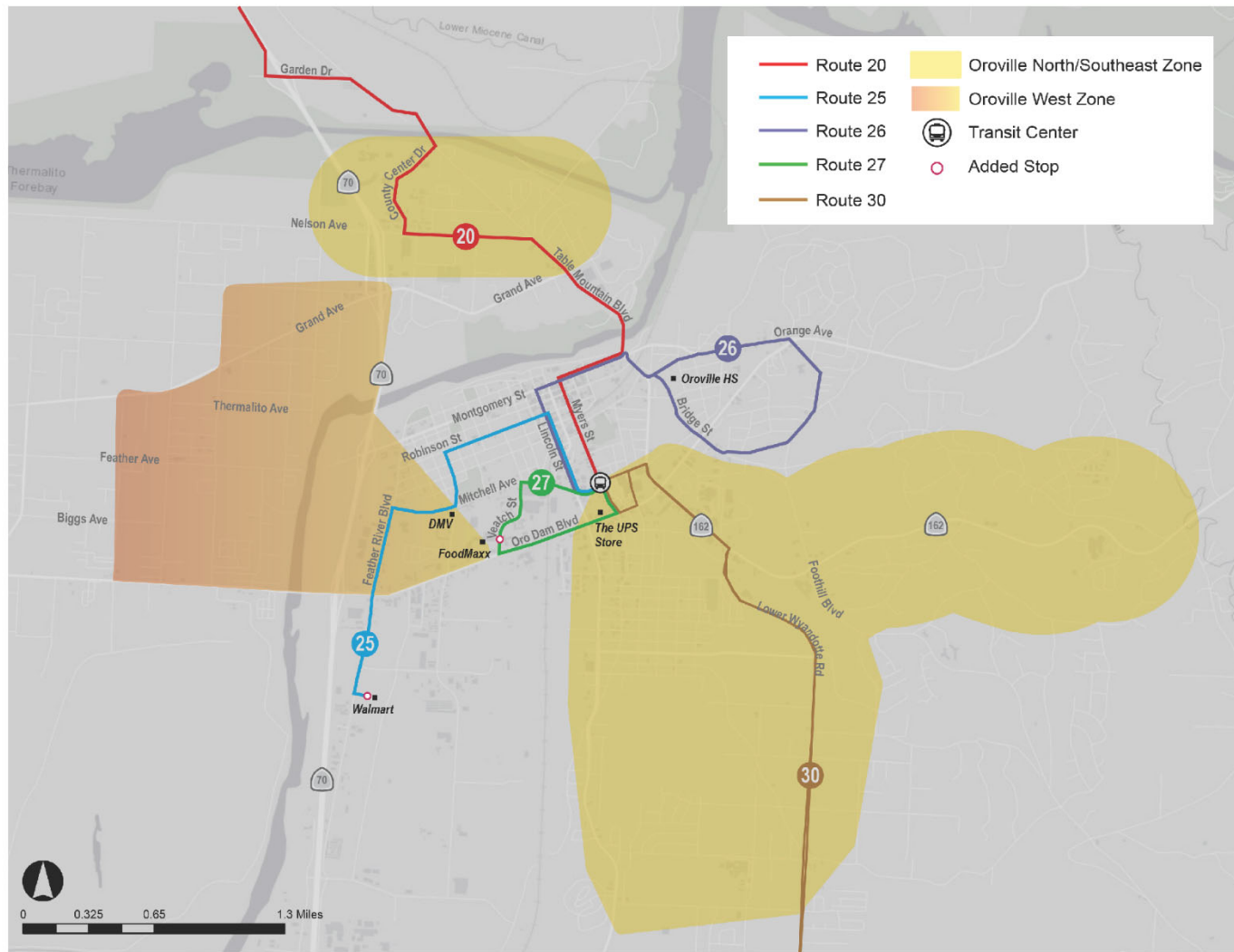
Source: AECOM

Figure 30
Proposed Eliminated Stops in Chico



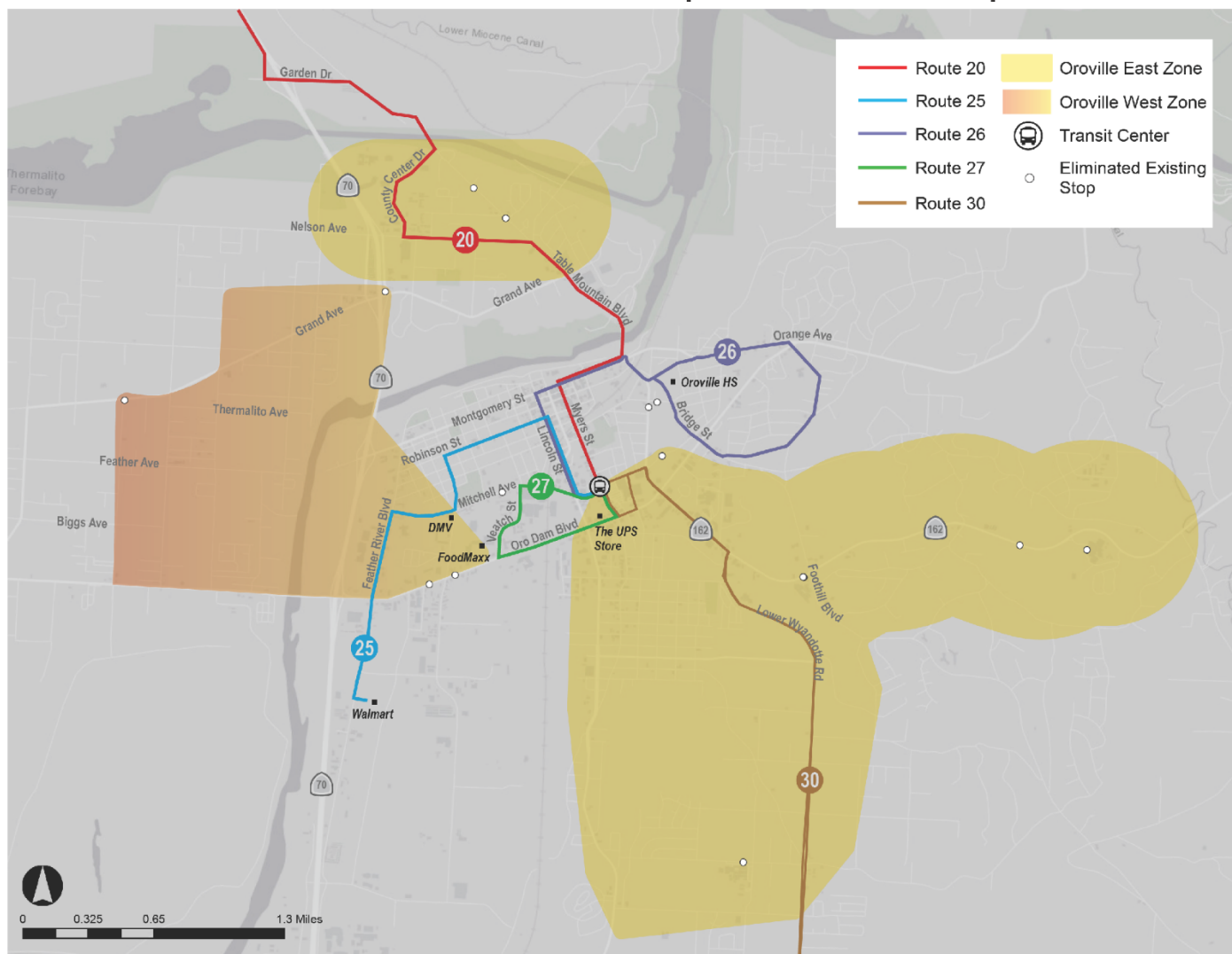
Source: AECOM

**Figure 31:
Proposed Added Stops in Oroville**



Source: AECOM

**Figure 32:
Proposed Eliminated Stops in the Oroville**



Source: AECOM

Figure 33:



Table 37 presents a summary of the number of stops to be added and removed. As shown, a total of 112 stops would be removed and 6 new stops would be added. The following stops would be provided with shelters:

- E. Lassen Avenue / Ridgewood Drive in Chico
- Chico Train Station
- FoodMaxx in Oroville
- Wal Mart in Oroville

This table also provides an estimate of the total costs of stop modifications. As indicated, an estimated \$16,200 would be needed for new stops (assuming new pads would be required for relocated shelters) and \$47,200 for removal of existing stops, for a total of \$63,400.

Table 37: Bus Stop Modification Costs					
Community	Total # of Stops	# of Stops by Amenity			Total
		Shelter	Bench Only	Sign	
New Stops					
Chico	4	2	0	2	
Oroville	2	2	0	0	
Paradise/Magalia	0	0	0	0	
Total	6	4	0	2	
Removal of Existing Stops					
Chico	65	10	1	60	
Oroville	16	2	0	15	
Paradise/Magalia	31	11	2	31	
Total	112	23	3	106	
Unit Costs					
New Stops (1)		\$4,000	--	\$108	
Removal of Existing Stops		\$1,000	\$1,000	\$108	
Total Cost					
New Stops		\$16,000	0	\$200	\$16,200
Removal of Existing Stops		\$23,000	3000	\$21,200	\$47,200
Total		\$39,000	\$3,000	\$21,400	\$63,400
Note 1: Assumes no right-of-way costs (improvements on existing right-of-way) and no permitting costs. Assumes relocation of existing shelter on new pad.					

Fleet Requirements

The Paratransit service currently requires up to 13 vehicles at peak times (8 in urban service and 5 in rural service). Including a minimum of 3 vehicles as spares (a 20 percent spare ratio), 16 vans are needed for the daily operation of the service. As shown in Appendix C, the B-Line fleet currently includes 22 14-passenger Ford E-450 vans (with wheelchair accessibility, indicating the availability of six vans. The microtransit services would require a total of five vans in operation (2 in Paradise/Magalia, 1 in Oroville, 1 in East Chico and 1 in North Chico) and an additional spare, for a

total of six. The current fleet therefore has the capacity to accommodate the microtransit program. It is worth noting, however, that 11 of these vans are 2013 models and will warrant replacement in the near future. The Microtransit Scenario would also reduce the number of fixed route buses by four (elimination of Routes 7, 16 and 52, and reduction in Oroville buses by one). The Fixed Route Scenario would result in a net increase of one fixed-route bus in peak operation (two local fixed route buses in Paradise/Magalia minus the Route 52 bus).

The change in fleet requirements can be used to calculate the impact on capital costs requirements. While actual capital costs depend on the specific fleet purchases in each year, over the long term a valid way to assess capital need impacts is the annualized vehicle cost. Table 38 presents these calculations, assuming current typical unit costs for battery-electric vehicles. While the Near-Term Microtransit Scenario would require replacement of 6 vans over the long term, it would also reduce the need for fixed route buses by four. Reflecting the higher unit costs of buses, the net impact is a reduction in annual capital needs of \$69,600. In comparison, the Near-Term Fixed Route Scenario would increase annualized capital costs by \$107,200. Typically, Federal Transit Administration funding sources are available to fund 80 percent of vehicle purchase costs. The impact on local capital funding requirements, therefore, would be an annual reduction of \$33,920 for the Microtransit Scenario and an increase of \$21,440 for the Fixed Route Scenario.

Table 38: Impact of Service Scenarios on Annualized Vehicle Costs			
INPUT VALUES	Bus	Van	
Unit Costs (Battery Electric Vehicles)	\$950,000	\$250,000	
Useful Life (Years)	12	7	
	Near Term: With Microtransit Scenario	Near Term: All Fixed Route Scenario	Mid-Term: Incremental Over Near Term
Change in Required Vehicles			
Buses	-4	1	4
Vans	6	0	0
Annualized Vehicle Purchase Cost (1)			
Buses	-\$428,800	\$107,200	\$428,800
Vans	\$259,200	\$0	\$0
Total	-\$169,600	\$107,200	\$428,800
Annualized Local Match Requirement at 20 Percent			
Total	-\$33,920	\$21,440	\$85,760
Note 1: At assumed 3 percent interest rate.			

The Mid Term Scenario would require a total of four additional buses to operate the 15-minute headway service, over and above the Near-Term Scenarios requirements. This would require an annualized cost of \$428,800, and an annualized local match requirement (at 20 percent local match) of \$85,760.

App Software System

Microtransit services use specific software programs and apps, designed to receive ride requests, schedule drivers, track services and generate reports. There are a variety of software providers with varying prices, capabilities and levels of customer support, that are offered on a subscription basis. One firm offering a microtransit app currently quotes a base cost on the order of \$25,000 per year, plus a technology fee for on-vehicle services of \$4,500 per active vehicle. If all four microtransit zones discussed above are implemented, B-Line would operate 5 vehicles at a time. Total annual costs would therefore equal approximately $\$25,000 + 5 \times \$4,500 = \$47,500$ per year.

Transit Signal Priority

Transit Signal Priority (TSP) systems consist of modifications to traffic signals (including signal timing controllers and potentially changes in signal heads) that are automatically actuated by the approach of an oncoming bus. TSP typically does not always provide an automatic green indication for the bus, depending on the time in the overall signal cycle and traffic conditions. Instead, it may extend a green indication to allow passage of a bus (“extended green”) or a revision in the phasing sequence to increase the chance for a green indication or a reduction in the signal delay for buses. Many studies have found that a significant increase in bus travel speeds can be accomplished (a reduction in signal delay on the order of 20 to 30 percent) with only a small (2 percent) increase in overall general traffic delays. TSP may also be combined with transit “jump queue” lanes or right turn lanes with through movements allowed for buses only.

As discussed above, the near-term scenarios include the implementation of TSP on approximately 5 intersections along Route 3 (such as Nord Avenue/West Sacramento Avenue, Nord Avenue/West 8th Avenue, East Avenue/Esplanade, and East Avenue/SR 89 Southbound Ramps and East Avenue/SR 9 Northbound Ramps). As part of the mid-range scenario, approximately 10 additional TSP locations could be implemented along Route 14, focusing on the major intersections along Broadway, Main Street, Park Avenue, 20th Street, Forest Avenue and Skyway. A specific traffic engineering study would be needed to identify specific locations.

The costs of TSP programs vary significantly depending on the existing signal controller and actuation equipment as well as the specific movements provided with prioritization. A typical conservative average cost is \$30,000 per intersection, plus \$2,000 for equipment per bus. While the entire B-Line fixed route fleet would not need to be provided with the on-bus equipment, it is beneficial to have a high degree of flexibility on specific bus assignments to routes. Assuming TSP equipment is installed in 20 buses (and including \$50,000 for a detailed design analysis) the overall cost of the near-term TSP project would be \$240,000, while the additional costs for the mid-term intersections would add \$300,000. TSP implementation is a capital project that is conducted in coordination with the jurisdictions owning the signal.

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INTRODUCTION

This chapter presents alternatives regarding B-Line fare policies. First, the potential for eliminating transit fares is discussed. This is followed by a discussion of discount fare policy. Finally, the use of the various fare media is reviewed, and recommendations made regarding simplifying the fare structure.

ZERO FARE TRANSIT

B-Line currently has a relatively complicated fare structure. The base one-way cash fare for general public is \$1.75 on local fixed route services and \$2.40 on regional fixed route services, with an ADA paratransit fare (for advanced reservations) of \$3.50 per ride. A 50 percent discount is provided for seniors (age 65 and above), persons with disabilities and Medicare card holders. Youth ages 6 to 18 are provided with roughly a 30 percent discount, and those under age 6 ride for free with a fare-paying adult. Of note, roughly 37 percent of the boardings during the school term and 19 percent of the boardings during the summer consist of passengers using the University Card (paid through CSUC).

Over the last several years, many transit systems have implemented free fare systems to encourage ridership, simplify passenger boarding, and remove financial barriers to frequent use. As discussed in detail below, free fares can have very positive results for local transit systems. However, there are challenges to implementation, maintenance, and security that must also be addressed. A basic overview of free fare systems is presented below, followed by an overview of three peer transit systems to B-Line, their experiences in implementing free fare systems, and how they've managed challenges associated with free fares.

Major concerns related to free fare systems include cost-effectiveness, ridership impacts, and effects on service quality, security, and customer satisfaction. While costs of operation typically rise with the elimination of fares, the Transportation Research Board notes that often times transit systems don't consider the costs associated with the actual collection of fares including fare collection technology, enforcement, and transit pass materials and distribution. According to Implementation and Outcomes of Fare-Free Transit Systems (2012) by the Transit Cooperative Research Program (TCRP), ridership typically increases significantly after the implementation of free fare service. Lastly, in consideration of safety and security, the study concluded that while their surveyed transit systems did experience an increase in inappropriate passenger behavior initially, many systems implemented solutions that have since resolved most conflicts. These strategies included video surveillance, driver training, destination requirements, a local police liaison, and reserving the right to refuse service to disruptive passengers.

Free Fare System Overview

The following three transit systems have also implemented free fare service over the past five years. A brief overview of their service, and its success, is described below, followed by challenges related to community support and safety.

- **Mountain Line** – Missoula, Montana: Mountain Line enacted zero-fare service as a three-year demonstration starting in 2015. With increases to ridership, benefits to transit efficiency, and improved quality of life, the program was made permanent in 2018. With a service population of about 70,000 people, Mountain Line now serves 1.5 million rides annually (a 70 percent increase in ridership over previous years). In a recent survey, 48 percent of riders confirmed that they ride the bus more frequently since the implementation of free fare. The city staff has noticed a decrease in congestion and parking demand as a result as well. Missoula is home to the University of Montana.
- **Corvallis Transit System** – Corvallis, Oregon: Corvallis Transit System (which serves Oregon State University) went fare free in 2011 due to the implementation of a Transportation Operations Fee (TOF) that increases as fuel costs rise. In its first year, CTS ridership increased by 38 percent. The TOF replaced the portion of the City’s General Fund (property taxes) previously dedicated to Transit, making those funds available for other uses such as the Library, Parks and Recreation, and the Police and Fire Departments. Today it provides a stable source of local funding for matching State and federal funds.
- **Tahoe Truckee Area Regional Transportation (TART)** -- Town of Truckee/Lake Tahoe, California: TART began phasing in free fare in 2019. In the limited period of time between the elimination of fares on TART and the beginning of the pandemic in mid-March 2020 provides some insight into the ridership impacts of free fares on TART. From January 1 to March 15 of 2020, total TART ridership increased by 33 percent over the same period in 2019. This consisted of a 25 percent increase in the daytime service ridership and a 99 percent increase in the evening ridership (that tends to have a relatively high proportion of visitors). Changes in transit services typically take several years before the full ridership potential is reached. In light of this, a 40 percent increase in overall TART ridership associated with free fares is conservatively estimated over the long term.

Implementation Process Example

The details of Mountain Line’s zero fare implementation process were discussed through a brief interview with their Marketing Specialist. Their program began with a three-year pilot that was funded through partnerships with local organizations such as hospitals, the local university, radio stations, the tourism association, and the downtown association. This was to address the public’s initial concern of funding public transit through local tax revenue. Mountain Line then focused on spreading a positive, forward-thinking message to the public through strong outreach and marketing efforts in the community. Once the pilot period was over, they were able to keep the zero-fare system with overwhelming support from the public. The program now uses operation funds derived from local property tax revenue and has grown to be a point of pride for the community.

Safety and Security

All three of the peer transit systems have implemented ways in which to keep their transit systems clean, safe, and secure for all passengers. In the case of Mountain Line, they have leaned into supporting trained drivers through a detailed passenger code of conduct. Some of examples from their code of conduct includes the following:

- Cooperate with requests from Mountain Line personnel.
- Disembark after one round trip.
- Refrain from behavior that intrudes on the welfare of others, including but not limited to:
 - Interfering with the safe operation of any Mountain Line vehicle.
 - Endangering, threatening, harassing, or intimidating others.
 - Sleeping on the bus is prohibited.

Mountain Line staff indicated that they have not had any major altercations or issues of safety since having implemented zero fares. They maintain training of their drivers and have a good relationship with local police. While they are not currently having any issues of security along their service, they are exploring opportunities to roll out a crime-reporting and/or complaint phone application in partnership with the City of Missoula.

Almost all of the free fare transit services surveyed in TCRP 101 replied that security was not an issue. These transit providers went on to describe many strategies that have been implemented since transitioning to free fare. Of those mentioned in the report, the following were deemed most effective:

- Adoption of local ordinances that support and allow zero tolerance passenger ejection and no loitering or roundtripping policies.
- Drivers are trained to ask passengers where their destination is to discourage joyriding.
- The installation and known presence of video surveillance on all buses.
- Strong partnership with local police and the establishment of a liaison that specifically handles transit matters.
- Suspension of disruptive riders and a signed agreement to reinstate the passenger.

In the case of a particularly disruptive passenger, transit services have trained their bus drivers to issue two verbal warnings. If the passenger does not comply, they are asked to disembark at the following stop. One transit service replied that *“Local riders, particularly the low-income job access commuters, often help the driver because they know the bus will be stopped until a supervisor or police officer arrives. They will use peer pressure to persuade the passenger to stop because they do not want to be late for work.”* Most agencies have indicated that these security measures have been successful and that their number of incidents are fairly low (less than 5 per year).

Impacts of Free Fare on B-Line

In assessing how elimination of fares would impact B-Line, the following bears consideration:

- Much of the existing ridership boards using the University Pass. While this proportion varies depending on whether classes are in session, over the course of the year approximately 32 percent of boardings are made using this pass. Eliminating fares would not impact this

substantial proportion of existing B-Line riders. At present, B-Line is reimbursed based on a rate of \$1.75 per local rider and \$2.40 per regional rider. Whether CSUC and Butte College would be willing to maintain current reimbursement rates if fares are eliminated would need to be discussed.

- Beyond students, the majority of B-Line riders have limited access to the private auto as an alternative mode, as evidenced by the 70 percent of the onboard survey respondents indicating that they did not have a car available for their trip. For many other area residents, the relatively low level of traffic congestion (in comparison with larger urban areas) and the low level of need to pay for parking makes the private auto a convenient mode choice in Butte County. This in turn indicates a relatively low ridership increase associated with elimination of fares. A 35 percent increase in non-University Pass ridership is conservatively assumed.
- The drop in ridership associated with the pandemic has left substantial unused capacity on the fixed route buses. With the exception of Routes 8 and 9 (which would not see a significant increase in ridership anyway, as the large majority are University Pass users), there is sufficient empty seating on the B-Line buses to accommodate a 35 percent increase in ridership without adding additional service.
- Elimination of fares could significantly increase the costs associated with the B-Line paratransit program. The Americans with Disabilities Act requires that paratransit fares be no more than twice the fixed-route fare – indicating a zero fare for paratransit service if fixed-route fares are eliminated. . A study conducted by the University of Illinois in 2012 (*Cost Estimation of Fare-Free ADA Complementary Paratransit Service in Illinois*) indicates that eliminating fares could result in a large increase in demand for paratransit service ... a doubling or more. While some increase in demand could be accommodated through increased utilization of existing service-hours, most would translate into an increase in the level of service to be provided. This in turn could require roughly an additional 10,000 vehicle-hours of service per year, increasing annual operating costs on the order of \$900,000.
- B-Line services currently bring in approximately \$780,000 in passenger revenues generated by the fixed routes services and \$185,000 for paratransit services, for a total of \$965,000 in total fares. Of the fixed route revenues, on the order of \$375,000 are University Pass reimbursements.
- There are also other factors that may impact B-Line finances. The existing costs of printing passes, managing pass distribution, fare handling and fare revenue accounting would be eliminated. Whether all of the personnel costs associated with these tasks can actually be eliminated depends on the degree to which individual positions are shared with other activities, but a reasonable estimate would be a savings of at least \$50,000 per year.
- In addition, the elimination of fixed route fares for persons currently using Paratransit Service could yield a modest reduction in long-term paratransit service costs; to be conservative and due to the uncertainty of this factor, no additional cost savings is assumed.

The overall impact of elimination of fares on B-Line ridership would be approximately 126,000 passenger-trips per year (or a 23 percent increase), consisting of 109,000 fixed route passengers plus 17,000 paratransit passengers. Elimination of fares would reduce B-Line revenues by approximately

\$590,000 (assuming the University Pass agreements stay in place). Paratransit service costs would be increase by \$900,000, while fare handling costs would be decreased by \$50,000. The total net impact on B-Line subsidy needs would be an increase of \$1,440,000 per year.

Dividing the increase in passenger by the increase in costs yields an overall cost of \$11.43 per passenger-trip, which is 40 percent less than the current B-Line fixed route system average. This indicates that elimination of fares would make overall service substantially more cost effective. The large overall price tag, however, indicates that new funding sources would be needed to make this option viable.

INCREASING ELIGIBILITY FOR DISCOUNT OR FREE FARE

Short of the expensive step of eliminating fares, a more modest change that can benefit persons most impacted by the cost of transit ridership is to expand the categories of persons eligible for free or reduced fares. One group in particular that transit systems are increasingly providing reduced fares are Veterans. Examples of systems that provide half-fares on fixed route service for Veterans are StanRTA (serving Stanislaus County, California), Washoe County (Nevada) RTC, and Monterey Salinas Transit (the latter of which also extends the discount to spouses or caregivers of Veterans). Petaluma Transit provides rides to Veterans at no fare.

The revenue impact to B-Line would depend on the number of Veterans currently using the service that are not already getting a discount as a result of age, disability or Medicare status. While this figure is not known, it is probably quite small, particularly compared with the large changes in fare revenues over recent years. The overall impact on B-Line finances would therefore be insignificant.

SIMPLIFYING THE B-LINE FARE STRUCTURE

At present, the B-line fixed route service offers a total of 28 individual fare types, including cash, 2-ride passes, an All Day pass, 10 ride passes, 30 day passes, Token Transit, downtown employee pass, the University Card, and an annual pass. Many of these fare instruments also have differing costs by passenger category. Each one of these categories must be specifically handled by the drivers, tracked through the farebox system, and addressed in the accounting system. In particular, these various fares add to the stress of the driver's workload and can create undue conflicts with boarding passengers.

Table 39 shows the level of use of the various fare instruments, for both a month in the school year and a month in summer. One fare instrument that has relatively low usage is the 2-ride pass, that is used by only 1.6 to 2.7 percent of all passengers. While 2-ride passes are convenient to social service provides (that can hand the pass to a client rather than handing cash for fares), this constitutes a total of 7 individual fare categories. It could potentially be eliminated, and passengers (and social service agencies) encouraged to instead use the Day Pass. A discount day pass could also be offered at half-price (\$2,50), with eligibility for the discount pass expanded to include youth.

Table 39: B-Line Boardings by Fare Type

			Boardings - February 2020		Boardings - August 2021	
			#	%	#	%
Cash Boardings	All	All	17,964	21.1%	15,570	41.4%
1-Ride Regional Regular	All	All	830	1.0%	329	0.9%
2-Ride Pass	Local	Regular	1,791	2.1%	200	0.5%
		Discount	444	0.5%	77	0.2%
		Youth	277	0.3%	122	0.3%
	Regional	Regular	246	0.3%	62	0.2%
		Discount	146	0.2%	103	0.3%
		Youth	53	0.1%	14	0.0%
All Day Pass	All	All	890	1.0%	658	1.8%
10-Ride Pass	Local	Regular	954	1.1%	265	0.7%
		Discount	1,268	1.5%	550	1.5%
		Youth	411	0.5%	277	0.7%
	Regional	Regular	547	0.6%	137	0.4%
		Discount	373	0.4%	148	0.4%
		Youth	107	0.1%	10	0.0%
30-Day Pass	Local	Regular	2,074	2.4%	962	2.6%
		Discount	10,001	11.8%	4,451	11.8%
		Youth	2,822	3.3%	446	1.2%
	Regional	Regular	1,441	1.7%	620	1.6%
		Discount	3,486	4.1%	1,775	4.7%
		Youth	590	0.7%	197	0.5%
Smart Card	All	All	--	--	418	1.1%
Stored Value Card	All	All	220	0.3%	92	0.2%
University Card ⁴	All	All	31,239	36.7%	7,242	19.3%
365 Day Employee	All	All	1,356	1.6%	415	1.1%
365 Day Soc. Service	All	All	5,501	6.5%	2,447	6.5%
Paratransit (2-Ride)	All	All	10	0.01%	7	0.02%
TOTAL	All	All	85,041	100.0%	37,594	100.0%

Note 1: Seniors (65+), Disabled, and Medicare card holders are all eligible for discounted fares with supplemental verification

Note 2: Youth ages 6 to 18 are eligible for youth fare rate

Note 3: Children 6 and under can ride free with a fare-paying adult

Note 4: California State University Chico and Butte College provide access to B-Line services to students and staff

INTRODUCTION

This chapter presents the recommended comprehensive Routing Plan for the B-Line transit system. This discussion builds upon the detailed evaluation of alternatives presented in previous chapters; the reader is encouraged to refer to these previous chapters for additional detail on the service elements.

An important basis of this plan is the public input provided in the course of this study. Key public input opportunities to date consist of the following:

- A virtual community workshop on July 14th with 16 participants. A summary of the workshops is provided in Appendix G.
- A second virtual community workshop on October 22, 2022, also with 16 participants.
- An onboard survey, which provided input from 280 participants.
- Development of a project webpage throughout the study process.

In addition, a third Public Workshop will be held along with community pop-up events to gain input on this Draft Plan.

NEAR-TERM PLAN

The Near-Term Routing Plan is designed to improve the near-term effectiveness of the overall transit program within financial constraints and shift services to better meet current demands and needs.

Chico Service Modifications

The existing route network in general is serving the transit needs of Chico well. The system provides good coverage of the urban area and the route structure provides good service to downtown Chico and the college campus, with transfers in downtown Chico as well at secondary transfer points at the North Valley Plaza and Forest Avenue in the south. There are some areas (notably in the eastern and northern portions of the service area) with low ridership that merit revisions. In addition, there is the need to revise routes to improve on-time performance. This plan has been developed to address those issues and improve the system overall. The guiding principles to redesign the services in Chico include:

- Retain key services in downtown Chico
- Reflect community unmet needs
- Address on-time performance issues on existing Chico routes
- Replace low performing routes with microtransit service
- Add direct service in the southeast of the City and to new destinations such as the Jesus Center
- Emphasize North Valley Plaza as the secondary transit center

Figure 34 presents the recommended Routing Plan for the Chico service area. As shown, two microtransit service areas are planned. These will consist of an app-based service (similar to Uber or Lyft) by which passengers can request immediate rides either through the app or by phone and are provided with a curb-to-curb ride anywhere within the individual zones or to nearby fixed route hubs. Additional details on microtransit can be found in Chapter 7, above.

The following describes the recommended changes for each route.

Route 2 Mangrove

Route 2 will continue to operate from downtown Chico to northeast Chico primarily by the Mangrove Avenue and Cohasset Road corridors. There are two changes to Route 2 under this plan. First, the route will no longer serve the DMV loop on Rio Lindo Avenue and Parmac Road. The change will allow for faster travel times and a more reliable service. In addition, the north end of the route is revised to better serve the Social Security office and shorten the travel time. The route will no longer operate on Ceres Avenue and Eaton Road south of Lassen Avenue. The new route will travel north on Ridgewood Drive, south on Ceres Avenue and west on Lassen Avenue. The overall revised route is 9.0 miles in length compared with the current 11.1 miles in length. This reduction in length will significantly improve the ability for this route to stay on schedule.

Route 3 Nord/East

There are no service changes proposed for Route 3. It is recommended to implement a transit signal priority (TSP) program to improve the travel time and reliability of the service. Potential locations for TSP could include Nord Avenue and West Sacramento Avenue, Nord Avenue and West 8th Avenue, East Avenue and Esplanade, and East Avenue at the SR 99 interchange.

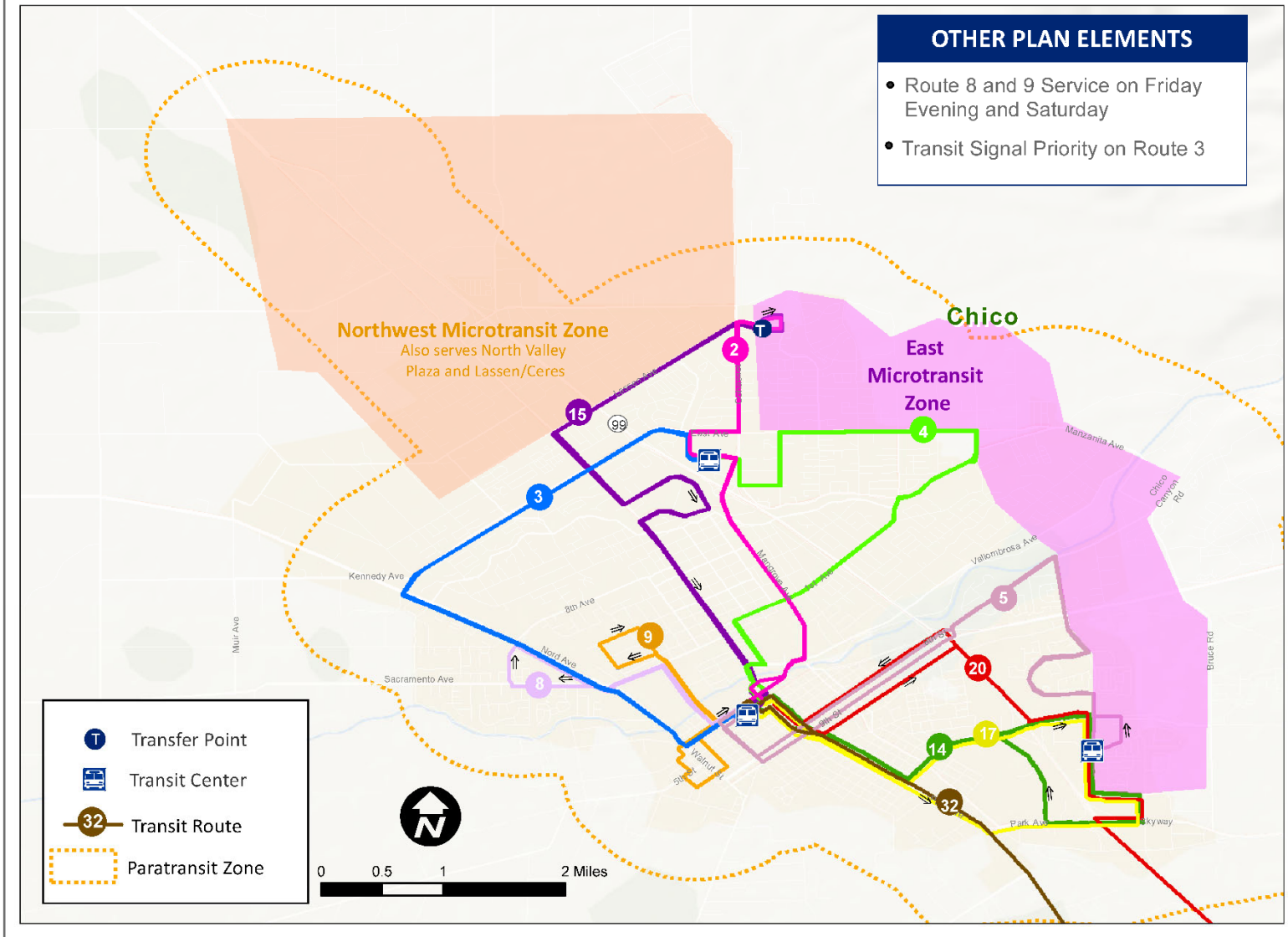
Route 4 First/East

No changes are proposed for Route 4.

Route 5 East 8th Street

Under this plan there are two proposed changes to the route. First, the Springfield Drive loop will be operated in both the inbound and outbound directions, rather than the current route which only travels on the loop in the inbound direction. This will provide more convenient service to the Chico Marketplace Mall and Kohl's, as well as the residential neighborhoods. The second change is to shorten the southern terminus loop to operate south on Forest Avenue, east on Parkway Village Drive and north on Huntington Drive. This new route shortens the travel time while still making the connection to Walmart and to other routes at the Forest Avenue Transit Center. The Notre Dame Boulevard loop will be discontinued on Route 5 but will be served by a new microtransit zone, as discussed below. The revised route will be 11.2 miles in length, 0.3 miles less than at present. This will reduce running time by several minutes, improving on-time performance.

Chico Routing Plan



Route 8 Nord

No routing changes are proposed for Route 8. However, it is recommended that service times be expanded to include Friday evening service until 9:34 PM as well as providing service on Saturdays from 8:20 AM to 9:34 PM, when CSUC is in session. This will enhance service to the busy neighborhood northwest of the CSUC campus, which generates strong ridership.

Route 9 Orange/Warner/Cedar

Route 9 will continue to operate the existing route in the CSUC area, with two modifications. First, the southern loop will be shifted to Orange Street instead of Oak Street to provide additional coverage in the neighborhood and to serve the Amtrak station. Only one existing stop (on Oak Street just north of West Seventh Street) will need to be moved. Secondly, service will be extended during the CSUC sessions to provide Friday evening service until 10:01 PM, as well as Saturday service from 8:14 AM to 10:01 PM. This will replace the existing 9C service on Friday evenings and Saturdays during the CSUC sessions.

Route 14 Park/Forest/MLK

No changes are proposed for Route 14.

Route 15 Esplanade/Lassen

Route 15 will continue to provide service from downtown Chico to north Chico via the Esplanade corridor. Under this plan, Route 15 will take over the Rio Lindo Avenue / Cohasset Road loop to serve the DMV. In addition, the northern terminus routing will shift north to Ridgewood Drive to better serve the Social Security office and to offset some of the additional running time needed to serve the Rio Linda / Cohasset Road loop.

Route 16 Esplanade/ Hwy 99

Route 16 will be eliminated under this plan. This addresses the inefficient overlap between Routes 15 and 16 on Esplanade south of Lassen Boulevard (with Route 15 continuing to provide service). North of Lassen Avenue, service will be provided by the North Microtransit service, as discussed below.

Route 17 Park/Fair/Forest

Route 17 provides service from the Downtown Transit Center to the Walmart and Butte College Chico Campus on Forest Avenue. The route will be revised to shift the service from MLK Jr. Parkway to Fair Street in the outbound direction to provide direct service to the Jesus Center and Fairgrounds. Stops along MLK Jr. Parkway will continue to be served by Route 14.

Route 52 Chico Airport Express

Route 52 operates limited express service to the airport (five runs per weekday). This service will be discontinued and replaced by the North Microtransit.

North Microtransit Zone

The zone is designed to replace the low-performing Routes 16 and 52 that are currently serving the community in northwest Chico. It consists of the area north of Lassen Avenue as far west as Alamo Avenue and as far east as Cohasset Road, extending as far north as the airport terminal on the northeast and the SR 99 / Wilson Landing Road intersection on the northwest. The microtransit van will also serve the key stops at North Valley Plaza and at the Social Security office on Lassen Avenue to connect the on-demand service with the fixed route system.

The Northwest Zone will utilize the revenue hours from the existing Route 16 to operate weekdays and Saturdays. One vehicle will be sufficient to provide service in the zone. Fares will be identical with the fixed route fares (for all microtransit zones).

East Microtransit Zone

The East Zone is designed to replace the existing poorly performing Route 7. It will serve the areas on the east side of Chico between Forest Avenue and Bruce Road/Manzanita Avenue, as well as the area north of East Avenue and east of Cohasset Road. Route 7 currently has the lowest ridership in the system. The area is made up of lower density land uses that can be better served by microtransit than fixed routes. The vehicle will also serve transfer points at North Valley Plaza, Social Security office and Forest Avenue Transfer Point to provide connections with fixed routes and will also serve the existing bus stops at Pleasant Valley High School.

The zone will utilize the revenue hours from the existing Routes 7 and 52 to operate weekday service. One vehicle will be sufficient to provide service in the zone.

Plan Benefits

Overall, this plan has the following benefits in the Chico Area:

- Travel times are reduced on Routes 2 and 5, improving the on-time performance.
- Lower performing routes have been replaced with microtransit to better align the service with the market it serves and to expand the effective transit service area.
- Transit coverage is extended with microtransit in the east and north areas, with continued connection points at Downtown Chico, North Valley Plaza and Forest Avenue.
- Direct fixed route local service is provided on Fair Street to the Jesus Center.
- Friday evening service and Saturday service is provided on Routes 8 and 9 when CSUC is in session.

Oroville Service

The existing service in Oroville operates four routes at 60-minute headways using two buses. This plan reallocates the service hours to improve on-time performance and coverage in the area. The service plan introduces three microtransit zones and three fixed routes to expand the service to more areas. The key components of the services in Oroville include:

- Retain high ridership route segment
- Replace low ridership segments with microtransit

- Commingle paratransit and general public demand response extend coverage

Figure 35 presents the near-term routing plan for the Oroville service area. The following provides an overview of the recommended changes for each route.

Route 25 Feather River Boulevard

Route 25 provides service from the Oroville Transit Center to Walmart and the retail area along Feather River Boulevard in the southwest part of the city. Under this plan, the route will operate in a bi-directional manner along the existing service on Feather River, Mitchell Avenue to the DMV, north on 5th Avenue to Robinson Street and Lincoln Street to the Transit Center. The route will follow the same route in the outbound direction back to Feather River and Walmart. The route will no longer serve the Oro Dam corridor (which will be served by Route 27). Table 40 provides an example schedule for Routes 25, 26 and 27, indicating how one bus operates the three routes over the course of each hour.

Route 26 Orange Avenue

The revised Route 26 extends the existing loop along Orange Avenue, Canyon Highlands Drive, and Bridge Street to service the Oroville High School, as well as the retail and residential in that area. The route connects to other routes at the transit center. It is interlined with the Route 25 and 27.

Route 27 Oro Dam/Veatch

Route 27 will serve the segment of Oro Dam Boulevard between the Transit Center and Veatch Street, including FoodMaxx and Las Plumas Plaza. The route will travel in a small loop to provide service along Oro Dam and connect back to the Transit Center for connections to other routes. The route will be interlined with Routes 25 and 26.

West Microtransit Zone

The existing Route 24, which serves the Thermalito area, has very low ridership and productivity. Under this plan a West Zone encompassing the Thermalito area will be operated as a combined paratransit and general public demand response service. The service in the zone will connect riders from Thermalito to areas in central Oroville for transfer opportunities to other routes and zones. Fares for all microtransit zones will be consistent with the fixed route fares. Service should be provided continuously from 6:30 AM to 6:15 PM on weekdays.

Southeast Microtransit Zone

The Southeast Zone will provide service on weekdays from 6:00 AM to 6:15 PM to the areas along Olive Highway (as far east as Gold Country Casino) and along Lincoln Street and Lower Wyandotte Road as far south as Monte Vista Avenue, serving the areas currently served by Route 27 and Route 26 (that will no longer operate on Olive Highway). The zone will also cover Las Plumas High School, Gold Country Casino and connect to the Transit Center for transfer opportunities. Passengers will also be able to travel to/from the Oroville Transit center to connect with fixed routes or other microtransit zones. Route 30 will also continue to serve the southern portion of this zone.

**Figure 35:
Oroville Routing Plan**

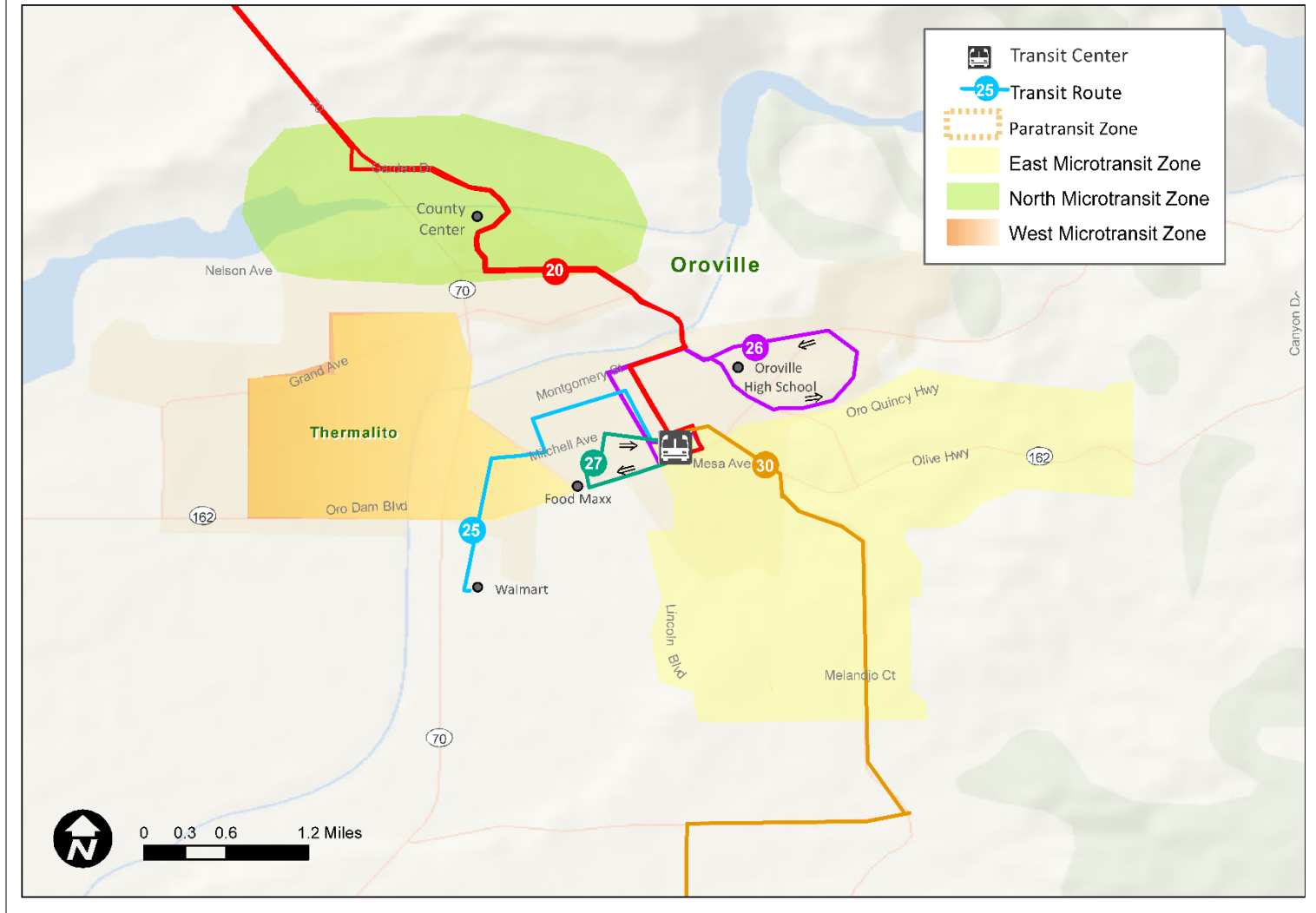


Table 40: Example Schedule - Oroville Fixed Routes

Route 25 Feather		Route 26			Route 27		
Transit Center	River Cinema	Transit Center	Bridge & Acacia	Orange & Acacia	Transit Center	Food Maxx	Transit Center
6:10 AM	6:21 AM	6:31 AM	6:39 AM	6:42 AM	6:50 AM	6:54 AM	7:00 AM
7:10 AM	7:21 AM	7:31 AM	7:39 AM	7:42 AM	7:50 AM	7:54 AM	8:00 AM
8:10 AM	8:21 AM	8:31 AM	8:39 AM	8:42 AM	8:50 AM	8:54 AM	9:00 AM
9:10 AM	9:21 AM	9:31 AM	9:39 AM	9:42 AM	9:50 AM	9:54 AM	10:00 AM
10:10 AM	10:21 AM	10:31 AM	10:39 AM	10:42 AM	10:50 AM	10:54 AM	11:00 AM
11:10 AM	11:21 AM	11:31 AM	11:39 AM	11:42 AM	11:50 AM	11:54 AM	12:00 PM
12:10 PM	12:21 PM	12:31 PM	12:39 PM	12:42 PM	12:50 PM	12:54 PM	1:00 PM
1:10 PM	1:21 PM	1:31 PM	1:39 PM	1:42 PM	1:50 PM	1:54 PM	2:00 PM
2:10 PM	2:21 PM	2:31 PM	2:39 PM	2:42 PM	2:50 PM	2:54 PM	3:00 PM
3:10 PM	3:21 PM	3:31 PM	3:39 PM	3:42 PM	3:50 PM	3:54 PM	4:00 PM
4:10 PM	4:21 PM	4:31 PM	4:39 PM	4:42 PM	4:50 PM	4:54 PM	5:00 PM
5:10 PM	5:21 PM	5:31 PM	5:39 PM	5:42 PM	5:50 PM	5:54 PM	6:00 PM

North Microtransit Zone

The North Microtransit Zone will share a vehicle with the Southeast Microtransit Zone, operating continuously from 6:30 AM to 6:15 PM on weekdays. The zone will provide microtransit service to County Center Road and Grand Avenue area. This will take over the discontinued portion of the existing Route 24. Trips to and from the Oroville Transit Center will also be accommodated to allow transfers to the fixed routes. Note that Route 20 will continue to serve this area on a more direct route (as discussed below).

Benefits of Plan in Oroville

This plan will have the following benefits in Oroville:

- Improved on-time performance for fixed routes.
- Lower performing routes have been replaced with microtransit to better align the service with the market it serves. This has the potential to expand ridership in the future.
- Extended transit coverage with microtransit in the southeast and north areas.
- No additional revenue hours.

Paradise/Magalia Service

Route 40

The plan will combine Routes 40 and 41 and provide a consistent and more direct service connecting Magalia, Paradise and Chico. As shown in Figure 36, the route operates along most of the segment of the existing Route 40 to Wagstaff Road / Clark Road and continues north on Clark Road to the Lakeridge loop in Magalia. The Paradise Transit Center will be served in both directions. Note that the

existing Route 41 service along Fair Street in Chico will be eliminated (all service will be along the existing Route 40 in Chico), but the revisions to Route 17 will replace and expand service along Fair Street. Reflecting current ridership levels, the number of runs on weekdays will be five in the westbound direction and four in the eastbound direction, with three runs in each direction on Saturdays. As shown in Table 41, these runs are scheduled to allow commuting in both directions on weekdays, as well as mid-day services to allow a variety of trip lengths for other purposes. Note that if demand increases in the future, additional runs (particularly on weekdays) could be added.

Paradise/Magalia Microtransit

Outlying areas of Paradise and Magalia will be served by a microtransit zone. This will replace the various low-ridership loops operated currently by Route 41 and also substantially expand the transit service area to encompass new developments in Paradise that are part of rebuilding the community. (These new development sites are also shown in Figure 36.) To provide connections with the fixed route, service will operate from 6:30 AM – 6:00 PM on weekdays and 9:30 AM – 5:30 PM on Saturdays. This service should initially be operated using a single van. If ridership grows to the point where average wait times consistently exceed 30 minutes, a second van could be added during peak times. Fares will be consistent with the local fixed route fares.

Benefits of Plan in Paradise/Magalia

This plan will have the following benefits in Paradise and Magalia:

- Improved on-time performance for fixed route.
- Lower performing route segments have been replaced with microtransit to better align the service with the market it serves.
- Microtransit significantly expands the portions of the Ridge communities that have transit service. Importantly, this includes scattered multifamily residential developments that cannot be efficiently served by fixed routes. Overall, it provides service that better fits the development pattern as the area continues to recover from the Camp Fire. It also provides service for trips within the local area at the lower local fare rate rather than the current regional fare rate.

Other Intercity Services

Beyond the Paradise/Magalia service, the intercity routes will be revised as discussed below and shown in Figure 37.

Route 20

Route 20 is currently providing critical connections between the most populous areas within Butte County – Chico and Oroville. In this plan most of the routing of Route 20 will remain the same. The proposed rerouting will be focused on the County public service complex in Oroville as illustrated in Figure 24. The proposed new Route 20 will be bidirectional along SR 70, Garden Dr, Table Mountain Blvd, County Center Dr, Nelson Ave, and back to Table Mountain Blvd. This will reduce running time by 1 to 2 minutes and improve on-time performance.

**Figure 36:
Paradise/Magalia Routing Plan**

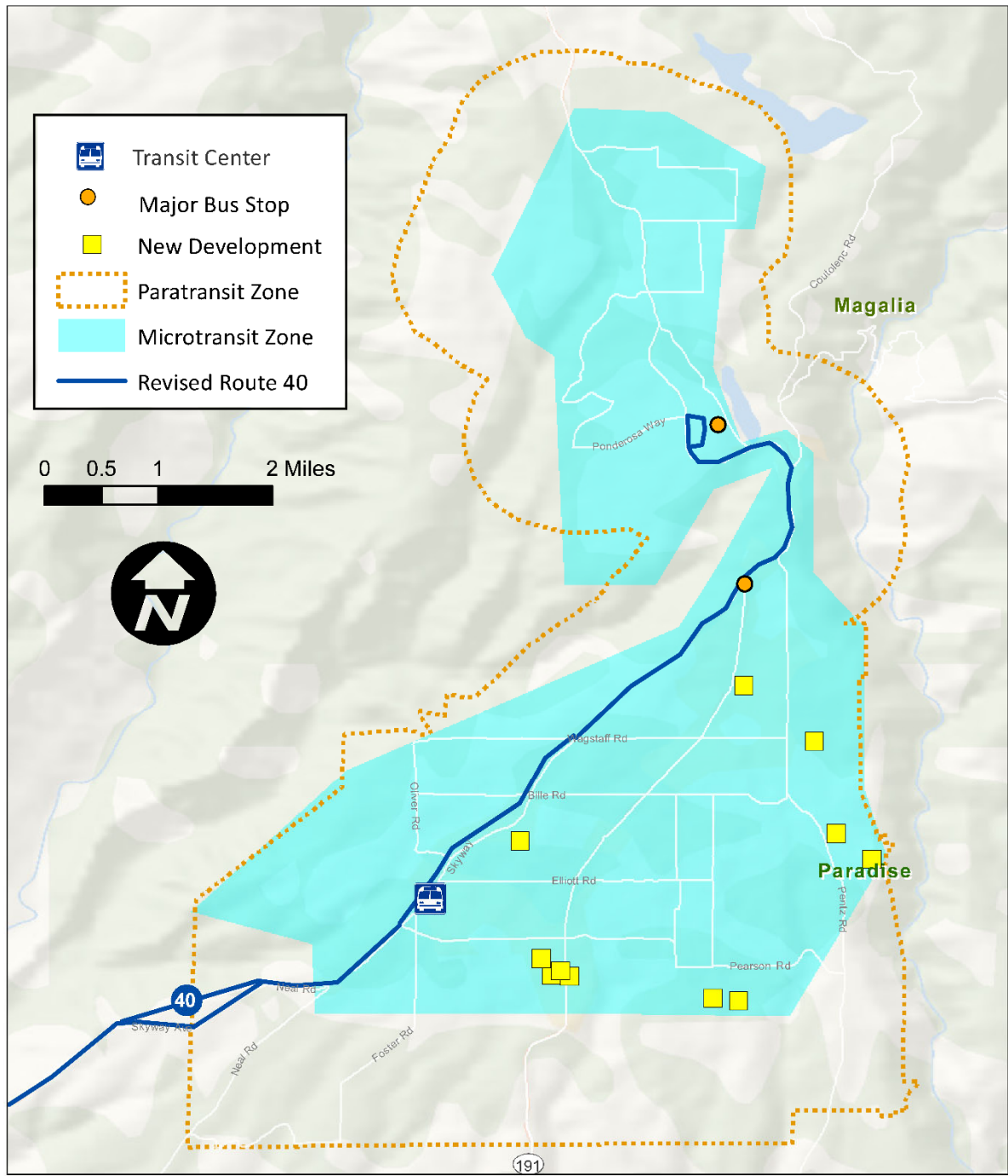


Table 41: Revised Route 40 Schedule

Eastbound Weekday					
Chico		Paradise		Magalia	
Chico Transit Center	Forest Xfer (Walmart)	Paradise Transit Center	Skyway & Wagstaff	Lakeridge (Sav Mor Mkt)	<i>Continues On To</i>
7:20 AM	7:32 AM	7:54 AM	8:01 AM	8:13 AM	40 West
10:50 AM	11:02 AM	11:24 AM	11:31 AM	11:43 AM	40 West
12:50 PM	1:02 PM	1:24 PM	1:31 PM	1:43 PM	40 West
4:50 PM	5:02 PM	5:24 PM	5:31 PM	5:43 PM	40 West
Westbound Weekday					
Magalia	Paradise		Chico		
Lakeridge (Sav Mor Mkt)	Skyway & Wagstaff	Paradise Transit Center	Forest Xfer (Walmart)	Chico Transit Center	<i>Continues On To</i>
6:45 AM	6:58 AM	7:05 AM	7:27 AM	7:40 AM	
8:15 AM	8:28 AM	8:35 AM	8:57 AM	9:10 AM	
11:45 AM	11:58 AM	12:05 PM	12:27 PM	12:40 PM	40 East
1:45 PM	1:58 PM	2:05 PM	2:27 PM	2:40 PM	
5:45 PM	5:58 PM	6:05 PM	6:27 PM	6:40 PM	
Eastbound Saturday					
Chico		Paradise		Magalia	
Chico Transit Center	Forest Xfer (Walmart)	Paradise Transit Center	Skyway & Wagstaff	Lakeridge (Sav Mor Mkt)	<i>Continues On To</i>
9:50 AM	10:02 AM	10:24 AM	10:31 AM	10:43 AM	40 West
12:50 PM	1:02 PM	1:24 PM	1:31 PM	1:43 PM	40 West
4:10 PM	4:22 PM	4:44 PM	4:51 PM	5:03 PM	40 West
Westbound Saturday					
Magalia	Paradise		Chico		
Lakeridge (Sav Mor Mkt)	Skyway & Wagstaff	Paradise Transit Center	Forest Xfer (Walmart)	Chico Transit Center	<i>Continues On To</i>
10:45 AM	10:58 AM	11:05 AM	11:27 AM	11:40 AM	
1:45 PM	1:58 PM	2:05 PM	2:27 PM	2:40 PM	
5:05 PM	5:18 PM	5:25 PM	5:47 PM	6:00 PM	

Route 30

No changes are planned for Route 30.

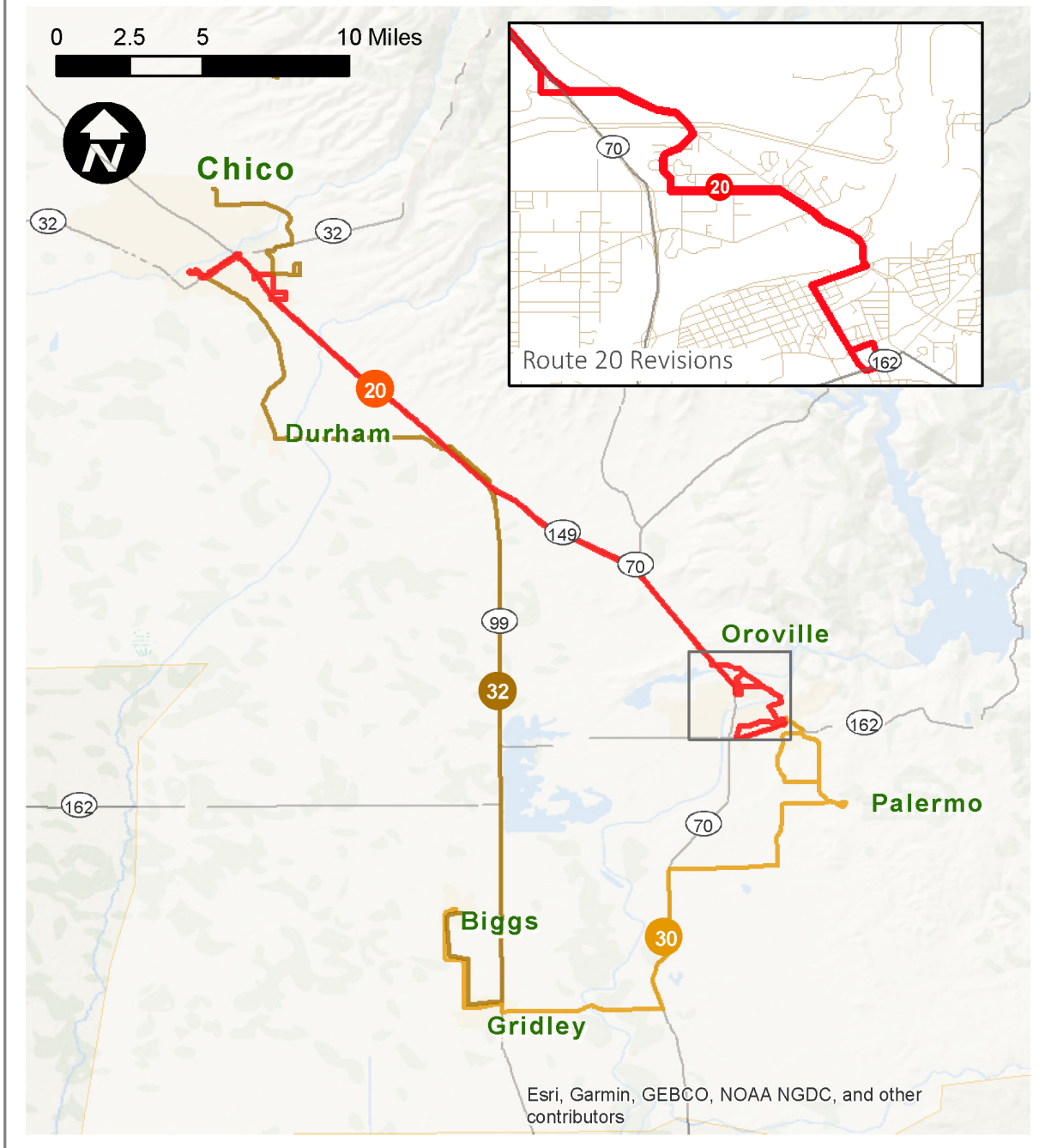
Route 32

No changes are considered for Route 32. While ridership is low, it is an important lifeline service, and serves disadvantaged communities.

Route 31

Prior to the Camp Fire, Route 31 provided service between Paradise and Oroville. Even before the pandemic and fire, ridership on this route was very low. Given that the bulk of the need for a transit connection to Paradise/Magalia is to/from Chico, available transit resources are better used in expanding that service (as discussed above) and reinstatement of Route 31 is not part of this plan.

Figure 37:
Intercity Routing Plan
 Excluding Paradise/Magalia Routes



Benefits to Intercity Services

- Improved on-time performance for intercity routes
- Maintain key service areas of the intercity routes
- Improve regional service efficiency

Paratransit Services

Under this plan, fixed routes will be reduced. As the minimum paratransit service area required under the Americans with Disabilities Act is a $\frac{3}{4}$ mile distance from a fixed route, this provides the potential to reduce paratransit service areas. However, no reductions in existing paratransit services are proposed.

Also, as detailed in Chapter 8, expansion of paratransit services is not warranted under current ridership demands. Instead, B-Line should focus on continuing to provide a high quality of paratransit service.

Total Systemwide Operations Impacts

This plan will require 66,858 annual vehicle-hours of revenue service to operate the B-Line System, as shown in Table 42. This is 795 or 1 percent more than the total services under the existing service plan for FY 2021-22. As shown in this table, this reflects a slight increase in services for Paradise/Magalia and Chico service, and no change in other services. This plan will result in a 13 percent decrease in vehicle-hours of revenue service compared to FY 2022-23.

Ridership Impacts

Table 43 presents the ridership forecast for the near-term Routing Plan. Overall, systemwide ridership is forecast to increase by 9 percent, or 43,900 boardings per year. (Note that this does not reflect any changes from external factors such as the continued rebound from the impacts of the pandemic.) By service area, this consists of the following:

- Chico: 10 percent increase
- Oroville: 2 percent increase
- Paradise/Magalia: 16 percent increase
- Other Intercity: 3 percent increase

Fixed route ridership estimates were calculated using an elasticity of demand model which measures the demand shift based on demographic and operational changes. Microtransit ridership was calculated based on the total population and jobs in each zone, as well as the microtransit ridership rates per person/job seen in other similar areas providing microtransit service. As a new service to the region, however, the ridership estimates for the microtransit services have a relatively high level of uncertainty. These should be considered to have a possible error range of + or – 50 percent. Of note, under this Routing Plan overall ridership is forecast to increase by 9 percent while service levels will increase by 1 percent. This indicates that the Plan as a whole will improve the effectiveness of the B-Line services.

Table 42: Near Term Routing Plan Impact on Service Revenue Hours

Route/Service	Vehicle Revenue-Hours of Service			
	Weekday	Saturday	Sunday	Total Annual
2	15.3	10.3	0	4,457
3	15.3	10.2	0	4,453
4	17.6	11.5	0	5,114
5	13.8	10.4	0	4,083
East Chico Microtransit	11.3	10.0	0	3,403
8	9.4	13.2	0	1,895
9	14.2	13.8	0	2,676
14	22.6	11.0	0	6,381
15	23.1	11.0	0	6,510
North Chico Microtransit	11.3	10.0	0	3,403
17	10.8	9.4	0	3,265
25	4.6	0.0	0	1,192
26	4.2	0.0	0	1,078
27	2.2	0.0	0	568
Southeast Microtransit	5.9	0.0	0	1,516
North Microtransit	5.9	0.0	0	1,516
Thermalito Microtransit ¹	0.0	0.0	0	0
40	8.1	5.4	0	2,366
Paradise/Magalia Microtransit	11.5	8.0	0	3,367
20	24.9	9.8	9.84	7,405
30	5.4	5.6	0	1,671
32	2.0	0.0	0	516

Summary by Service Area

	Annual Vehicle Revenue-Hours of Service			
	Existing	Plan	Change	% Change
Chico	45,035	45,638	603	1%
Oroville	5,895	5,895	0	0%
Paradise/Magalia	5,541	5,733	192	3%
Other Intercity	9,592	9,592	0	0%
Total Systemwide	66,064	66,858	795	1%

Note 1: Served by existing paratransit vans.

Table 43: Ridership Impacts of Near-Term Routing Plan

Route	Annual Ridership			
	Existing - Factored 2022 Estimated	Factored 2022 Estimated With Plan	Change	% Change
<u>Chico Area</u>				
2 Mangrove	34,200	36,500	2,300	7%
3 North/East	58,400	61,400	3,000	5%
4 First/East	37,900	37,900	0	0%
5 East 8th St	27,000	30,400	3,400	13%
7 Bruce/Manzanita	6,700	0	-6,700	-100%
8 Nord	30,400	35,300	4,900	0%
9 Warner/Oak	47,800	55,500	7,700	0%
14 Park/Forest/MLK CW	29,600	29,600	0	0%
15 Esplanade/Lassen	44,000	64,900	20,900	48%
16 Espanade/99	25,900	0	-25,900	-100%
17 Park/Fair/Forest CCW	14,100	23,000	8,900	63%
52 Chico Airport Express	1,800	0	-1,800	-100%
Chico East Microtransit Zone	0	9,800	9,800	--
Chico North Microtransit Zone	0	7,500	7,500	--
<i>Subtotal: Chico Area</i>	<i>357,800</i>	<i>391,800</i>	<i>34,000</i>	<i>10%</i>
<u>Oroville</u>				
24 Thermalito	5,300	0	-5,300	-100%
25 Feather River	4,400	4,700	300	7%
26 Orange/Bridge St	3,800	3,100	-700	-18%
27 Oro Dam/Foodmaxx	4,300	1,700	-2,600	0%
Oroville Microtransit Zones	--	8,600	8,580	--
<i>Subtotal: Oroville</i>	<i>17,800</i>	<i>18,100</i>	<i>280</i>	<i>2%</i>
<u>Paradise/Magalia</u>				
40 Paradise/Magalia-Chico	26,600	41,600	15,000	56%
41 Magalia-Chico	19,300	0	-19,300	-100%
Paradise/Magalia Microtransit Zone	0	11,700	11,700	--
<i>Subtotal: Paradise/Magalia</i>	<i>45,900</i>	<i>53,300</i>	<i>7,400</i>	<i>16%</i>
<u>Intercity (Excluding Paradise/Magalia)</u>				
20 Chico-Oroville	57,900	60,100	2,200	4%
30 Oroville-Biggs	5,700	5,700	0	0%
32 Gridley-Chico	1,500	1,500	0	0%
<i>Subtotal: Intercity</i>	<i>65,100</i>	<i>67,300</i>	<i>2,200</i>	<i>3%</i>
TOTAL SYSTEMWIDE	486,600	530,500	43,900	9%

MID-TERM SERVICE PLAN

An additional service plan was developed for possible implementation in the mid-term (5 to 10 years) planning horizon. This assumes that future ridership warrants expansion. A potentially viable means of enhancing transit quality and generating increased ridership is to provide high frequency (every 15 minutes) on high ridership potential corridors connecting key activity centers. As shown in Figure 38, this consists of 15-minute weekday service on Routes 3 and 14 from approximately 6:30 AM to 6:00 PM. By providing high-frequency service along the key corridors connecting the commercial and Butte College (Chico) campus area on the south with downtown/CSUC and the North Valley Plaza, this will improve connections and reduce overall travel times throughout the city. It will also increase the potential for development along the high-frequency corridors that take advantage of the improved accessibility.

In addition, Transit Signal Priority should be installed at approximately 10 key signals along Route 14 (in addition to the TSP installations along Route 3 under the near-term plan). While specific locations will require a detailed traffic engineering analysis, a preliminary list is as follows:

- Broadway/8th
- Park/20th
- 20th/Martin Luther King, Jr.
- 20th/ SR 99 Southbound
- 20th/ SR 99 Northbound
- 20th / Forest
- Skyway / Notre Dame
- Skyway / SR 89 NB Off Ramp
- Skyway / SR SB Off Ramp
- Park / Martin Luther King, J

Over the course of a year, this service improvement will increase revenue vehicle-hours by 14,039, as shown in Table 44. At current rates, this will increase annual operating costs by \$1.25 Million. Ridership is estimated to increase by approximately 56,000 boardings per year, or a 62 percent increase over the near-term plan ridership on the two key routes. Note that this ridership estimate does not assume any “background” increase in ridership (due to rebound from pandemic ridership patterns, for example) nor does it reflect ridership generated by any new development along the high frequency corridor.

CAPITAL PLAN

As detailed in Chapter 9, the implementation of this Routing Plan will require some capital investments, as follows:

- The service modifications (and in particular the replacement of existing fixed routes with microtransit service) will allow a total of 112 existing stops to be removed (60 in Chico, 31 in Paradise/Magalia and 15 in Oroville). Of these, 23 currently have shelters. In addition, a total of 6 new stops will need to be installed, of which 4 will warrant shelters. Overall, bus stop modifications are forecast to cost a total of \$63,400.

TABLE 44: Summary of Near and Mid Term Routing Plan Impact on Service Revenue Hours

Route/Service	Vehicle Revenue-Hours of Service			
	Weekday	Saturday	Sunday	¹
2	15.3	10.3	0	4,457
3	47.3	10.2	0	12,709
4	17.6	11.5	0	5,114
5	13.8	10.4	0	4,083
East Chico Microtransit	11.3	10.0	0	3,403
8	9.4	13.2	0	1,895
9	14.2	13.8	0	2,676
14	41.9	11.0	0	11,369
15	23.1	11.0	0	6,510
North Chico Microtransit	11.3	10.0	0	3,403
17	10.8	9.4	0	3,265
25	4.6	0.0	0	1,192
26	4.2	0.0	0	1,078
27	2.2	0.0	0	568
Southeast Microtransit	5.9	0.0	0	1,516
North Microtransit	5.9	0.0	0	1,516
Thermalito Microtransit ²	0.0	0.0	0	0
40	8.1	5.4	0	2,366
Paradise/Magalia Microtransit	11.5	8.0	0	3,367
20	24.9	9.8	9.84	7,405
30	5.4	5.6	0	1,671
32	2.0	0.0	0	516

Summary by Service Area

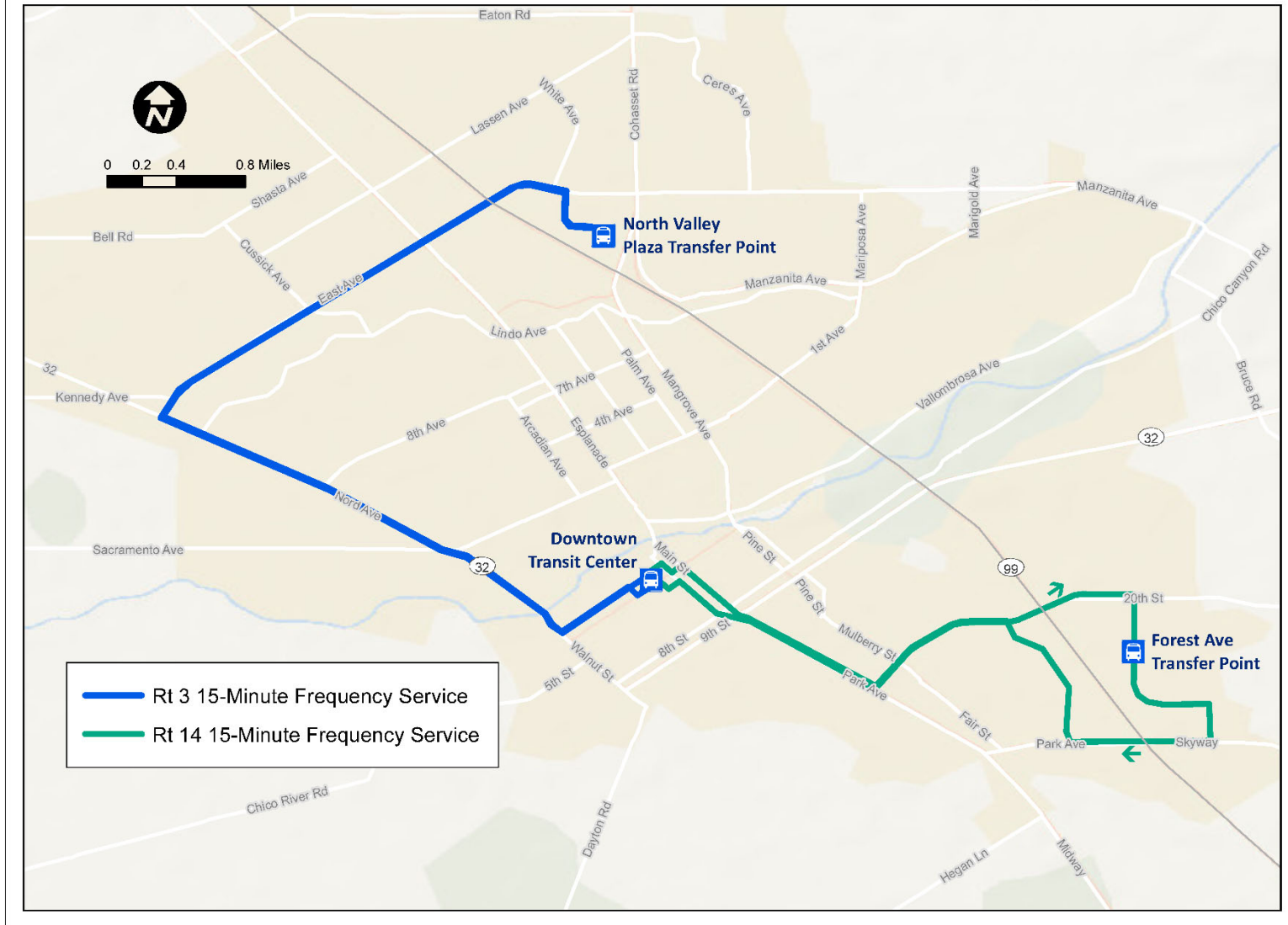
	Annual Vehicle Revenue-Hours of Service			
	Existing ³	Plan	Change	% Change
Chico	45,035	58,882	13,847	31%
Oroville	5,895	5,895	0	0%
Paradise/Magalia	5,541	5,733	192	3%
Other Intercity	9,592	9,592	0	0%
Total Systemwide	66,064	80,102	14,039	21%

Note 1: Assumes 258 weekdays, 50 Saturdays, and 51 Sundays. Assumes Chico State academic schedule for 157 weekdays and 32 Saturdays.

Note 2: Served by existing paratransit vans.

Note 3: Existing service levels based on FY 2021-22 levels, as shown in Table 27.

**Figure 38:
Mid-Term Routing Plan Enhancements**



- The Near-Term service modifications would reduce the peak number of buses required in fixed route operation by two. Including one spare, a total of six vehicles would be required for microtransit service. The current B-Line van fleet consists of 22 vans that could be used for paratransit or microtransit service. As 16 vans are required for peak paratransit service (including 3 for spares), there are six vans currently available, sufficient to support the microtransit service. It is worth noting, however, that 12 of these vans are 2013 models and may well warrant replacement in the near future, and that any growth in paratransit demand may necessitate additional vehicle purchases.
- The Mid Term service would require four additional buses to provide 15-minute headway service.
- Microtransit services use specific software programs and apps, designed to receive ride requests, schedule drivers, track services and generate reports. There are a variety of software providers with varying prices, capabilities and levels of customer support, that are offered on a subscription basis. At typical current prices, the software needed to support the four microtransit zones would cost approximately \$47,500 per year.
- The Transit Signal Priority (TSP) systems recommended for Route 3 (in the near-term) and for Route 14 (in the mid-term) would cost on the order of \$540,000 to implement. This includes \$50,000 for detailed system design and implementation, \$450,000 for signal modifications, and approximately \$40,000 for on-bus equipment. \$240,000 would be needed for the near-term improvements, and an additional \$300,000 for the mid-term.

FARE PLAN

The following modifications to the existing fare policies are recommended, as discussed in Chapter 10:

- The 2-ride fare categories should be eliminated, in order to reduce the administrative costs and time required to handle fares on the buses and in recognition of the very low use of these fares. Instead, a new half-fare Day Pass should be implemented, and customers encouraged to make use of the Day Pass.
- Microtransit service should be provided at the Local Fare rates. This increases the equity of the general public transit services by making no difference in fares between areas close to fixed routes and those in other portions of the microtransit zones. Note that this will effectively reduce the fare rates in the Paradise/Magalia area.
- The types of passengers eligible for discounted fares should be expanded to include Veterans.

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Chapter 12

MARKETING THE ROUTING STUDY

INTRODUCTION

A key element in successfully implementing this Routing Study is to educate the public on the changes in services and prepare the transit riders for the new services. This is of particular importance given that the study introduces the new concept of microtransit to the service area. To ensure success of the service, this marketing plan develops a multifaceted approach educating existing riders about the new B-Line services while also aiming to reach new passengers as well.

The following Marketing Plan (Plan) was created based on goals and objectives, outlining the strategies and techniques necessary to meet these goals. Note that if the Routing Study modifications are implemented in an incremental fashion (such as in one community at a different time than another community), these marketing efforts would pertain to the specific elements being implemented.

GOALS AND OBJECTIVES

The B-Line Routing Study introduces various changes to existing services, as well as an entire new service with the introduction of microtransit. The major goals and objectives driving the Marketing Plan include:

- Raising Awareness/Education – Creating awareness and improving local knowledge of the transit services B-Line provides.
- Shifting Image/Perception – Cultivating a positive and inclusive image around transit.
- Increasing Ridership – Encouraging ridership amongst new and existing riders.
- Building Relationships – Coordinating collaborative partnerships amongst various groups within the community.

OVERVIEW OF STRATEGIES

The Plan offers major strategies when considering large-scale marketing efforts. The following strategies are described in further detail below followed by a proposed schedule for implementation.

- **Target Audiences:** In preparation for BCAG to develop marketing materials, radio ads, and/or TV commercials, we discuss the target audience and general messaging for such marketing materials and commercials.
- **Community Gatekeepers:** Building on the list of stakeholders and community members used during the Routing Study, a list of key gatekeepers will be identified, as well as appropriate means and timing for contacting them. These gatekeepers include educators, social service managers, housing advocates, cultural center directors, senior center leadership, large employers, government agencies, and other major community leaders.
- **Sample Marketing Materials:** Illustrative marketing materials have been developed for all forms of community outreach. These items are meant to serve as templates in which B-Line

can use for rolling out its new services. The following materials will be included in English, Spanish, and Hmong.

- Sample press releases
- Sample flyers (in English, Spanish and Hmong)
- Sample News Media Print and Web Ads (in standard sizing)
- Sample social media posts
- Sample email blast designs
- **Website Updates:** The B-Line website should be updated with clear information regarding each changed service, additional new services, and multiple ways to access more information. It should be the one-stop location for all Routing Study information (Promotion Events, Flyers, Social Media links, etc.)
- **Suggestions for Promotional Events:** Promotional events will be key to reaching both existing riders and potential new passengers. The marketing plan includes suggestions for such events, and ways in which to target both groups. In particular, there is a discussion on how to reach disadvantaged and/or multilingual communities.
- **Sample Marketing Timeline:** Chapter 12 concludes with a schedule in which to roll out the marketing outreach plan.

RAISING COMMUNITY AWARENESS

Community engagement is the core emphasis in the rolling out of new transit services that impact a region. Identifying who needs to be notified of new services and improvements to existing routes is essential in creating an outreach effort that is effective and all-encompassing. The following section provides guidance on the first two strategies of narrowing in B-Line’s target audiences and determining community gatekeepers that are necessary in distributing information and being allies to the marketing effort overall.

Target Audience

As mentioned in the previous section, the target audience includes current and potential B-Line riders who either need or desire transit services. The needs that riders and potential riders have for transit generally fall into three major categories: Ongoing, Temporary, or Discretionary.¹ In these terms, the ongoing transit rider typically has limited travel options and includes workers, students, people living below the poverty line, older adults, and people living with a disability.



For the purpose of this Marketing Plan, a large focus will be placed on educating existing and potential riders that meet these demographics with clear information as to what B-Line routes have changed and how these changes affect travel choices. Temporary riders include visitors, tourists, and people who may need to use B Line under extenuating, and temporary, circumstances. While Butte

¹ <https://www.nationalrtap.org/Toolkits/Marketing-Toolkit/How-To-Guide-For-Marketing-Transit/Marketing-in-the-Transit-Environment>

County has a modest tourist economy, less effort should be placed on this group as they are not the core transit rider. Commuters make up large proportion of B Line’s discretionary rider population. Additional motivations for this group might be the ability to work as they commute while also providing benefits to the environment by reducing their commuting carbon footprint.

Here are some examples as to how marketing materials, such as flyers, social media posts, and email blasts should differ depending on which target audience you’re aiming to reach:

- *“Ongoing” Riders* – Language of materials should speak to this audience as if they are already familiar with the various routes and services B-Line provides. The materials should depict images of popular transit destinations and familiar drivers and/or B-Line staff. The content of materials should emphasize what has changed about existing routes and use well known community destinations to illustrate new routes and changes to service.
- *“New” or “Temporary” Riders* – Content of materials are very informational and written in a way to introduce B-Line’s transit services. Times of service and even how to ride information can also be included as this is considered to be a new demographic that hasn’t ridden B-Line before.
- *“Discretionary” Riders* – Marketing materials should emphasize the convenience and affordability of traveling longer distances by transit. Popular longer distance travel destinations should be represented visually and information about service times and how to ride can also be included as this group can often encompass both existing and new riders. This rider type is particularly important in attracting government agency and employees working at larger companies in the region.

Within these broad audience groups, we can focus on particular subgroups of potential riders within each community. These people may include students (both university and grade school), seniors, disabled persons, commuters, etc. Each marketing campaign should either aim to speak to a broad group or a very specific sub-group. For example, materials aimed to reach elderly passengers should use copy that encourages independence and the ability to run errands and make appointments. Another flyer could feature popular destinations that B-Line serves and copy that attracts new riders with an overview of places you can take B-Line to. Lastly, another campaign could feature general information on how transit routes and services have changed recently and where to learn more about these changes.

These different types of surveys aim to speak to various audiences within Butte County. Types of marketing materials to attract specific audiences are further discussed in the Sample Marketing Materials section below and included under Appendix H.

Community Gatekeepers

Another essential part of reaching these specific subgroups of riders is the coordination and inclusion of community gatekeepers throughout implementation of new services. BCAG should have two approaches when marketing new routes and services to the public: 1) sharing information when the public seeks it and 2) going to the public to share information. For the first approach, this will include updating all current means of providing information (rider guides, maps, website, etc.) For the second

strategy, identifying and engaging community gatekeepers who have access to existing and potential passengers will be critical.

A list of gatekeepers was established for the most recent Routing Study and should be used as a basis to further educate and inform the public regarding changes to service, outreach events, social media campaigns, etcetera. This list is provided in Appendix I, with some key suggestions presented below about keeping them informed. It includes over 300 identified organizations and representatives from groups such as religious community leaders, social service providers, medical entities, city and county representatives, college community members, school districts, and other types of cultural group leaders. A coordinated effort in keeping these contacts aware of upcoming outreach events, changes to services, and updated marketing materials should continue to go on before, during, and after routing changes and new transit services have been implemented.

MARKETING STRATEGIES

The following section deals with the other four marketing strategies: marketing materials, website updates, promotional events, and marketing timelines. Sample marketing materials are presented in Appendix H and described below. Three options for the overall graphic design are presented. These materials are meant to be illustrative and as discussed in the previous chapter, each marketing campaign should be tailored to reach specific audiences while maintaining B-Line's branding colors and design. In addition to the roll out of these various marketing materials, possible events and outreach opportunities are discussed below for consideration next Spring and Summer 2024. This section concludes with a sample schedule for rolling out the new services campaign.

Marketing Materials

Photography

It is important to have a library of high-resolution photography for use in press releases, print and web ads, and social media posts to help guide perception of transit services. In the early stages of large marketing efforts, a photographer should be hired for a photoshoot of existing buses, drivers, passengers, and anything else that makes B-Line unique. Having a library of high-resolution photography lends itself to having better marketing materials across all types of media.



Print Advertising

Printed materials include flyers, posters, billboards, and newspaper print ads. They should appear related in general look and feel, however their content may differ slightly depending on the specific type of audience under consideration and where the content will be posted. They may feature either website links or QR codes for people to be directed to the website for the most up to date information.

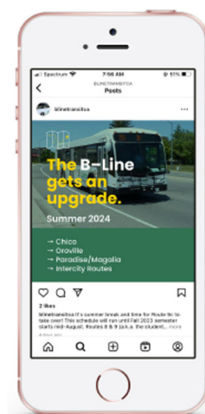
Online Advertising

Similar to print advertising, online ads may include very simple content that engages the audience to click on the ad to learn more about recent service changes. Ads may be various sizes depending on the online news media outlet that they are to be featured on. Ads will be clickable and direct viewers to the B-Line website to learn more. Online ads will be placed on local news media websites as well as Facebook.



Social Media

Social media post samples are also included under Appendix H. Similar to other marketing materials, each post should be customized to attract and engage a particular audience. Featuring specific photography and language style that speaks to your primary rider demographics aids in pulling each individual into the post. An effort should be made to include several types of demographic populations in the photoshoot. As shown in the appendix, a scrolling “carousel” type post is helpful in getting more information articulated in a single post.



Website Updates

The most important online material will include updates to the B-Line website.

The schedule of services should be easy for someone to find when visiting the site. In addition, changes to service should be clear and concise with a schedule that is easily understood. For the new microtransit services, a brief informational animated video introducing the service should be featured on the B-Line website along with the microtransit schedule, its services areas, and instructions on how to use the service. A video of this type has already been created by AIM and can be shared with B-Line for use with credit to AIM as the creators. Other online materials may include online ads on news websites and Facebook.

Promotional Events

While the distribution of marketing materials in both print and digital formats is paramount in launching new services county-wide, hosting a series of in-person events complements the effort and allows time to engage with the public on a personal level. The following is a list of potential events and activities aimed to spread the word regarding B-Line’s new services:

- Downtown Chico’s Thursday Night Market
- Farmer’s Markets in Chico and Oroville
- Local concert series over the summer in Chico and Paradise

- CARD's Movie in the Park nights
- University events, such as job fairs and local informational days
- Feather Fiesta Days, Pioneer Days, and similar community events

To support these various events, B-Line could hold a contest or raffle drawing to further pique interest in new services. This contest or raffle should be advertised as a part of the other outreach efforts. It may include tickets to a local event (that one may take transit to), free bus passes, B-Line branded promotional items, or anything else that compliments public transit.

MARKETING TIMELINE

The timing of marketing activities is crucial. All in-person events and supporting materials should be planned far enough in advance to allow people to plan to attend, but close enough to an impending change that the public will maintain focus and enthusiasm for the change. The following is a sample schedule for rolling out new services, assuming a launch in July 2024.

March (4 months to launch)

- Set a target services launch date.
- Engage with graphic design and marketing consultant.
- Create a plan of deliverables.
- Engage with stakeholders to announce that change is coming to B Line.
- Hire photographer to capture transit ridership, staff, and buses for marketing materials.

April (3 months to launch)

- Graphics designer to create posters, flyers, print and web ads, and any other visual marketing materials for launch events.
- Plan to attend Chico University events before summer break.
- Plan to attend other community events (farmers markets, concerts, cultural celebrations, etc.)
- Receive edited photography and share with graphic design consultant for marketing materials.

May (8 weeks to launch)

- Attend planned community events in each major area (Chico, Oroville, Paradise/Magalia, Biggs/Gridley)
- Send follow up emails to stakeholders to inform them of the changes coming to B-Line with directions on how they may help spread the word to fellow employees, clients, and their communities. Ensure that B-Line is featured on their websites and materials if applicable.
- Schedule radio, web, and print ads announcing the new service coming soon.
- Print and produce all large format billboard/poster banners for distribution at various bus stops.

June (4 weeks to launch)

- Run ads, follow up with stakeholders, and attend any other community events.
- Post print announcements
- Draft Press Release
- Begin posting to social media channels throughout each community.

July (launch month)

- Announce services have changed
- Update website and schedule to reflect changes
- Email stakeholders of implemented changes
- Send Press Release to all local news outlets
- Hold media events in communities targeted for service changes, such as a ribbon cutting
- Post social media ads targeting specific communities in the region

August and Onwards

- Maintain website information
- Monitor passenger comments and complaints to identify particular issues or areas of concern, and modify public information (website, posters) as appropriate.
- Follow up with stakeholders to receive any feedback and make sure that communities and clients have been made aware of service changes.

As outlined above, the outreach plan for rolling out new transit services should begin at least four months ahead of new service implementation. The marketing effort begins with hiring a photographer for a photoshoot. At this time, BCAG should coordinate with a graphic designer for all print and web materials, contacting news media, conducting stakeholder outreach, and planning promotional events. The process also includes posting large scale marketing materials such as bus stop boards or bus wraps, and planning social media posts leading up to the launch, as well as after.

Lastly, once the new transit services have been launched and the schedules and websites have been updated, a post effort that focuses on receiving additional input should be initiated. During this time outreach to stakeholders should be held to better understand how changes have been received and what can be done to make the changes clearer to the public.

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Appendix A

DEMOGRAPHIC MAPS EXCERPTED FROM THE
Post Camp Fire Regional Population and Transportation Study
FEHR & PEERS, 2021

Appendix A

DEMOGRAPHIC MAPS EXCERPTED FROM THE *Post Camp Fire Regional Population and Transportation Study* FEHR & PEERS, 2021

Demographic Maps

The attached demographic maps were developed by Fehr & Peers for BCAG as part of the *Post Camp Fire Regional Population and Transportation Study*, completed in April 2021. This data is current and relevant to the Butte Fixed Route Optimization Study and referenced in Chapter 2 of this report. Tables in Chapter 2 have been updated with the latest US Census population statistics as of April 2022, but the maps remain unchanged from their original development.

Development Maps

In addition to the demographic maps, a map produced and maintained by the City of Chico Community Development Department and Planning Division is included. The map identifies locations where multi-family and low income housing will be or is being developed.

A list of the tables and figures is as follows:

- Figure A-1: Population Density
- Figure A-2: Population Density (Continued)
- Figure A-3: Employment Density
- Figure A-4: Employment Density (Continued)
- Figure A-5: Median Household Income
- Figure A-6: Median Household Income (Continued)
- Figure A-7: Poverty Density
- Figure A-8: Poverty Density (Continued)
- Figure A-9: Youth, Young Adult, and Senior Density
- Figure A-10: Youth, Young Adult, and Senior Density (Continued)
- Figure A-11: Zero Vehicles Households Density
- Figure A-12: Zero Vehicles Households Density (Continued)
- Figure A-13: CalEnviro Screen
- Figure A-14: CalEnviro Screen (Continued)
- Figure A-15: Transit Ridership Potential
- Figure A-16: Transit Ridership Potential (Continued)
- Figure A-17: City of Chico – June 1, 2023 Active Development Map

Figure A-1: Population Density

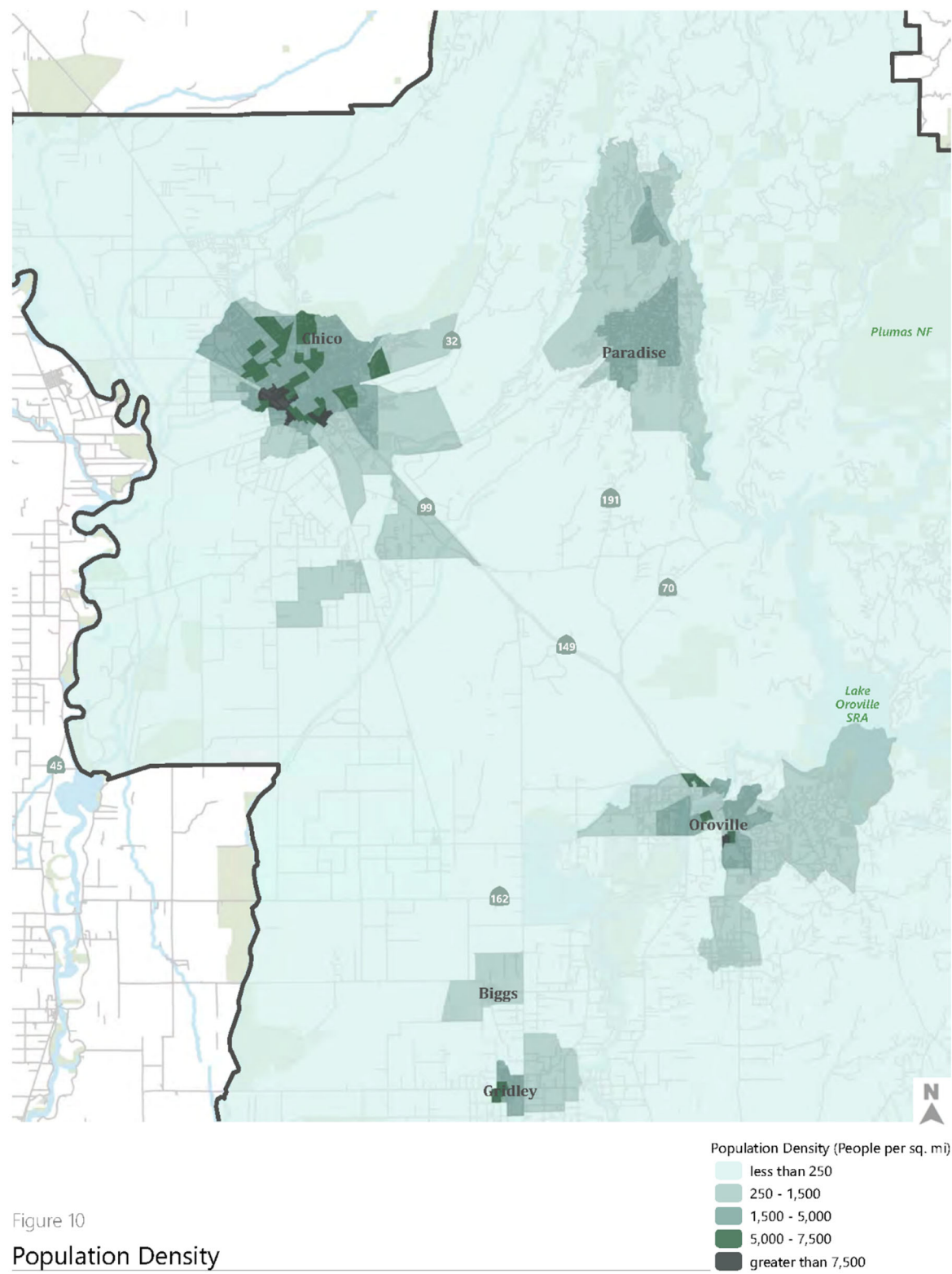


Figure A-2: Population Density (Continued)

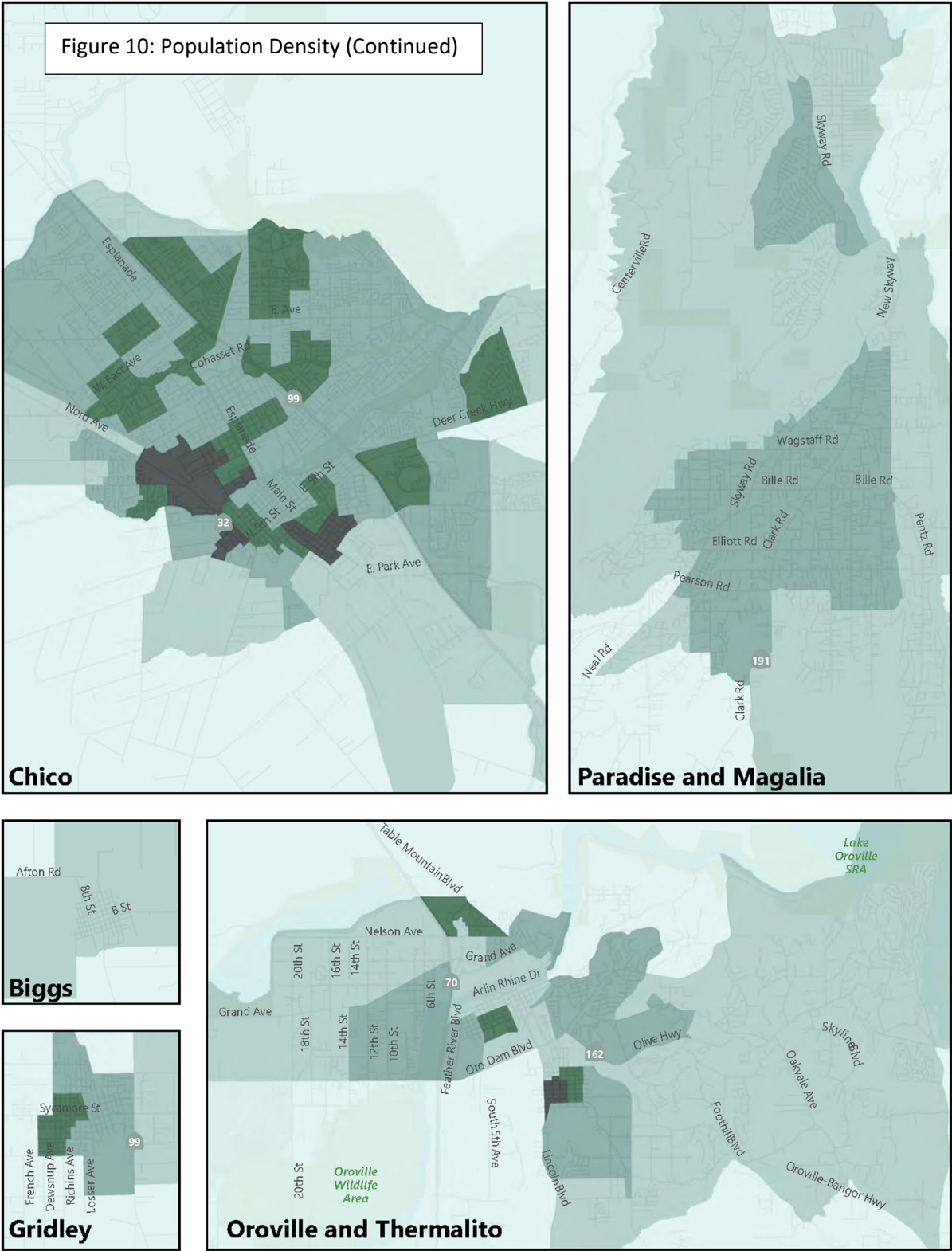


Figure A-3: Employment Density

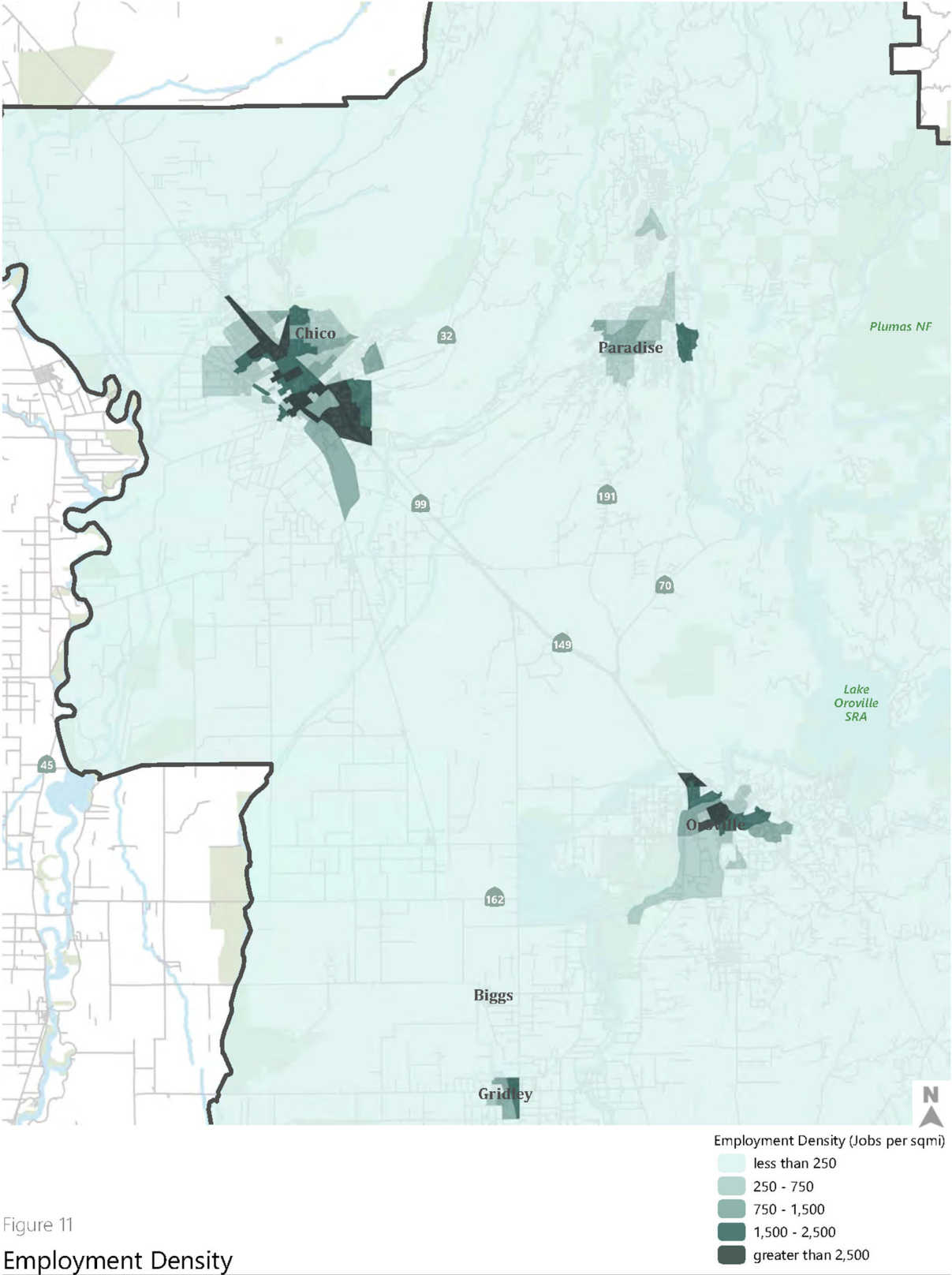


Figure A-4: Employment Density (Continued)

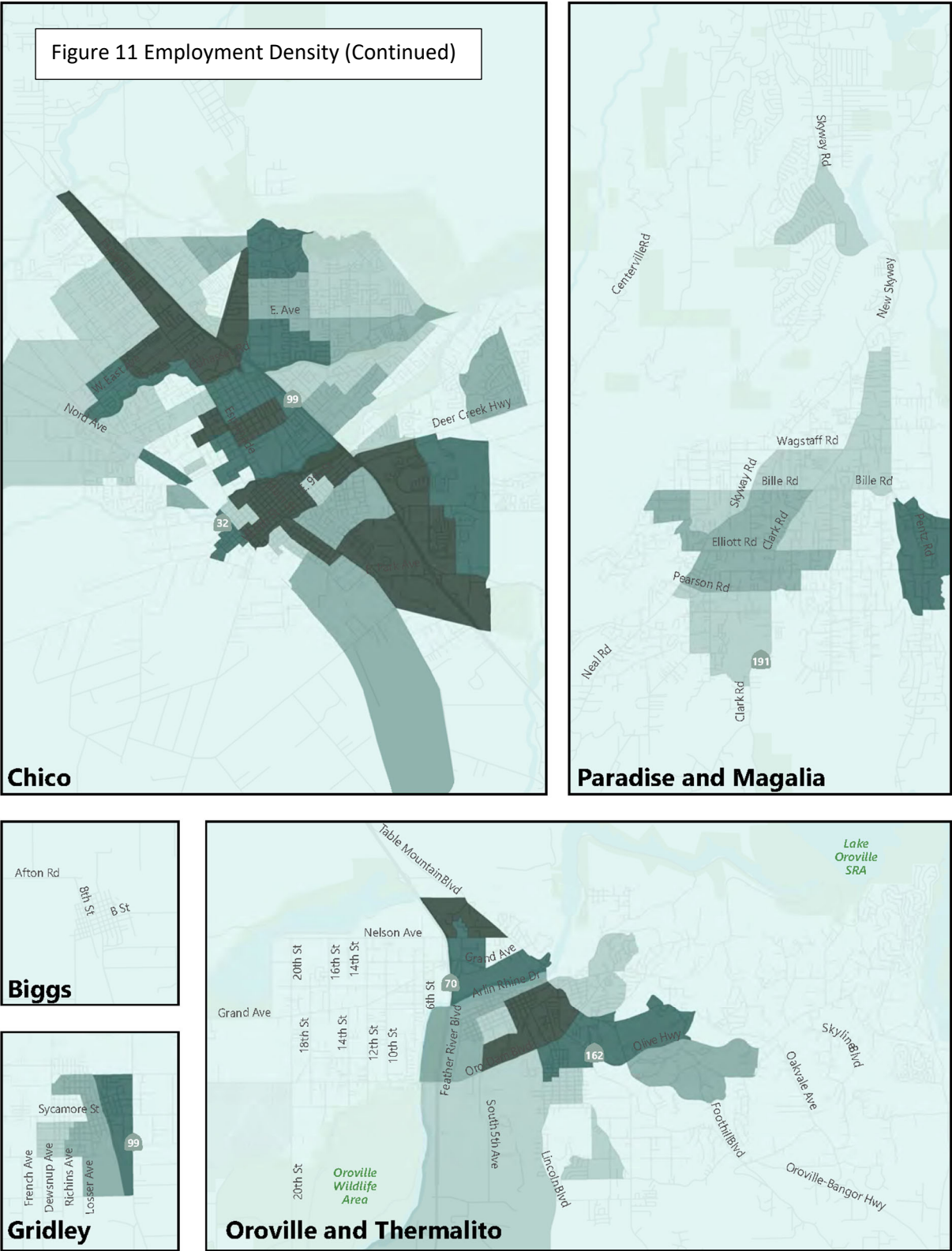


Figure A-5: Median Household Income

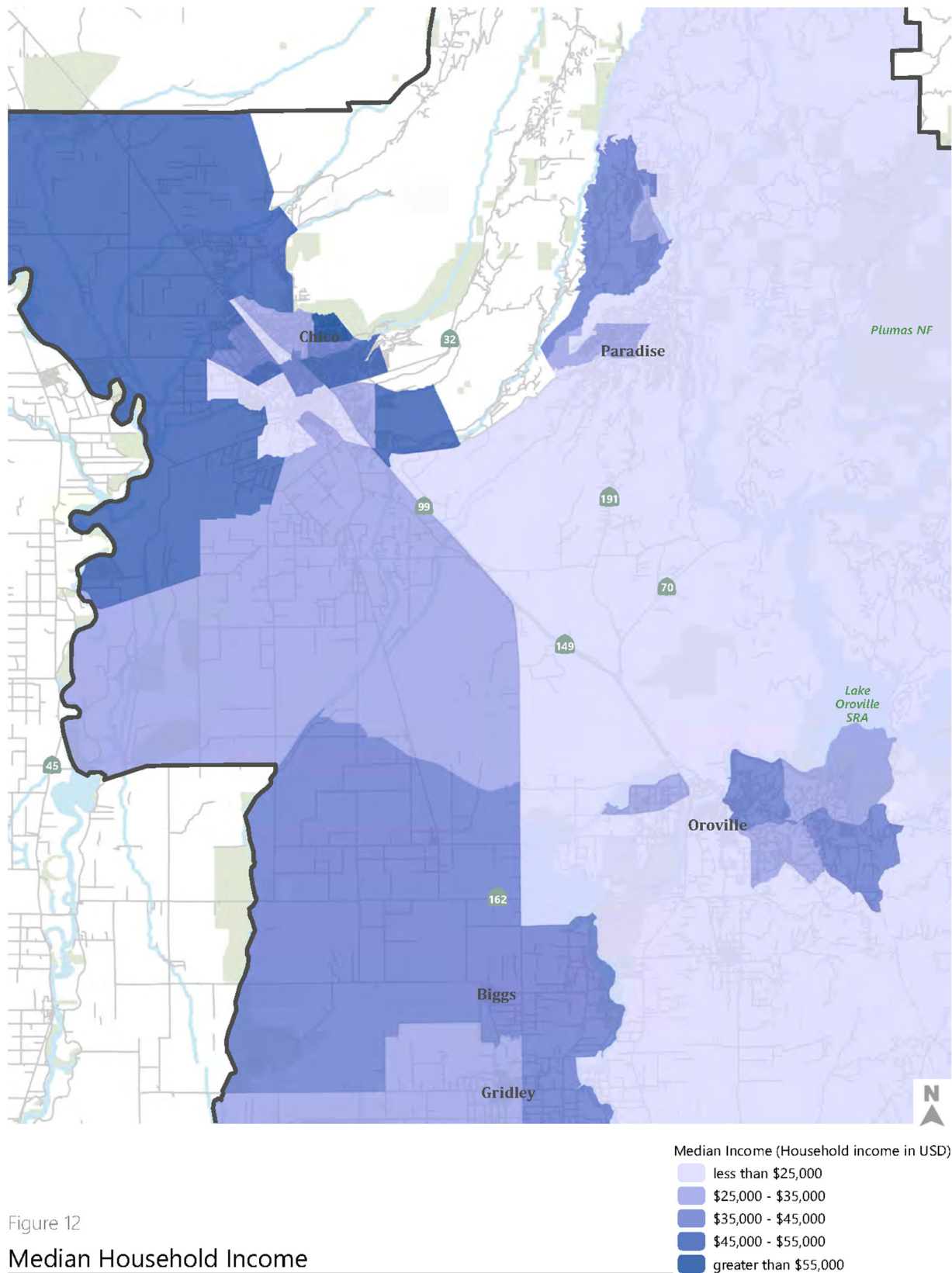


Figure 12
Median Household Income

Figure A-6: Median Household Income (Continued)

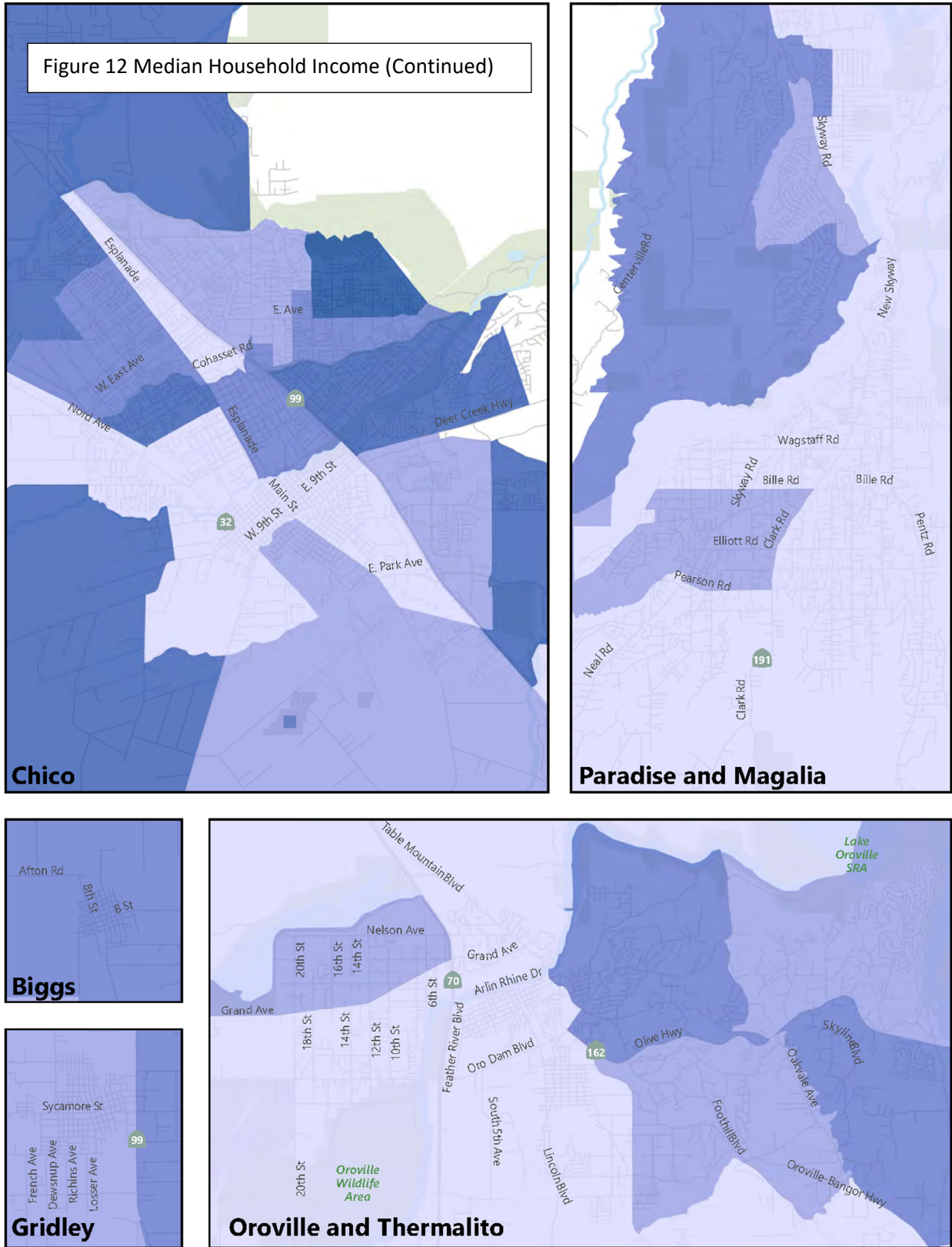


Figure A-7: Poverty Density

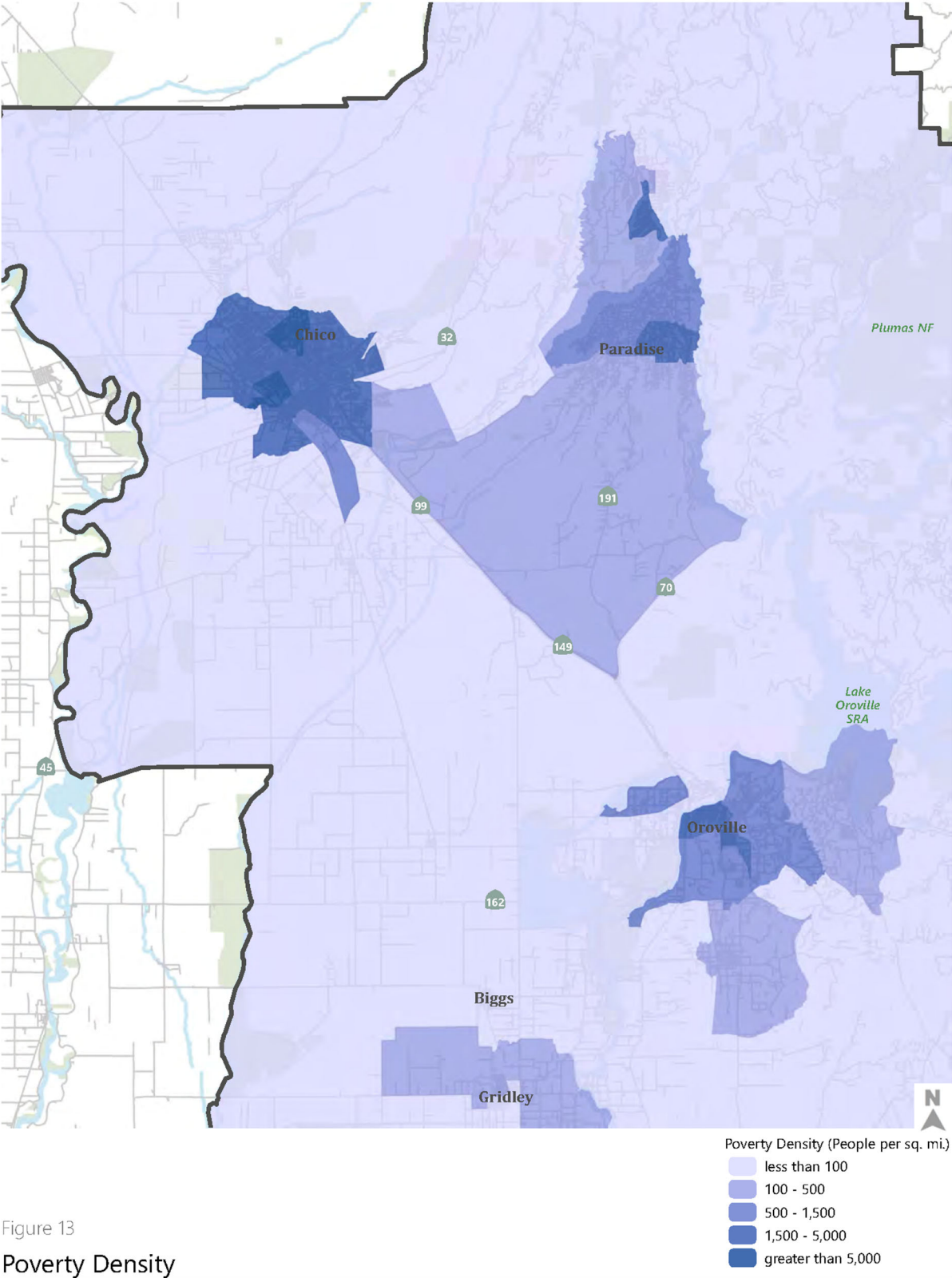


Figure 13
Poverty Density

Figure A-8: Poverty Density (Continued)

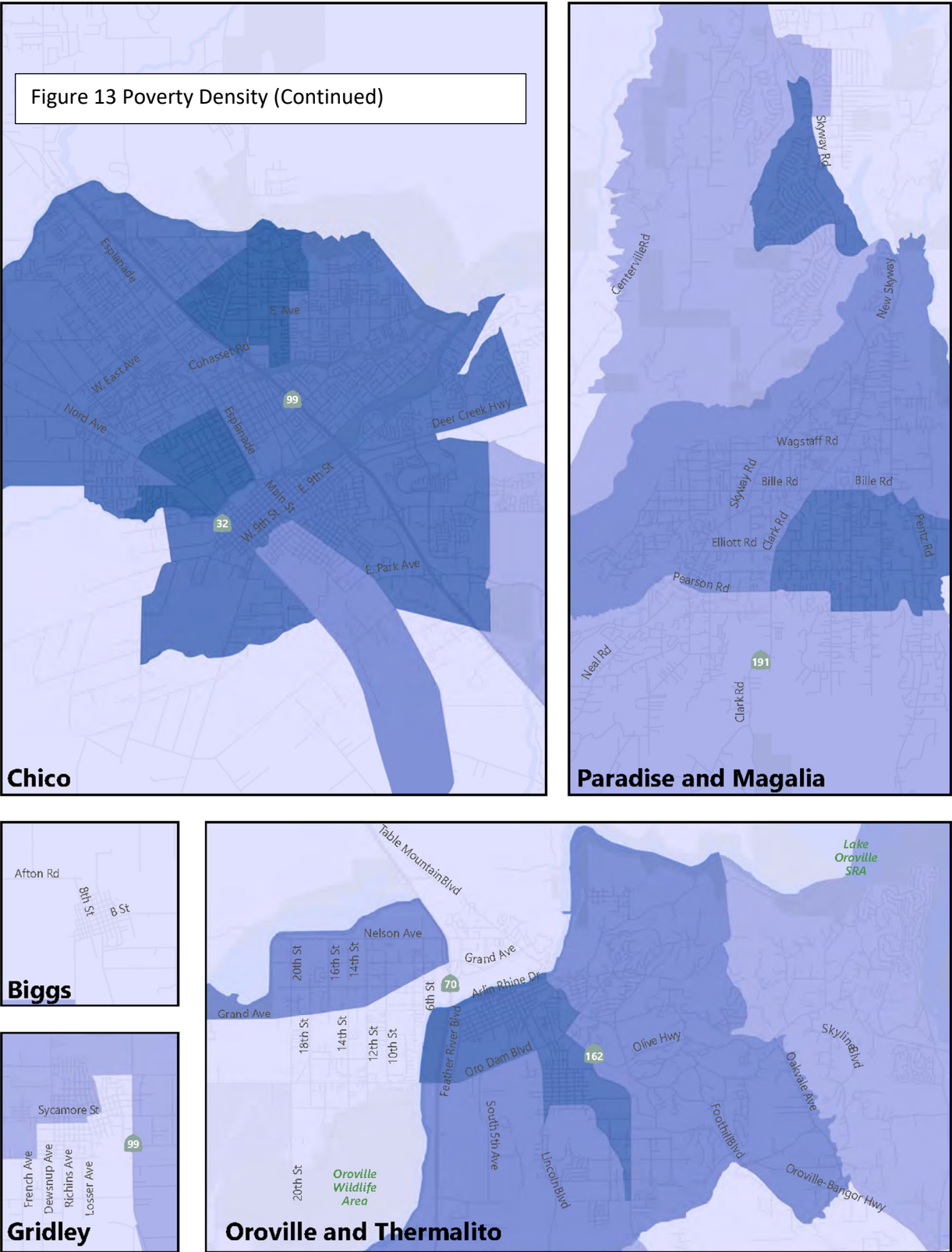


Figure A-9: Youth, Young Adult, and Senior Density

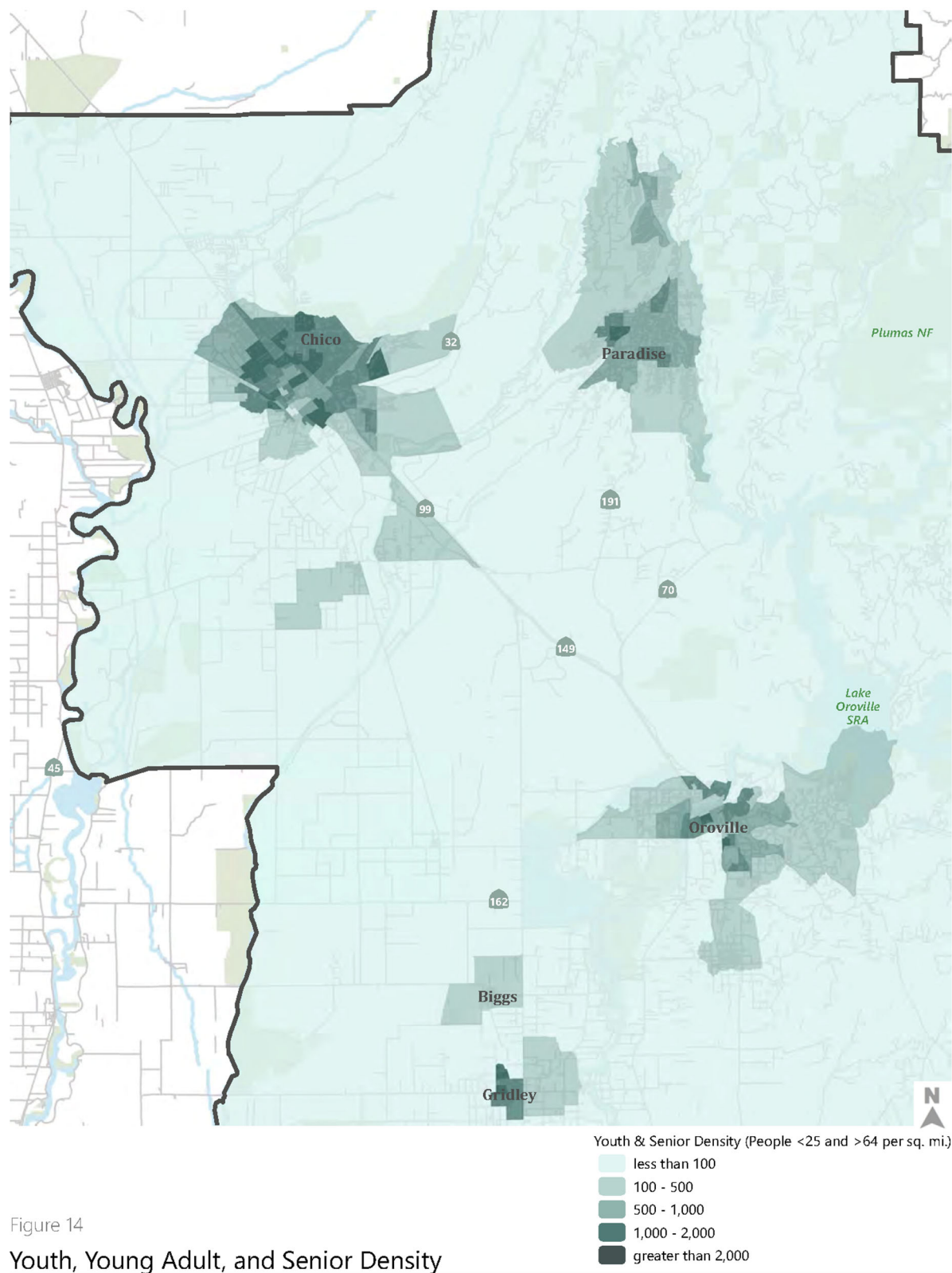


Figure A-10: Youth, Young Adult, and Senior Density (Continued)

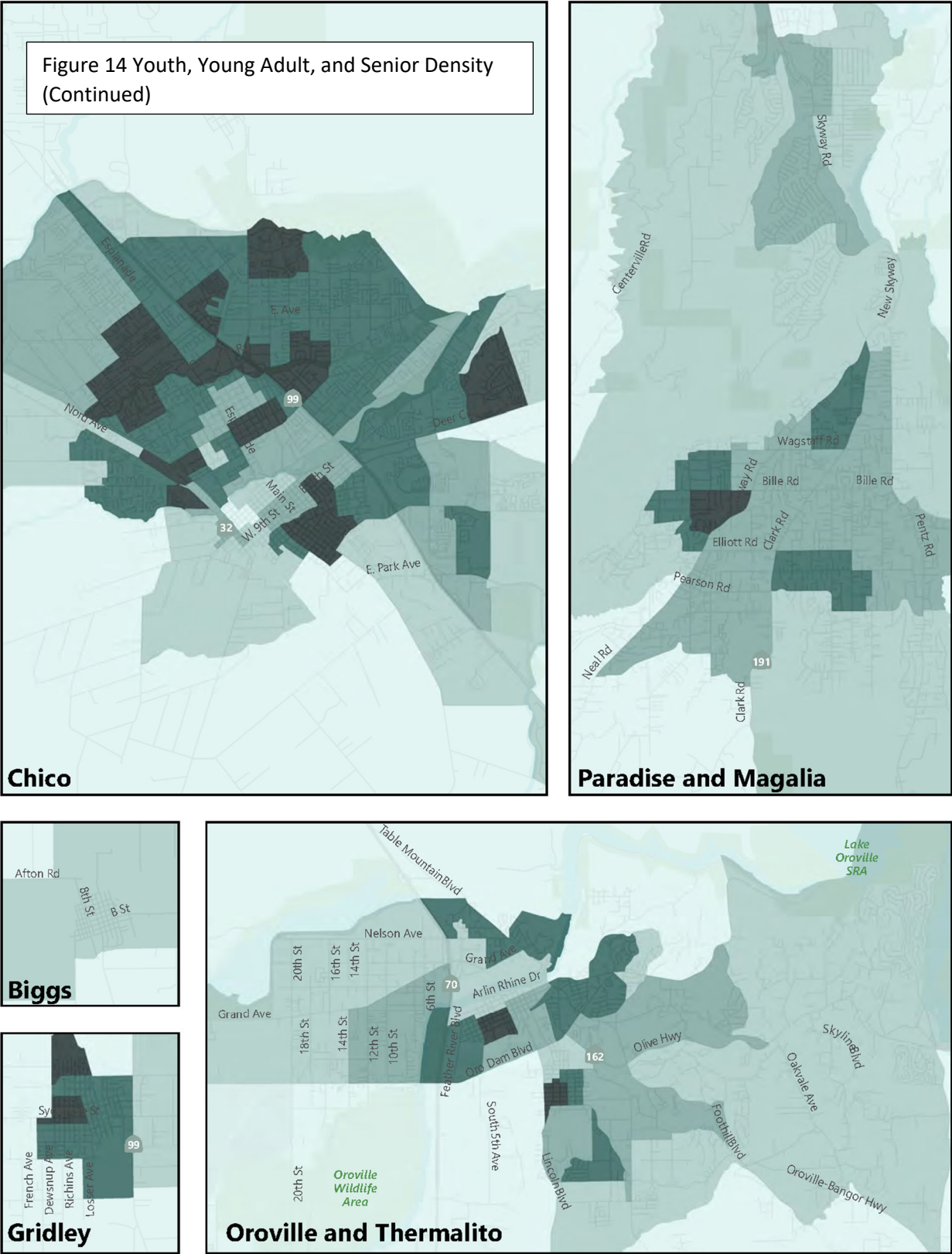


Figure A-11: Zero Vehicles Households Density

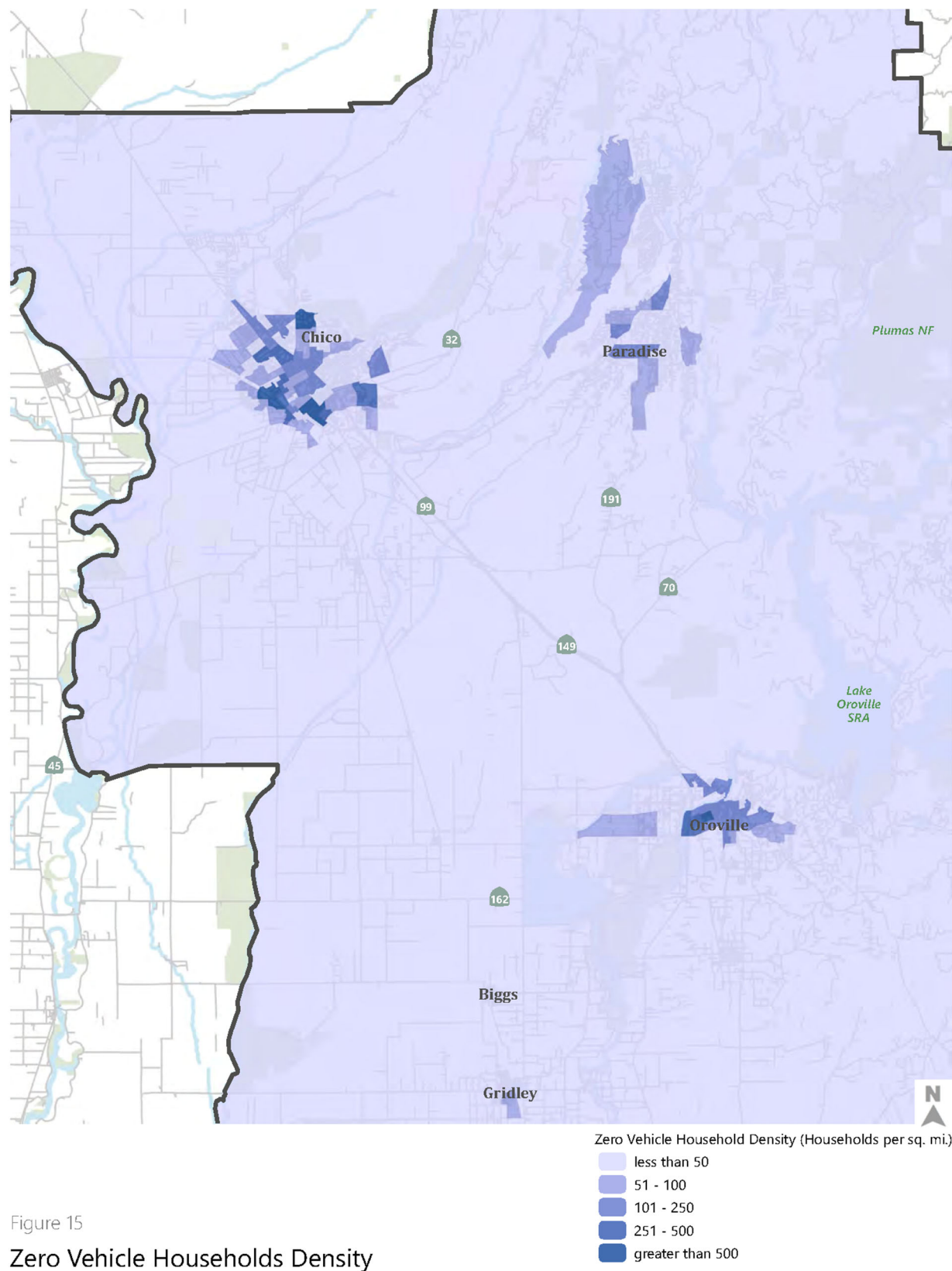


Figure 15

Zero Vehicle Households Density

Figure A-12: Zero Vehicles Households Density (Continued)

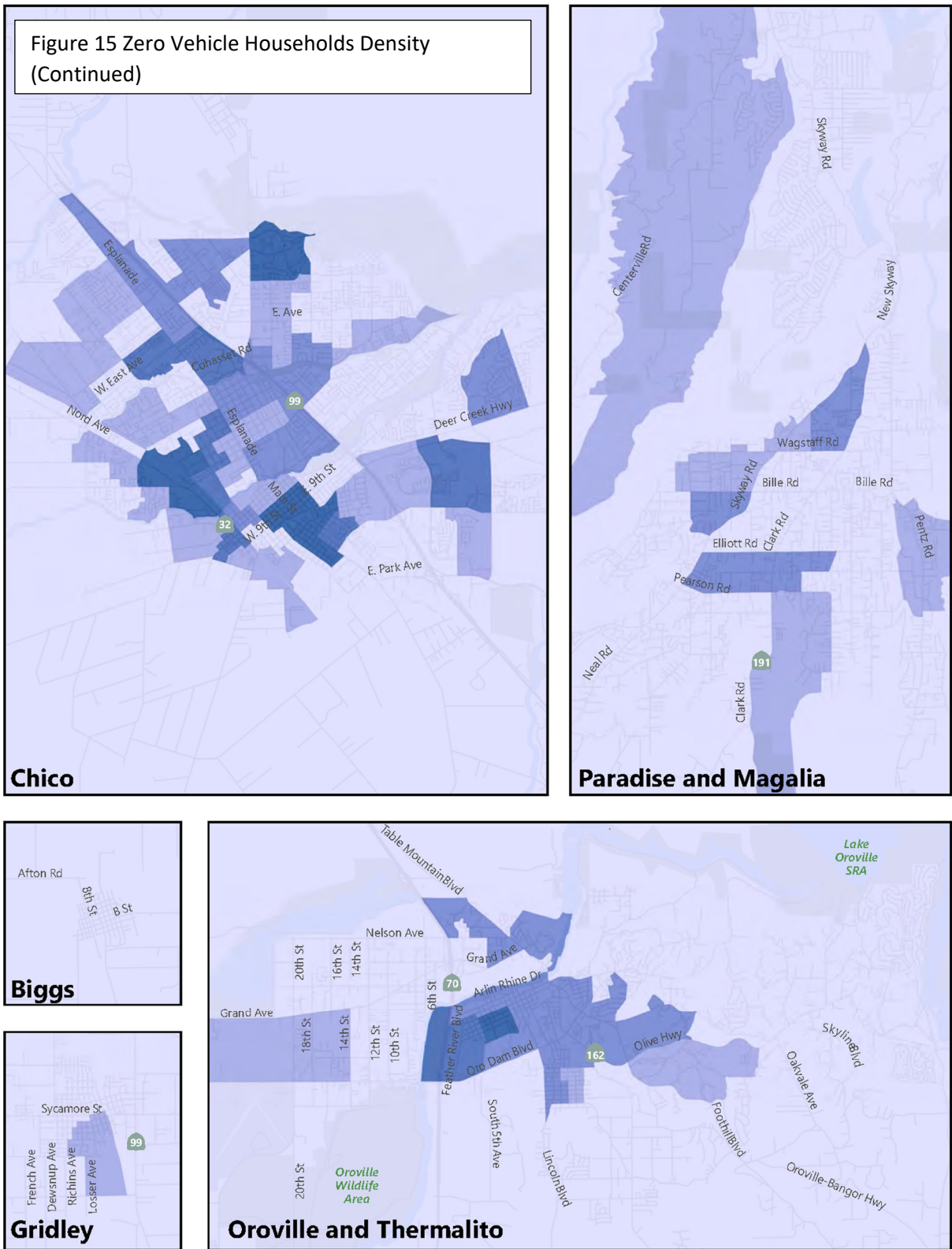


Figure A-13: CalEnviro Screen

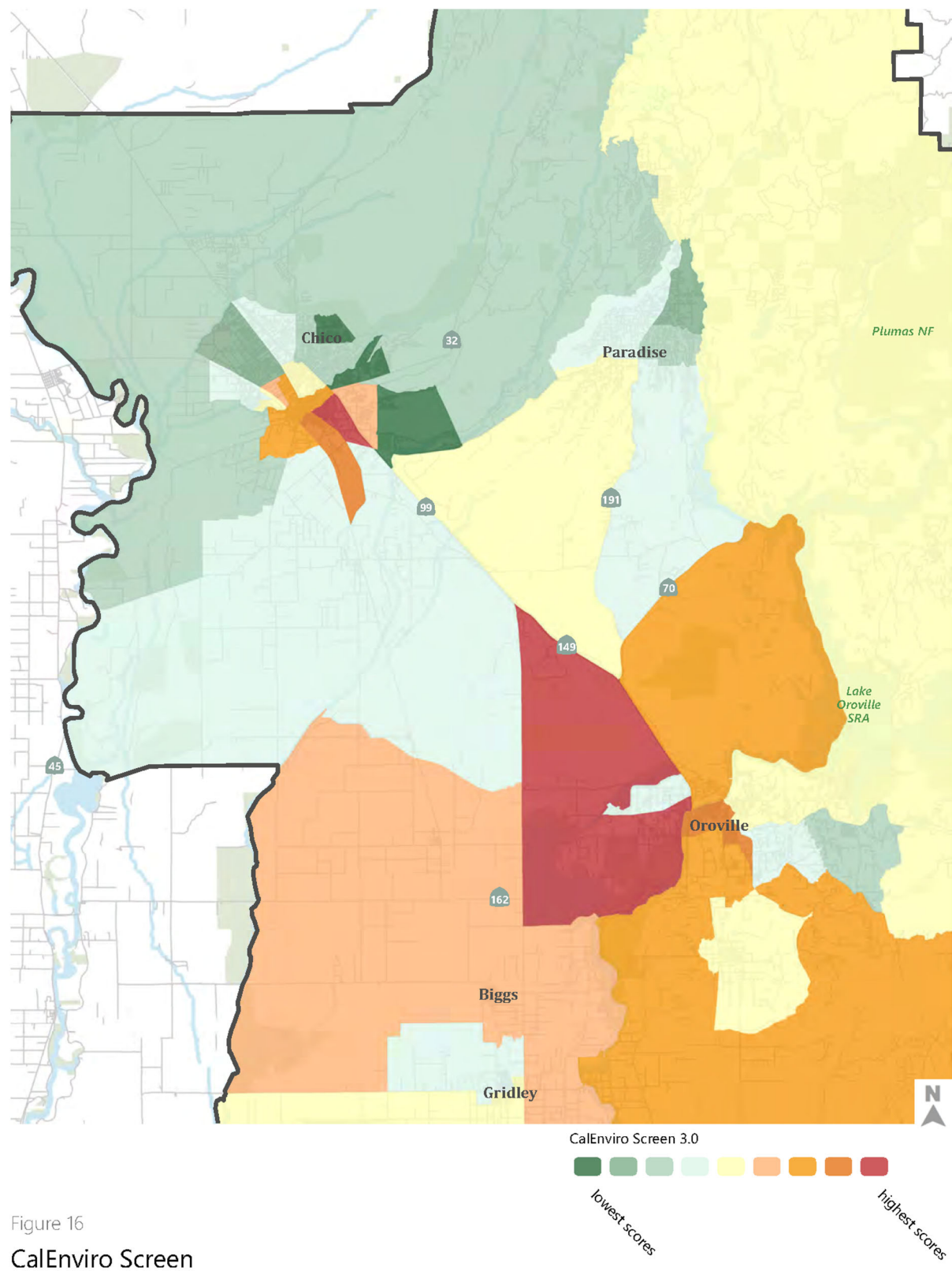


Figure 16
CalEnviro Screen

Figure A-14: CalEnviro Screen (Continued)

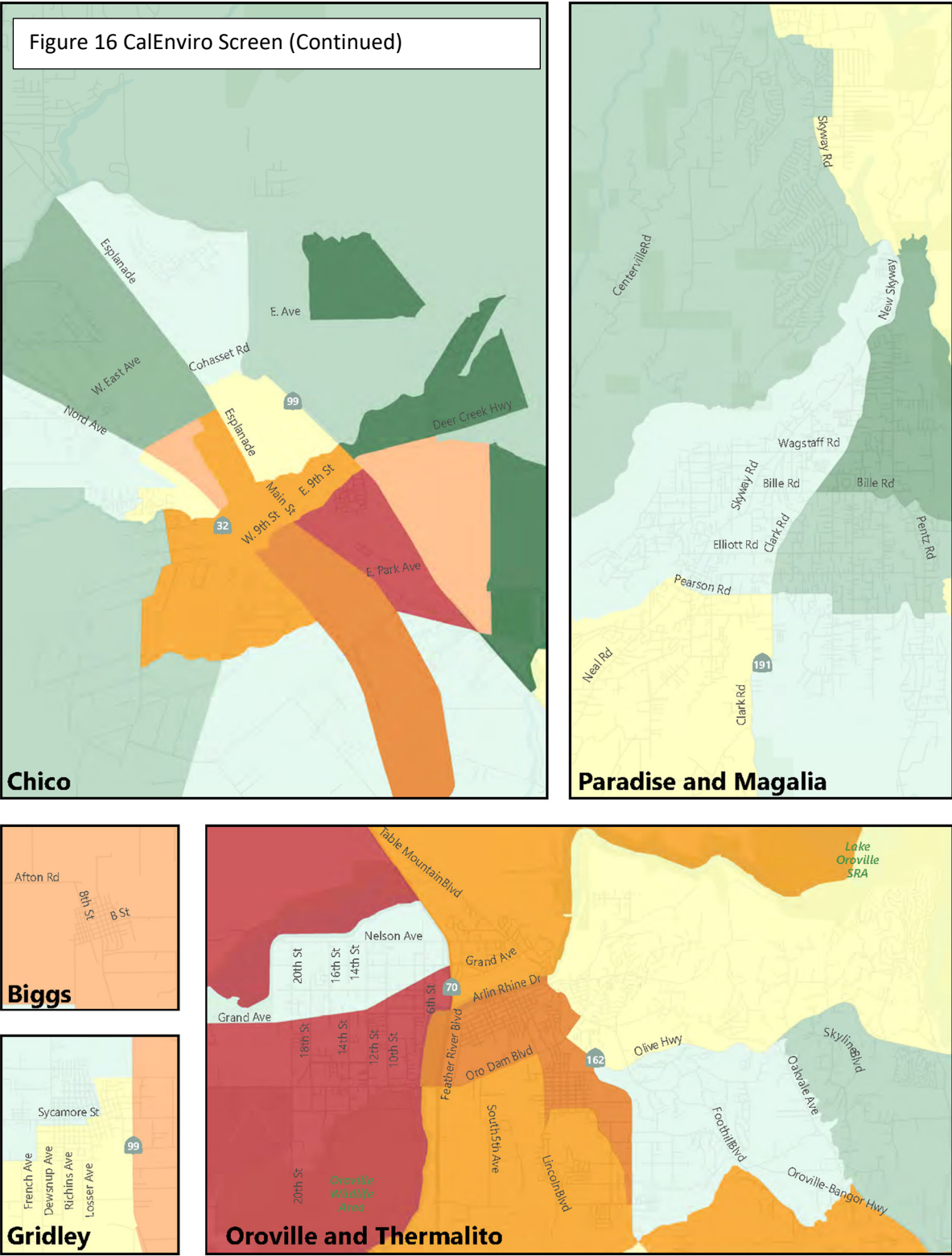


Figure A-15: Transit Ridership Potential

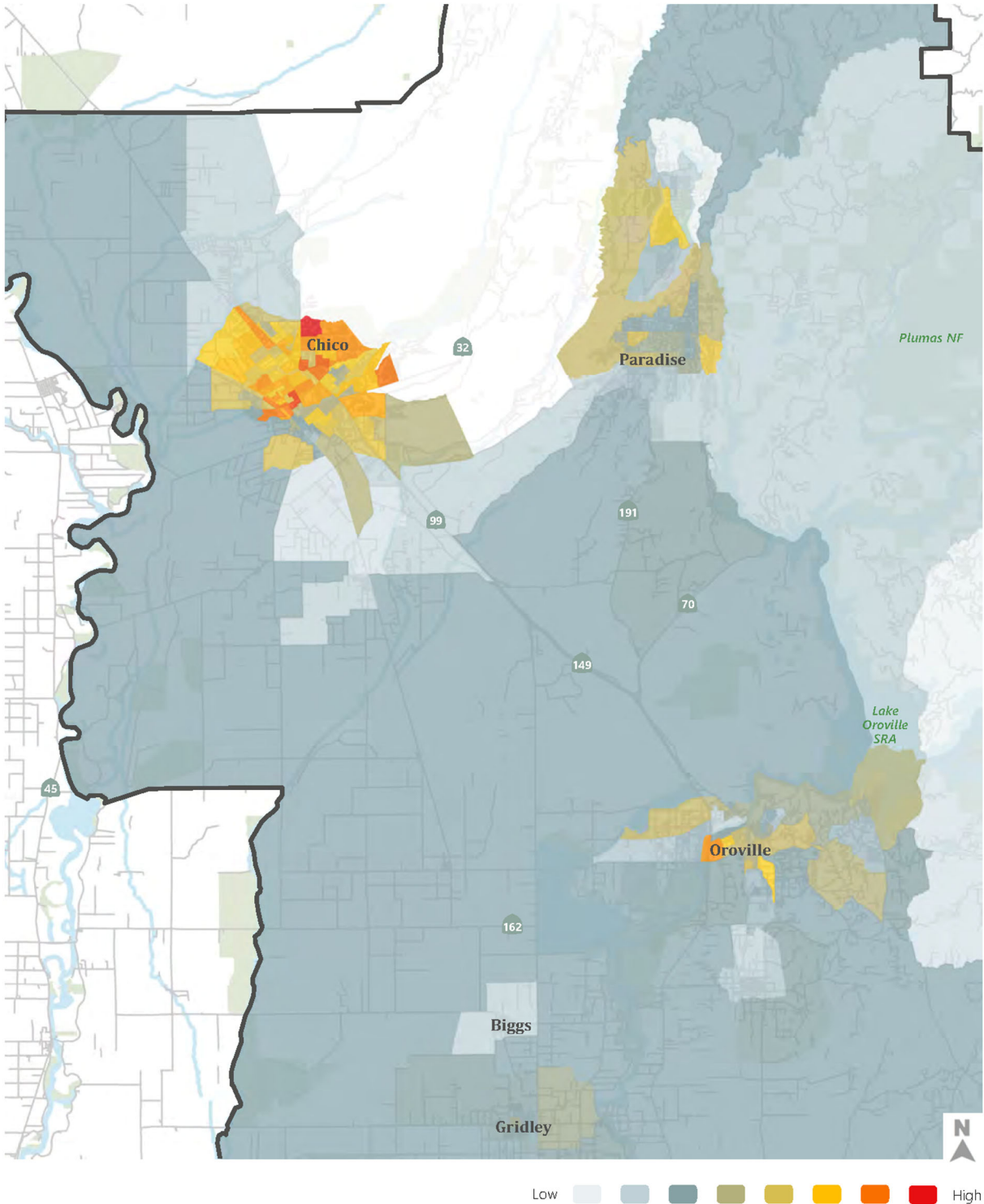
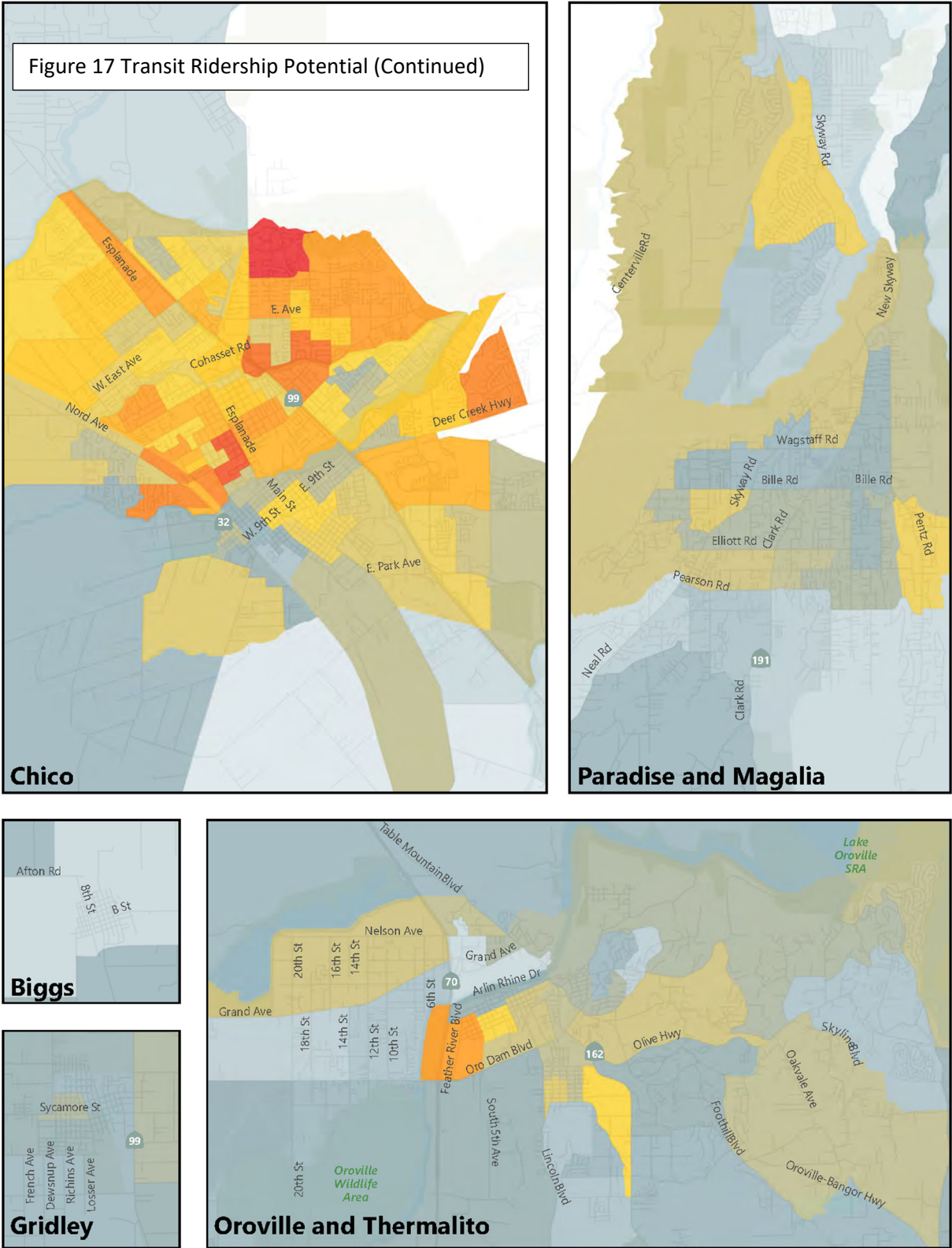


Figure 17
Transit Ridership Potential

Figure A-16: Transit Ridership Potential (Continued)



B-LINE ROUTE PROFILES

Route Profiles

The attached route profiles provide a summary of services for each route, as well as a recent performance review of hours, passenger trips and cost. This data is derived from reports provided by BCAG. Additionally, a list of strengths and challenges are listed for each route, based on observations and performance. Some of the observations are subjective.

Service frequency:

Based on current (Spring 2022) service parameters.

- High frequency or good frequency is that which is offered every 30 minutes or more.
- Moderate frequency is that offered at 30 to 60 minutes.
- Relatively infrequent would be less than hourly.

Route Productivity:

Data for 2020-21 was considered.

- The average productivity is 5.0 passenger trips per hour (psgrs/hr)
- Poor productivity is 1.9 to 2.7 psgrs/hr
- Moderately poor productivity is 3.6-3.8 psgrs/hr
- Average productivity is 4.2 to 5.5 psgrs/hr
- Above average productivity is 5.6 to 5.8 psgrs/hr
- Relatively high or good productivity is 7.0 to 8.6 psgrs/hr

On-Time Performance:

Weekday, February 2020 data was analyzed. Ranges include:

- Very good: late 5% of the time or less
- Good: late 5-15% of the time
- Fair: late 15-20% of the time
- Poor: late 20-30% of the time
- Very poor: late 30% of the time or more

A list of the tables and figures is as follows:

- Route 2: Mangrove Monday-Saturday
- Route 3: Nord/East Monday – Saturday
- Route 4: First/East Monday – Saturday
- Route 5: E. 8TH St. Monday – Saturday
- Route 7: Bruce/Manzanita Monday – Friday
- Route 8: Nord Monday – Friday
- Route 9: Oak/Warner/Cedar Monday - Friday
- Route 14: Park Forest/MLK Monday – Saturday

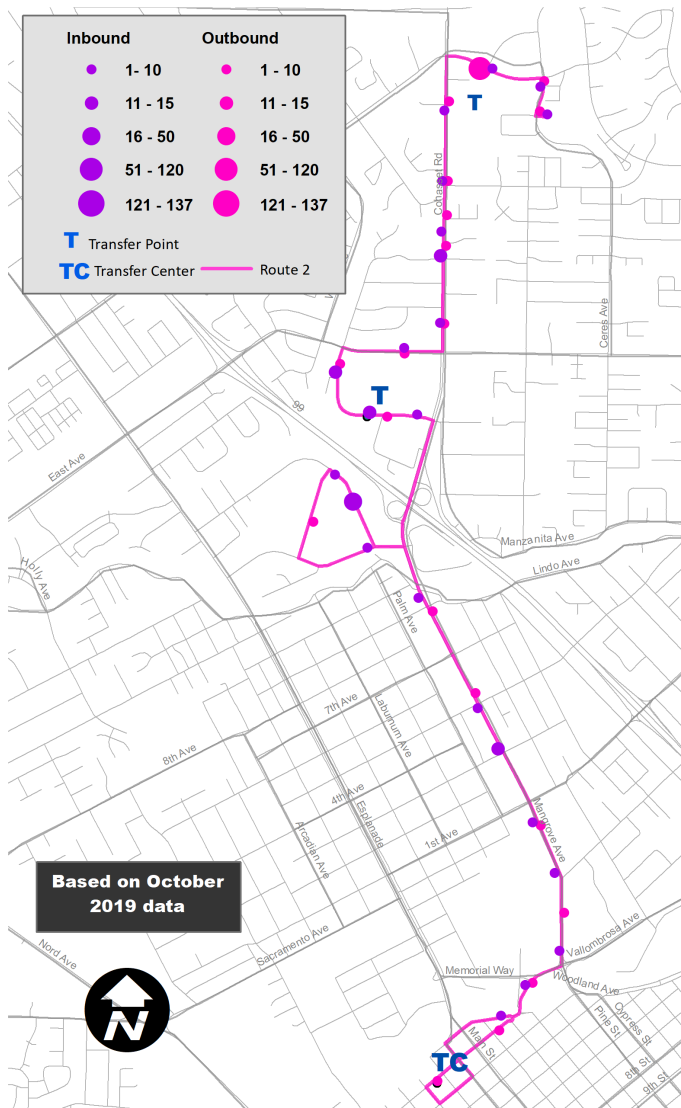
- Route 15: Esplanade/Lassen Monday – Saturday
- Esplanade/SR 99 Monday – Saturday
- Route 17: Park/MLK/Forest Monday – Saturday
- Route 20: Chico-Oroville Monday-Sunday
- Route 24: Thermalito Monday-Friday
- Route 25: Oro Dam Monday – Friday
- Route 26: Olive Highway Monday – Friday
- Route 27: South Oroville Monday – Friday
- Route 30: Oroville-Biggs Monday – Friday
- Route 32: Gridley-Chico Monday – Friday
- Route 40: Paradise-Chico Monday – Friday
- Route 41: Magalia-Chico Monday – Saturday
- Route 52: Chico Airport Express Monday - Friday

Route 2: Mangrove Monday - Saturday

Northbound: Downtown to Ceres/Lassen

Southbound: Ceres/Lassen to Downtown

Interlined
with Route 7



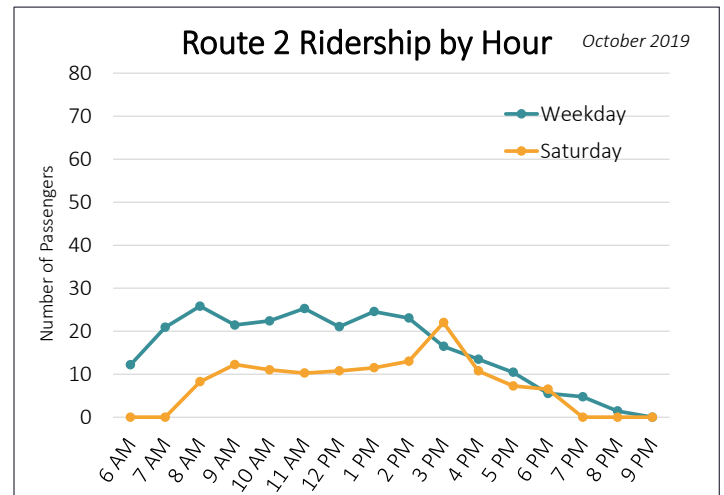
STRENGTHS

- ✓ Serves Chico State, DMV, North Valley Plaza, Social Security
- ✓ Convenient for stops between Chico Transit Center and Lassen / Ceres
- ✓ Transfers to 3 and 4 at North Valley Plaza
- ✓ Transfers to 7 and 15 at Lassen and Ceres
- ✓ Relatively High Productivity

Service Summary

- Weekday Service: 6:15 AM to 8:24 PM, Every 60 Minutes, Every 30 Minutes from 7:15 AM to 8:50 AM
- Saturday Service: 8:15 AM to 7:00 PM, Every 60 Minutes
- No Sunday Service
- 1 Peak Bus to Operate
- Late 10% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Annual Boardings	69,251	65,289	55,604	32,256
Hours	4,416	4,452	4,447	4,432
Boardings / Vehicle Hr	15.7	14.7	12.5	7.3



CHALLENGES

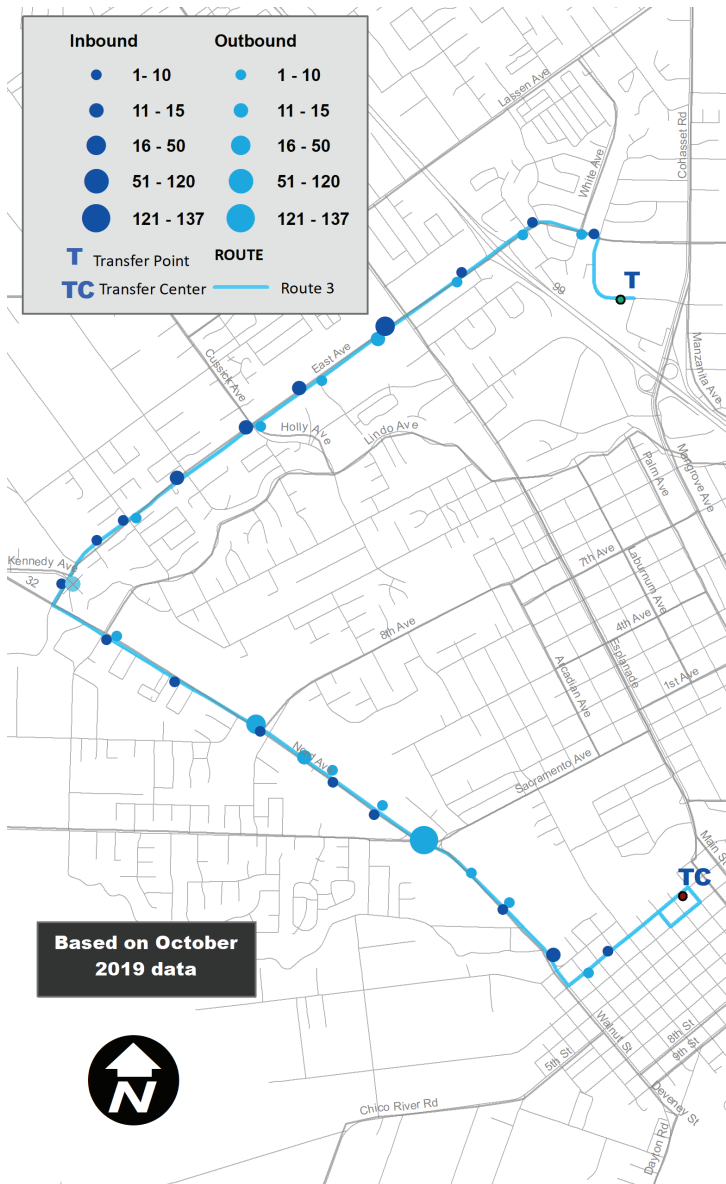
- ✗ Limited Frequency

Route 3: Nord / East Monday - Saturday

Northbound: Downtown to Ceres/Lassen

Southbound: Ceres/Lassen to Downtown

Interlined
with Route 4



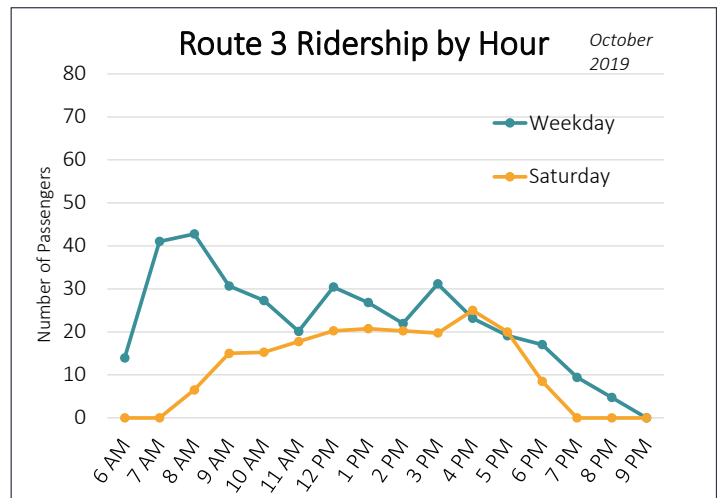
STRENGTHS

- ✓ Serves Chico State, University Apartments, North Valley Plaza
- ✓ Transfers to 2 & 4 at Pillsbury Road & to 4 at North Valley Plaza
- ✓ Good productivity

Service Summary

- Weekday Service: 6:18 AM to 9:00 PM, Every 6 Minutes, Every 30 Minutes from 7:18 AM to 9:40 AM
- Saturday Service: 8:50 AM to 7:00 PM, Every 60 Minutes
- No Sunday Service
- 1 Peak Bus to Operate
- Late 25% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Annual Boardings	76,896	71,282	63,854	34,068
Annual Vehicle Hrs	4,440	4,404	4,443	4,427
Boardings / Vehicle Hr	17.3	16.2	14.4	7.7



CHALLENGES

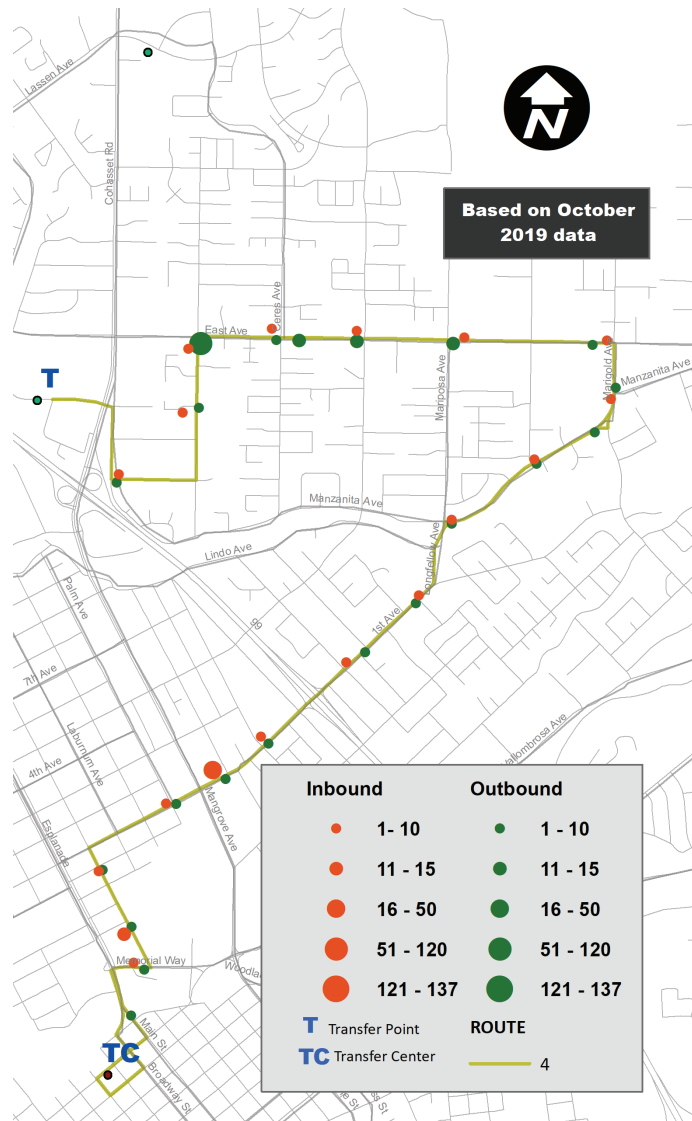
- ✗ Poor On Time Performance

Route 4: First/East Monday - Saturday

Northbound: Downtown to North Valley Plaza

Southbound: North Valley Plaza to Downtown

Interlined
with Route 3



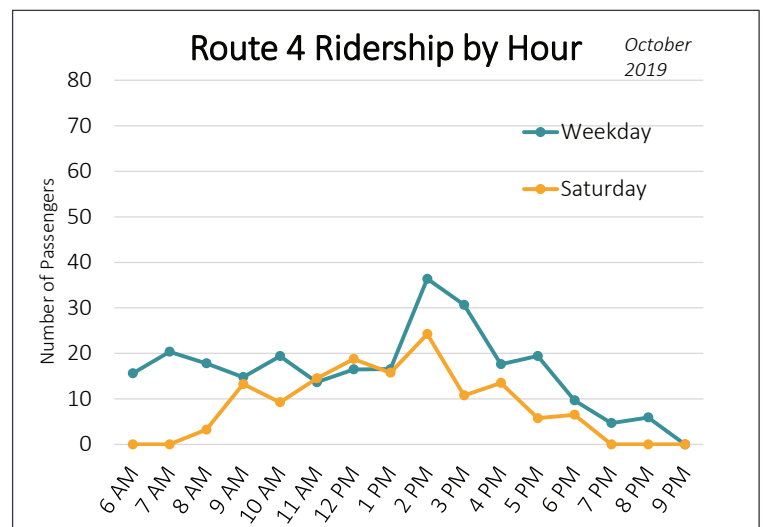
STRENGTHS

- ✓ Good peak frequency
- ✓ Serves Chico State, North Valley Plaza, Pleasant Valley HS and Chico JHS
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Above average productivity

Service Summary

- Weekday Service: 6:15 AM to 9:00 PM, Every 30 Minutes AM Peak, 60 Minutes Off-peak
- Saturday Service: 8:50 AM to 7:00 PM, Every 60 Minutes
- No Sunday Service
- 2 Peak Buses to Operate
- Late 23% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	76,052	62,110	47,299	29,075
Hours	5,112	5,108	5,102	5,084
Boardings / Vehicle Hr	14.9	12.2	9.3	5.7



CHALLENGES

- ✗ Poor on-time performance

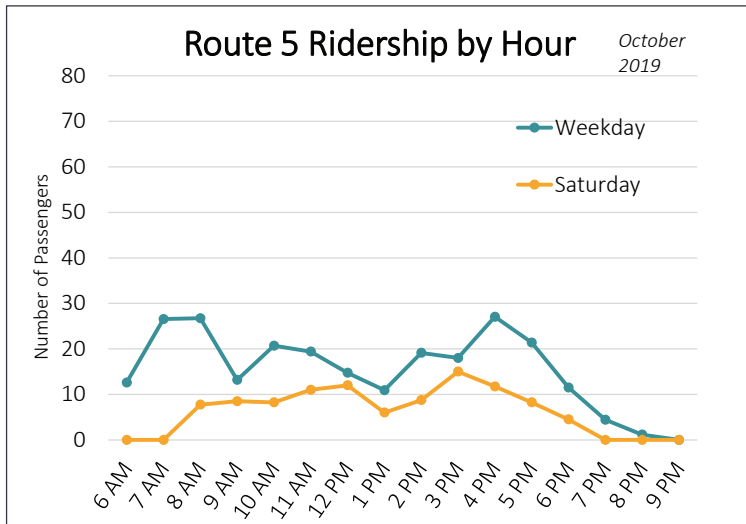
Route 5: E. 8th St. Monday - Saturday

Eastbound: From Downtown Forest Xfer/Chico Mall

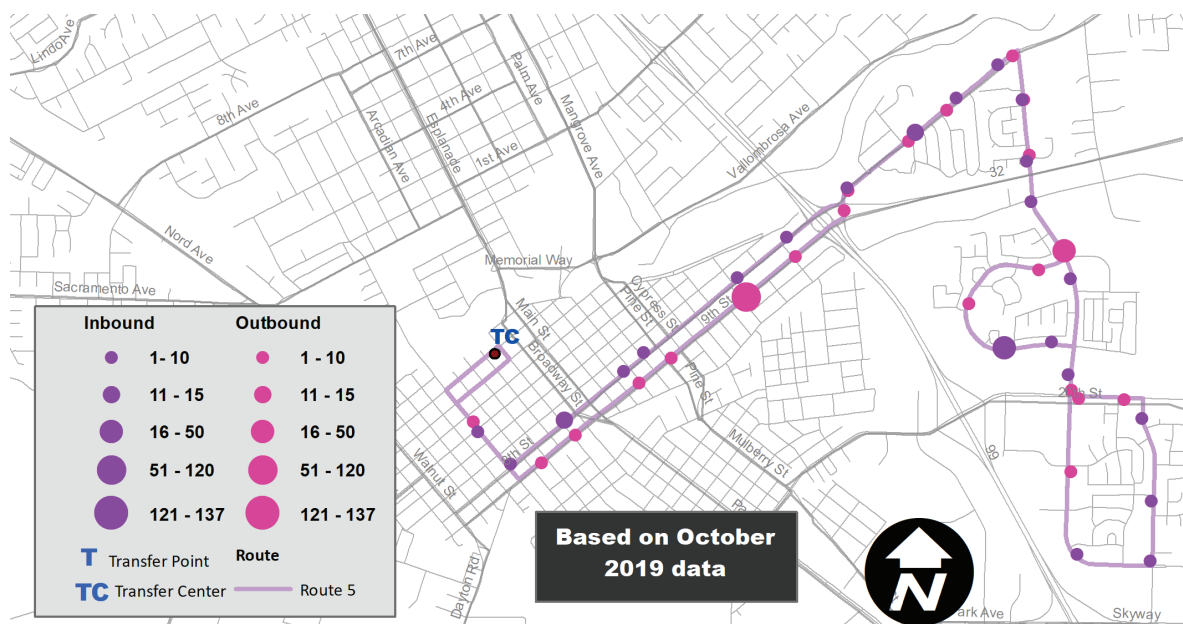
Westbound: Forest Xfer/Chico Mall to Downtown

Service Summary

- Weekday Service: 6:15 AM to 8:34 PM, Every 60 Minutes
- Saturday Service: 8:15 AM to 7:00 PM, Every 60 Minutes
- No Sunday Service
- 1 Peak Bus to Operate
- Late 11% of runs



Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	52,059	53,552	42,978	20,088
Hours	5,256	5,252	5,244	4,063
Boardings / Vehicle Hr	9.9	10.2	8.2	4.9



STRENGTHS

- ✓ Serves Chico State, Nature Center, North Butte County Courthouse, Meriam Park
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Transfers to 14, 17, 20, 40, & 41 at Forest Ave Transfer Point
- ✓ Reasonably on time

CHALLENGES

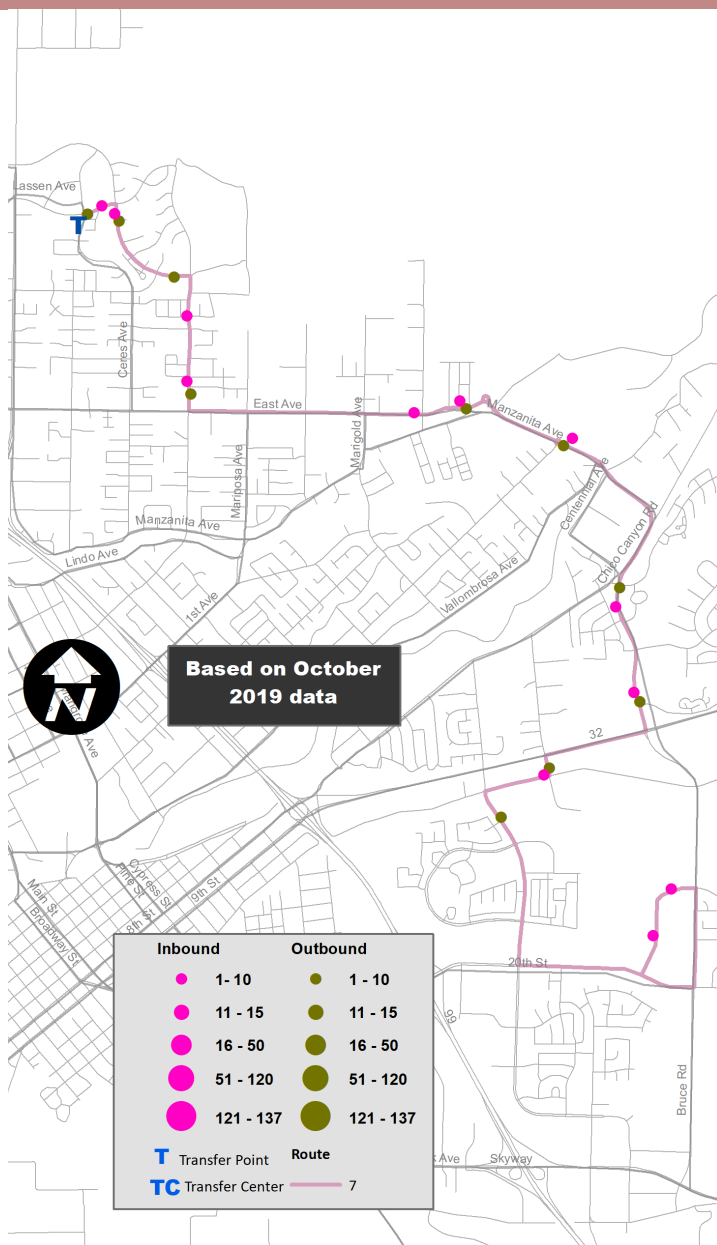
- ✗ Below average productivity
- ✗ Limited frequency
- ✗ Much of route also served by other routes

Route 7: Bruce/Manzanita Monday - Friday

Northbound: From Chico Mall/Courthouse to Ceres/Lassen

Southbound: From Ceres/Lassen to Chico Mall/Xourthouse

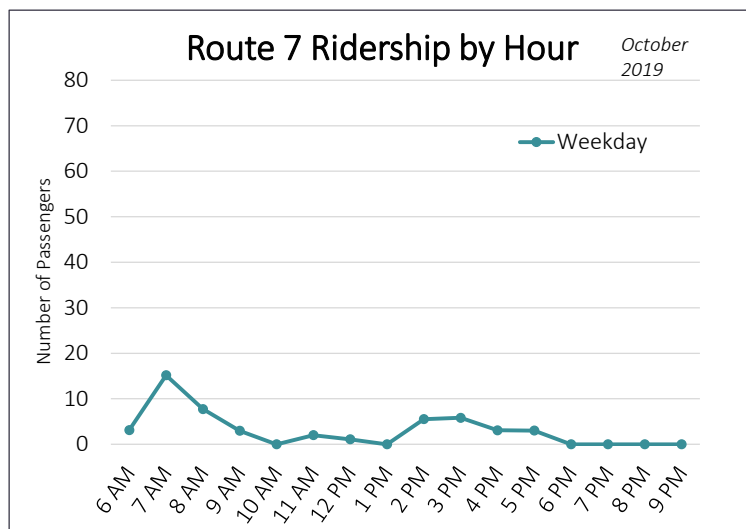
Interlined
with Route 2



Service Summary

- Weekday Service: 6:45 AM to 5:30 PM
- Every 30 Minutes during morning peak hours
- Every 60 Minutes midday, late afternoon
- No weekend service
- 1 Peak Bus to operate
- Late 11% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Annual Boardings	16,073	12,163	7,993	4,512
Hours	1,860	1,863	1,856	1,849
Boardings / Vehicle Hr	8.6	6.5	4.3	2.4



STRENGTHS

- ✓ Serves Chico State, Nature Center, North Butte Co. Courthouse, VA Center
- ✓ Transfers to 2 & 15 at Lassen and Ceres
- ✓ Reasonably on time

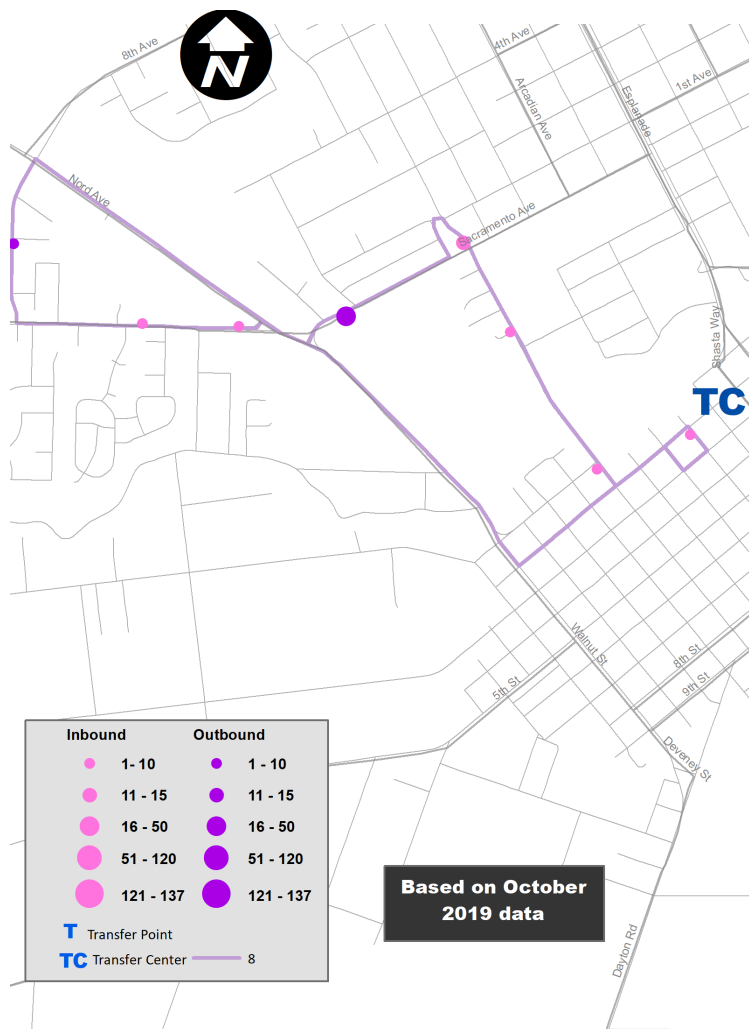
CHALLENGES

- ✗ Poor productivity
- ✗ Serves relatively low density areas

Route 8: Nord Student Shuttle

Monday - Friday

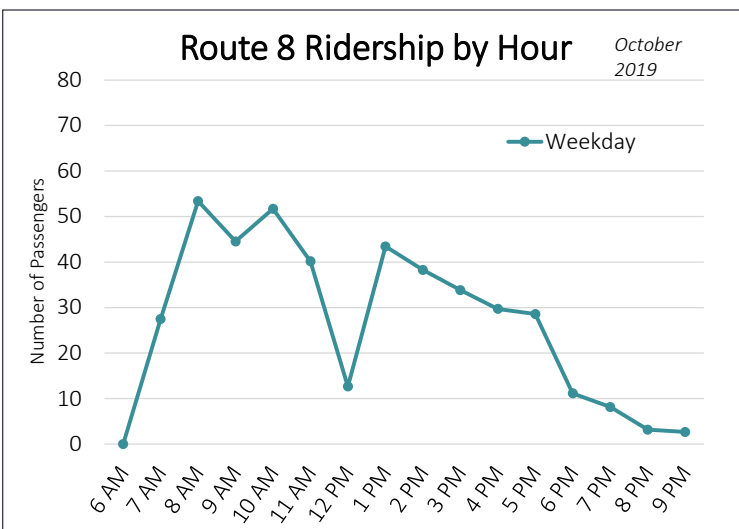
Interlined
with Route 9



Service Summary

- Monday through Thursday Service: 7:34 AM to 9:34 PM, Every 30 Minutes
- Friday Service ends at 4:04 PM
- No Weekend Service
- 1 Peak Bus to Operate
- Late 11% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	71,653	69,345	45,471	4,875
Hours	1,368	1,369	1,359	1,032
Boardings / Vehicle Hr	52.4	50.7	33.5	4.7



STRENGTHS

- ✓ Serves Chico State, Chico State student housing
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Frequent service
- ✓ Highest productivity pre-COVID
- ✓ Reasonably on time

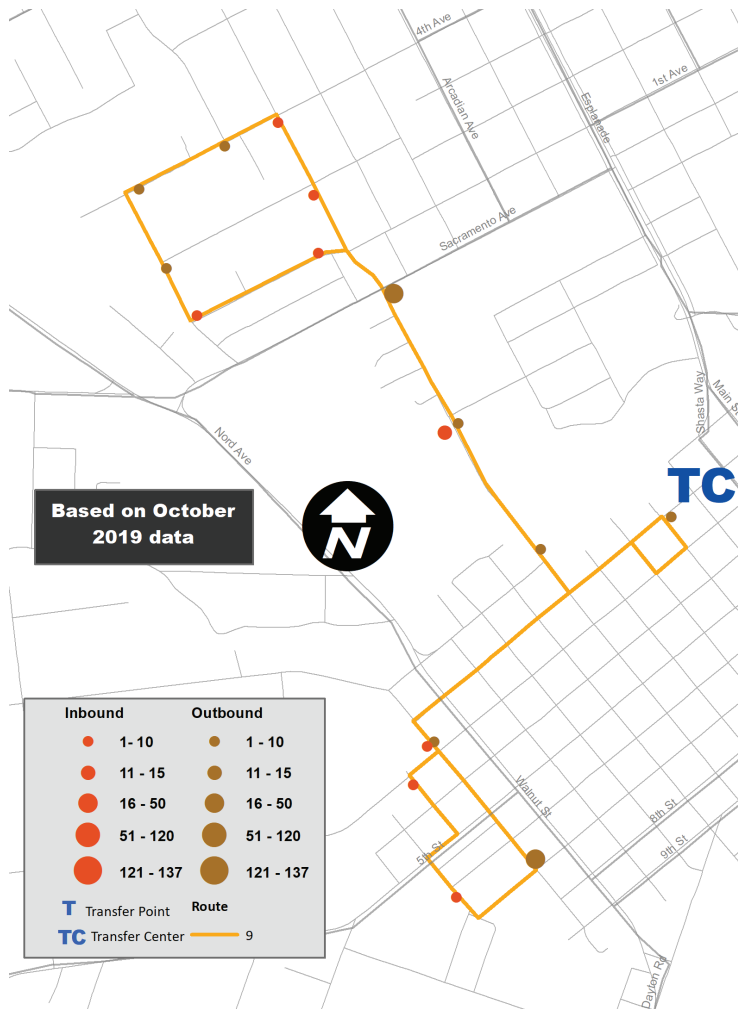
CHALLENGES

- ✗ Ends early Fridays
- ✗ Not offered summers
- ✗ Greatest loss in productivity with COVID

Route 9: Oak/Warner/Cedar Monday - Friday

Interlined with Route 8

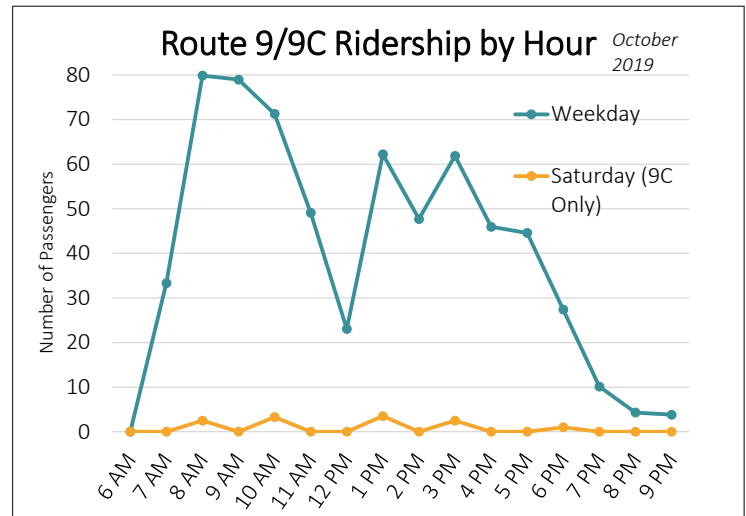
Route 9c: Cedar Loop Monday- Saturday



Service Summary

- Monday through Thursday Service: 7:33 AM to 10:01 PM, Every 30 Minutes
- Friday Service ends at 4:01 PM
- No Weekend Service
- 1 Peak Bus to Operate
- Late 32% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	95,654	75,876	65,744	9,383
Hours	2,472	2,478	2,466	1,929
Boardings / Vehicle Hr	38.7	30.6	26.7	4.9



STRENGTHS

- ✓ Serves Chico State, Chico State student housing
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Frequent service
- ✓ High productivity pre-COVID
- ✓ Financially supported by Chico State

CHALLENGES

- ✗ Ends early Fridays
- ✗ Not offered summers
- ✗ Very poor on-time performance
- ✗ Large loss in productivity with COVID

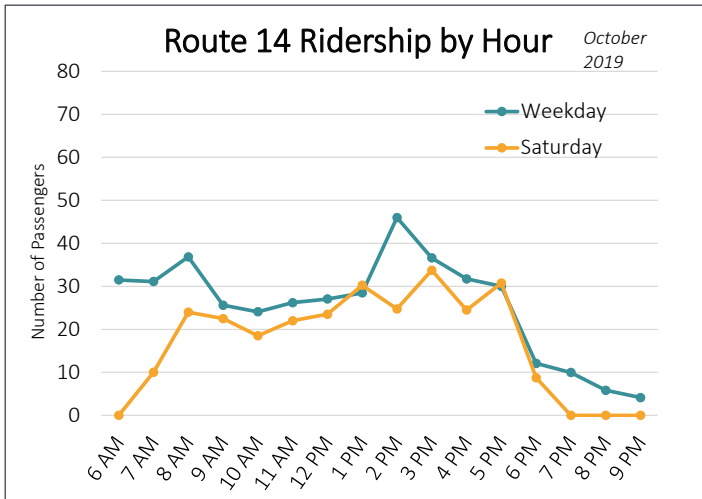
Route 14: Park Forest/MLK Monday - Saturday

Interlined with Route 15

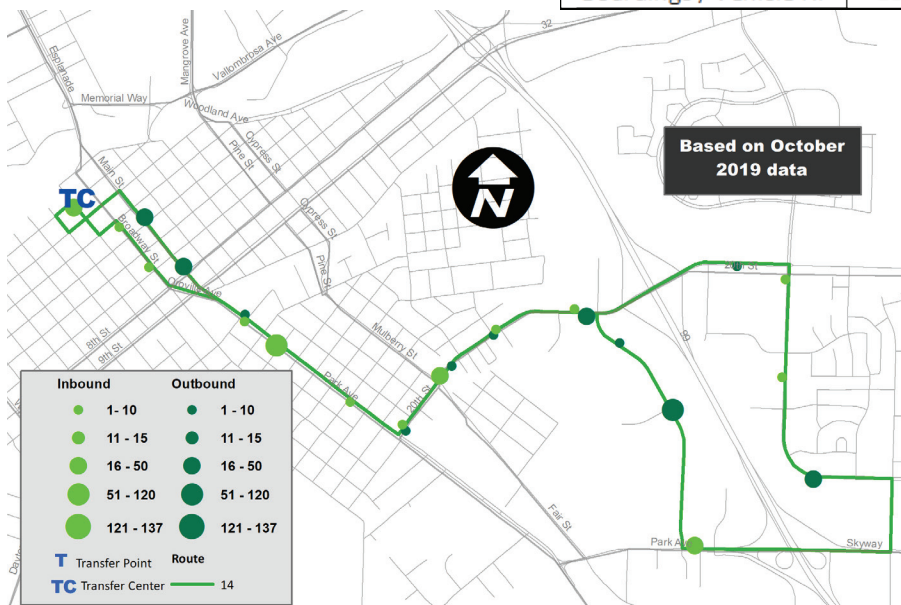
Loop from downtown to Forest Ave, then back via MLK

Service Summary

- Weekday Service: 6:24 AM to 9:45 PM, every 30 minutes; every 60 minutes midday
- Saturday Service: 7:50 AM to 6:45 PM, Every 60 minutes
- No Sunday Service
- 2 Peak Buses to Operate
- Late 17% of runs



Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	115,531	115,965	90,051	43,928
Hours	6,348	6,348	6,336	6,313
Boardings / Vehicle Hr	18.2	18.3	14.2	7.0



STRENGTHS

- ✓ Serves Chico State, Walmart, Butte College Chico Campus, Chico Mall
- ✓ Transfers to 5, 17, 20, 40, & 41 at Forest Ave Transfer Point/Walmart
- ✓ Transfers at Chico Transit Center
- ✓ With Route 17, peak service every 20 minutes
- ✓ Moderately high productivity
- ✓ Relatively frequent service
- ✓ Highest Ridership after COVID impacts

CHALLENGES

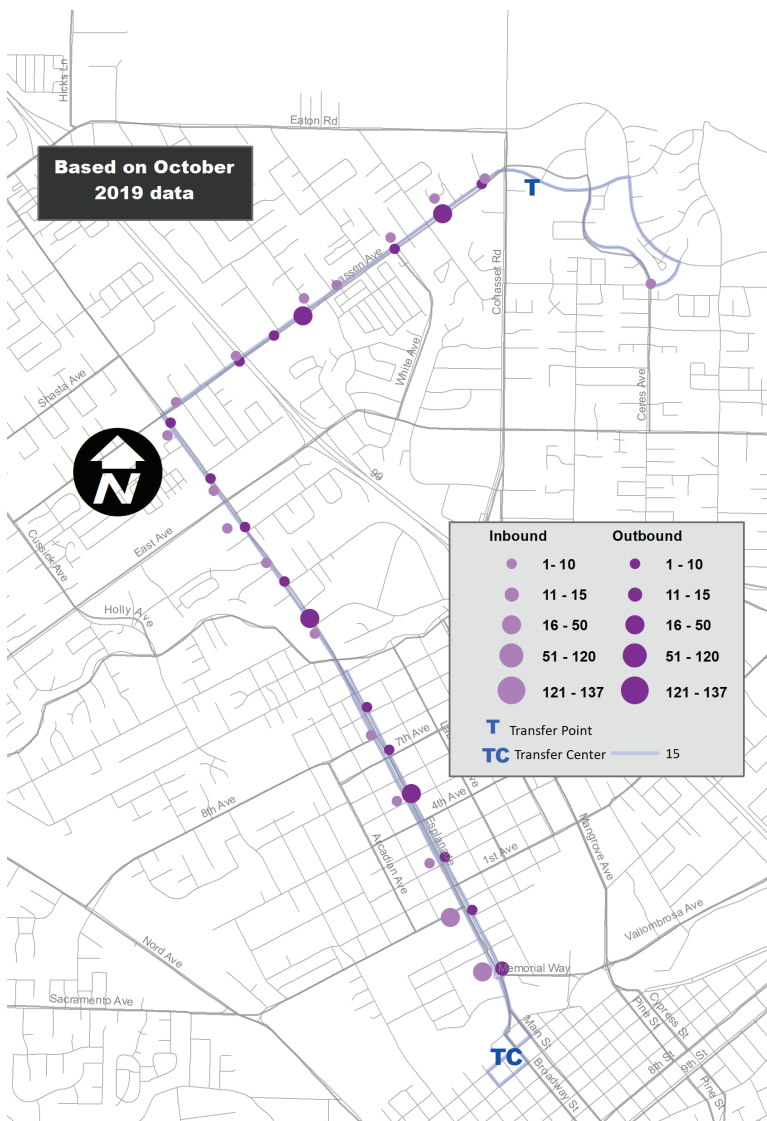
- ✗ Fair on-time performance

Route 15: Esplanade/Lassen Monday - Saturday

Northbound: Downtown to Ceres/Lassen via Lassen

Southbound: Ceres/Lassen to Downtown via Lassen

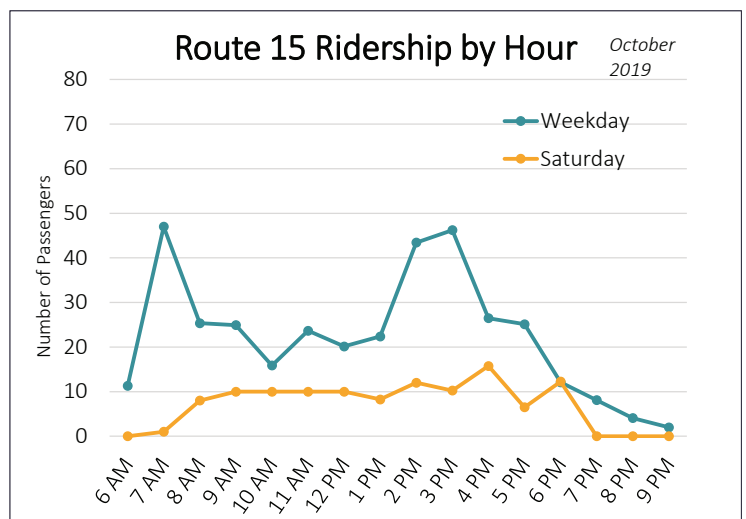
Interlined
with Route 14



Service Summary

- Weekday Service: 6:15 AM to 9:34 PM, every 30 minutes; every 60 minutes midday
- Saturday Service: 7:50 AM to 6:34 PM, Every 60 Minutes
- No Sunday Service
- 2 Peak Buses to Operate
- Late 22% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Annual Boardings	86,883	81,776	64,773	35,472
Hours	6,468	6,467	6,454	6,431
Boardings / Vehicle Hr	13.4	12.6	10.0	5.5



STRENGTHS

- ✓ Serves Chico State, Esplanade, Lassen and Ceres
- ✓ Transfers to 2 and 7 at Lassen and Ceres
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Transfers at Lassen and Cohasset to Routes 2 and 52
- ✓ Above average productivity
- ✓ Relatively frequent service

CHALLENGES

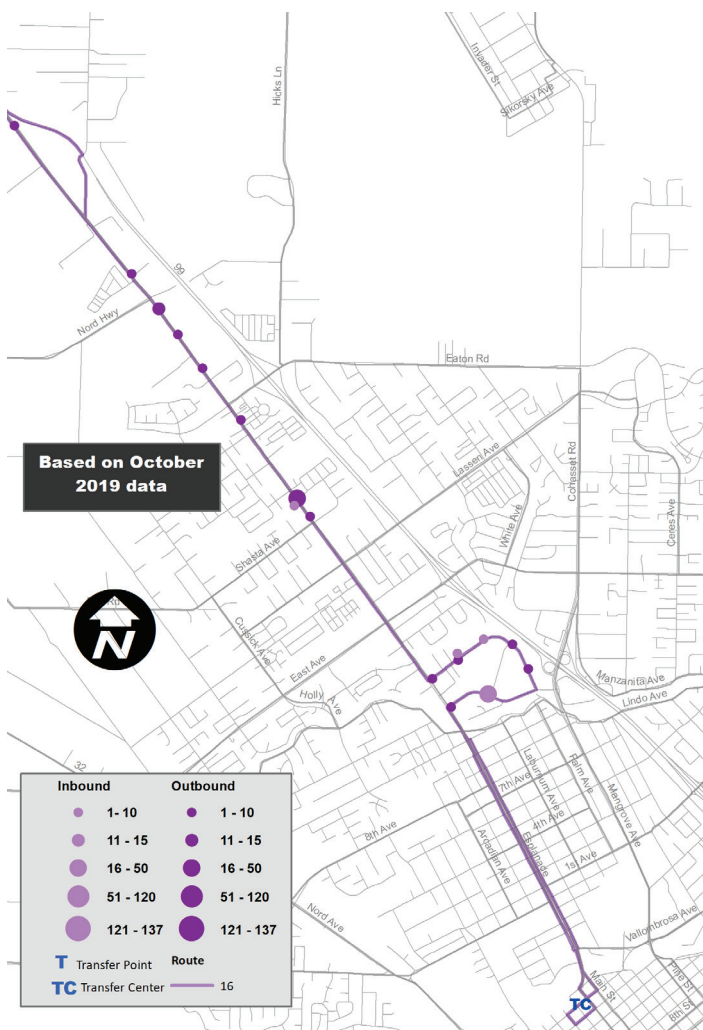
- ✗ Moderately poor on-time performance

Route 16: Esplanade/SR 99 Monday - Saturday

Northbound: Downtown to Esplanade/SR99

Southbound: Esplanade/SR99 to Downtown

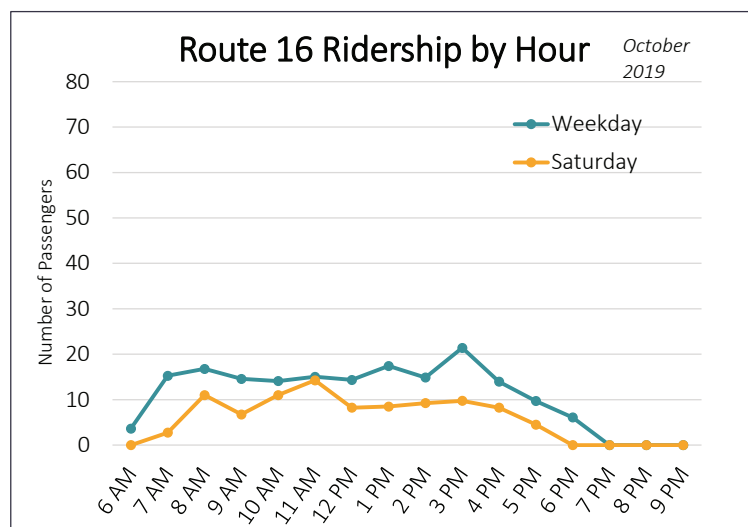
Interlined
with Route 17



Service Summary

- Weekday Service: 6:55 AM to 6:55 PM, Every 60 Minutes
- Saturday Service: 7:55 AM to 5:55 PM, Every 60 Minutes
- No Sunday Service
- 1 Peak Bus to Operate
- Late 33% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	48,240	44,199	33,932	18,646
Hours	3,564	3,561	3,559	3,547
Boardings / Vehicle Hr	13.5	12.4	9.5	5.3



STRENGTHS

- ✓ Serves Chico State, Chico High School, DMV, Enloe Medical Center
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Above average productivity

CHALLENGES

- ✗ Limited frequency
- ✗ Very poor on-time performance
- ✗ Long segments of low ridership

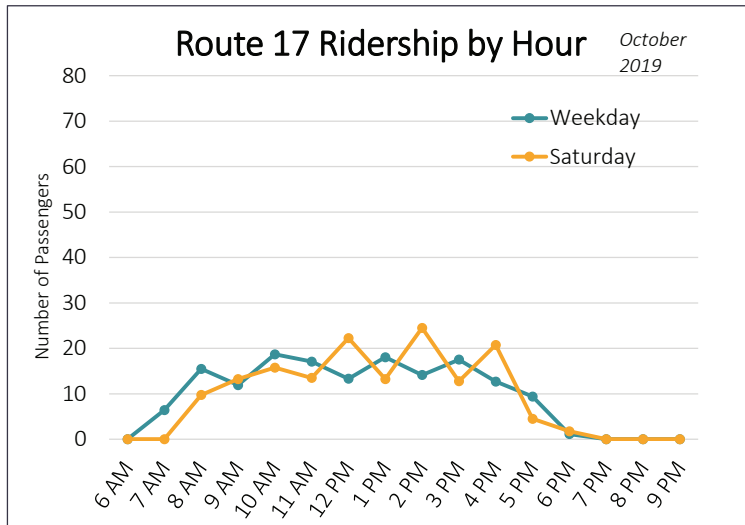
Route 17: Park/MLK/Forest Monday - Saturday

Interlined
with Route 16

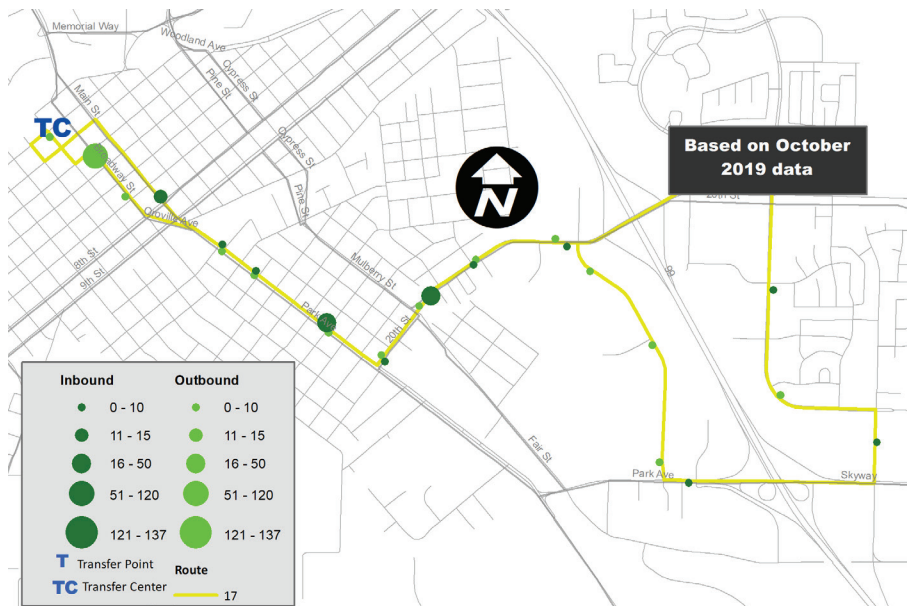
Downtown to Chico Mall (Forest/MLK Loop Counterclockwise)

Service Summary

- Weekday Service: 7:30 AM to 6:05 PM, Every 60 Minutes
- Saturday Service: 8:30 AM to 6:05 PM, Every 60 Minutes
- No Sunday Service
- 2 Peak Buses to Operate
- Late 17% of runs



Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	48,240	44,199	33,932	18,646
Hours	3,312	3,263	3,262	3,251
Boardings / Vehicle Hr	14.6	13.5	10.4	5.7



STRENGTHS

CHALLENGES

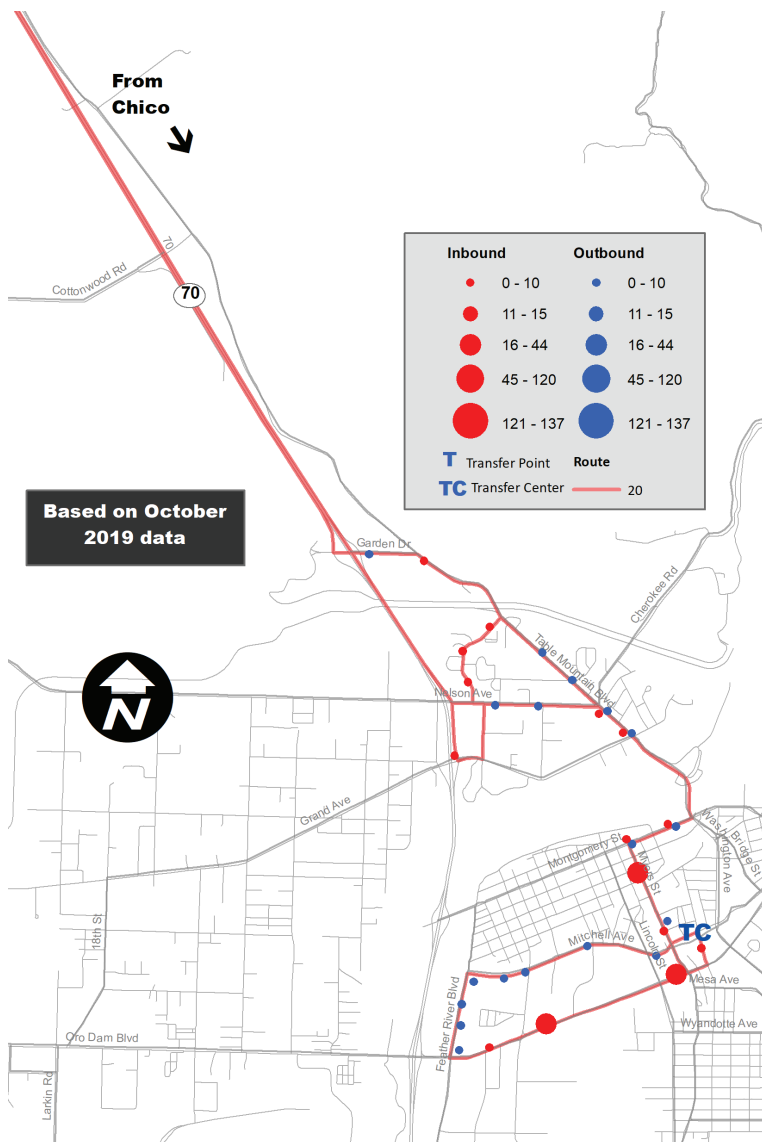
- ✓ Serves Chico State, Walmart, Butte College Chico Campus, Costco, the Torres Shelter
- ✓ Transfers to 5, 14, 20, 40, & 41 at Forest Ave Transfer Point/Walmart
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Above average productivity
- ✓ With Route 14, peak service every 20 minutes

- ✗ Limited frequency
- ✗ Fair on-time performance

Route 20: Chico-Oroville Monday - Sunday

Southbound: From Chico Transit Center to Oroville

Northbound: From Oroville Transit Center to Chico



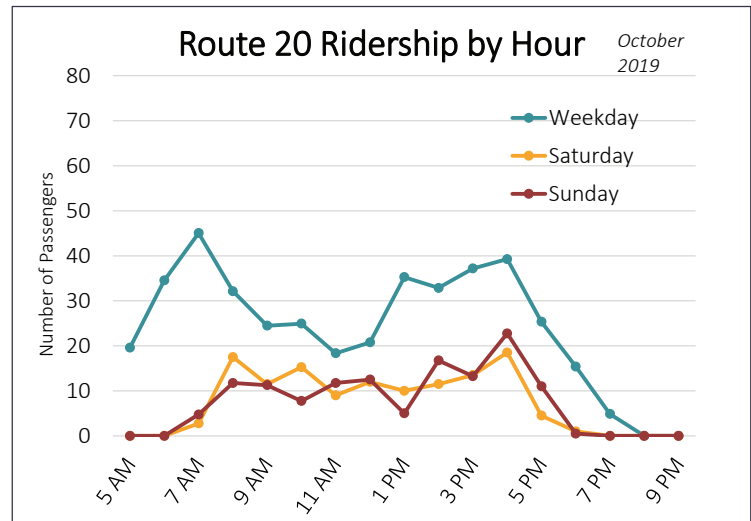
STRENGTHS

- ✓ Connects Chico and Oroville
- ✓ Transfers to 5, 14, 17, 40, & 41 at Forest Ave Transfer Point/Walmart
- ✓ Transfers to most Chico and Oroville routes at both Transit Centers
- ✓ Transfers to Routes 24, 25, 26, 27 and 30 in Oroville
- ✓ Relatively productive, particularly in peak periods on weekdays

Service Summary

- Weekday Service: 5:50 AM to 8:00 PM, Every 60 Minutes Peak, Every Two Hours Midday from 8:50 AM to 2:40 PM
- Saturday - Sunday Service, 5 Runs from 7:50 AM to 6:00 PM
- Saturday and Sunday Service
- 2 Peak Buses to Operate
- Late 29% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	113,563	106,292	79,671	42,486
Hours	7,404	7,400	7,385	7,360
Boardings / Vehicle Hr	15.3	14.4	10.8	5.8



CHALLENGES

- ✗ Limited frequency in midday period
- ✗ Very poor on-time performance

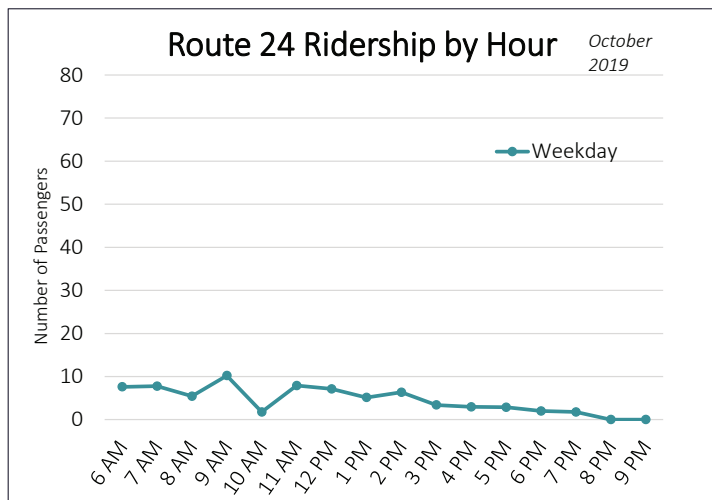
Route 24: Thermalito Monday-Friday

Interlined
with Route 27

Service Summary

- Weekday Service: 6:34 AM to 7:30 PM, Every 60 Minutes
- No Weekend Service
- 1 Peak Bus to Operate
- Late 33% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Annual Boardings	21,631	20,386	16,434	8,704
Hours	1,848	1,850	1,843	1,836
Boardings / Vehicle Hr	11.7	11.0	8.9	4.7

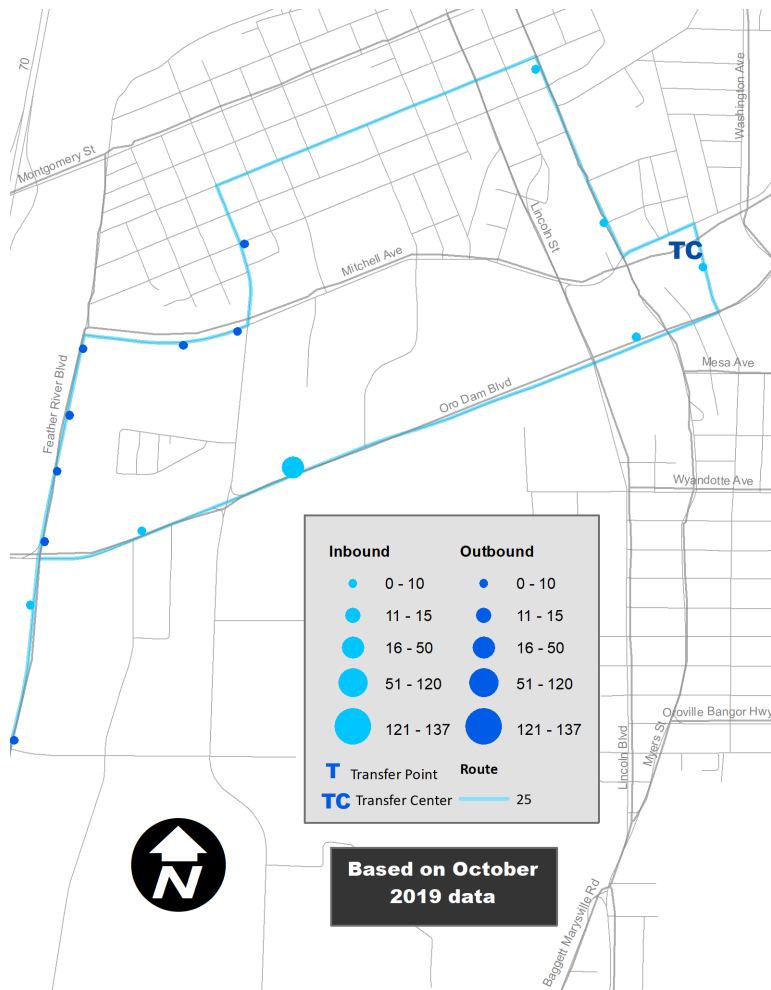


STRENGTHS

- ✓ Serves Thermalito and Oroville
- ✓ Transfers to Routes 20, 25, 26, 27 and 30 in Oroville
- ✓ Good coverage
- ✓ Serves Oroville DMV, Oroville High School, Social Security, and Butte County Center Offices

CHALLENGES

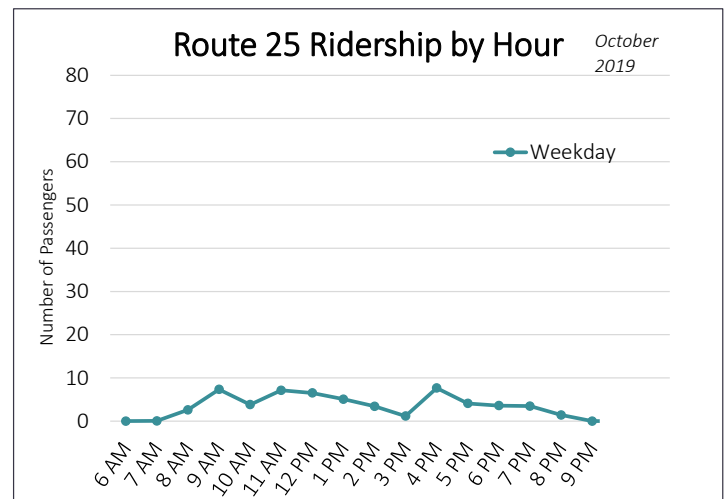
- ✗ Slightly below average productivity
- ✗ Inefficient one-way loop
- ✗ Very low ridership in Thermalito (1 boarding per day)
- ✗ Limited frequency
- ✗ Very poor on-time performance



Service Summary

- Weekday Service: 6:12 AM to 6:50 PM, Every 60 Minutes
- No Weekend Service
- 1 Peak Bus to Operate
- Late 44% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	13,373	14,322	13,657	9,038
Hours	1,056	1,054	1,050	1,046
Boardings / Vehicle Hr	12.7	13.6	13.0	8.6



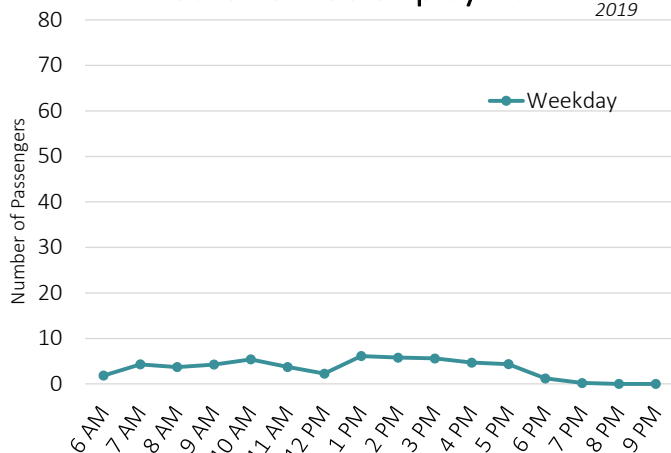
STRENGTHS

- ✓ Serves core of Oroville, Las Plumas Plaza, Oroville Hospital, DMV
- ✓ Transfers to Routes 20, 24, 26, 27 and 30 in Oroville
- ✓ Highest productivity in Oroville

CHALLENGES

- ✗ Limited frequency
- ✗ Very poor on-time performance

Route 26 Ridership by Hour

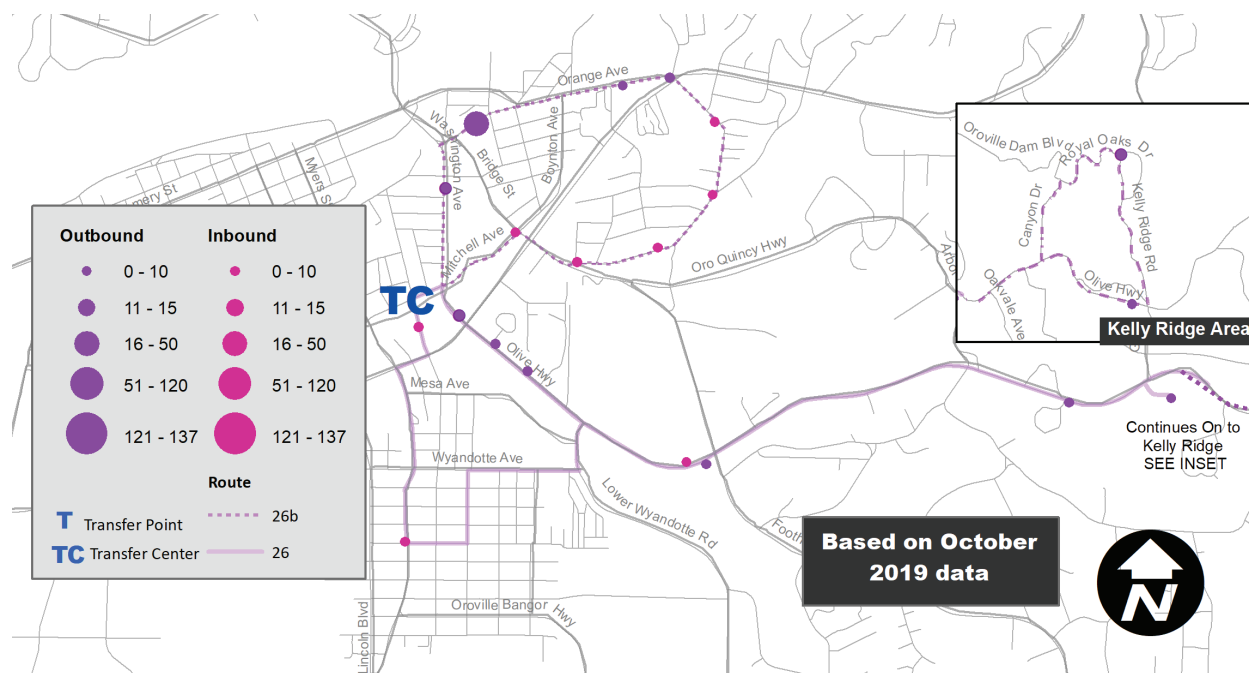
October
2019

Service Summary

- Weekday Service: 6:33 AM to 6:21 PM, Every 60 Minutes
- No Weekend Service
- 1 Peak Bus to Operate
- Late 47% of runs

Ridership

	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	12,356	12,025	10,133	6,553
Hours	1,836	1,838	1,830	1,823
Boardings / Vehicle Hr	6.7	6.5	5.5	3.6

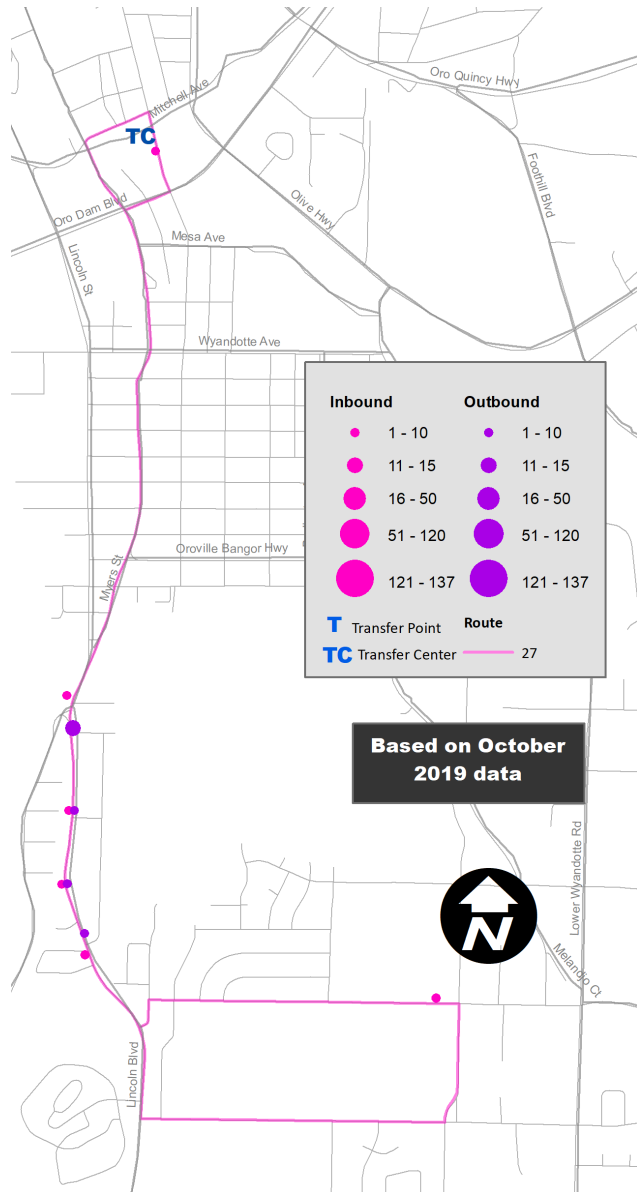


STRENGTHS

- ✓ Serves core of Oroville, Gold Country Casino and Kelly Ridge
- ✓ Transfers to Routes 20, 24, 25, 27 and 30 in Oroville

CHALLENGES

- ✗ Limited frequency
- ✗ Some stops served limited times (can be confusing)
- ✗ Poor productivity
- ✗ Poorest on-time performance of all routes
- ✗ Low ridership on Olive Highway

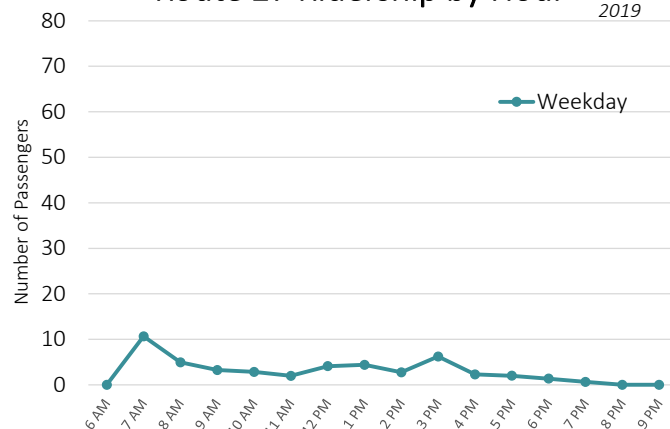


Service Summary

- Weekday Service: 7:10 AM to 6:50 PM, Every 60 Minutes
- No Weekend Service
- 1 Peak Bus to Operate
- Late 45% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	13,704	12,378	10,293	6,267
Hours	1,128	1,131	1,126	1,122
Boardings / Vehicle Hr	12.1	10.9	9.1	5.6

Route 27 Ridership by Hour



STRENGTHS

- ✓ Serves core South Oroville and Las Plumas HS
- ✓ Transfers to Routes 20, 24, 25, 26 and 30 in Oroville
- ✓ Relatively productive

CHALLENGES

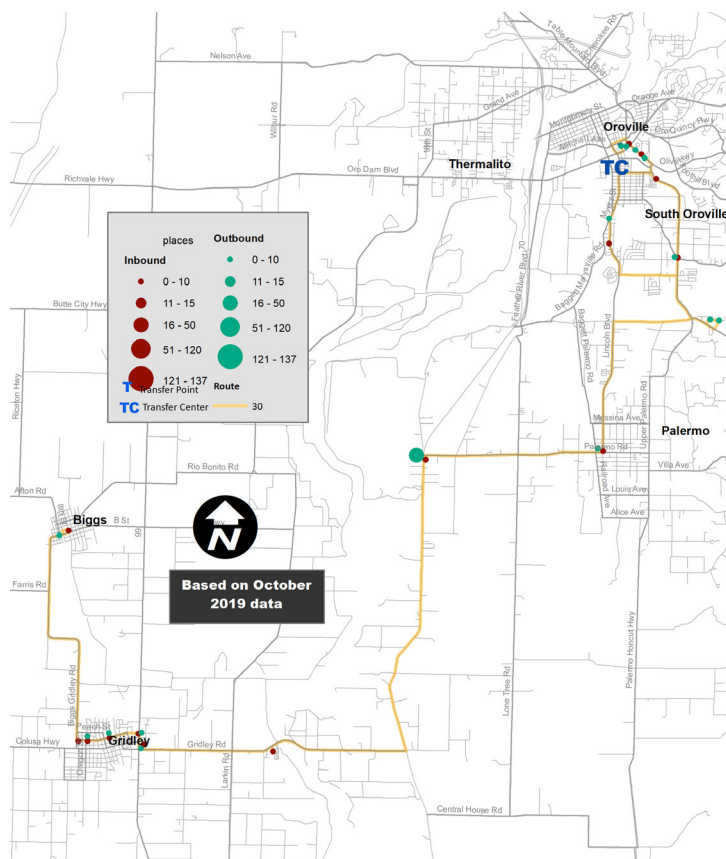
- ✗ Limited frequency
- ✗ Very poor on-time performance
- ✗ Low Ridership on Las Plumas High School loop

Route 30: Oroville-Biggs Monday-Friday

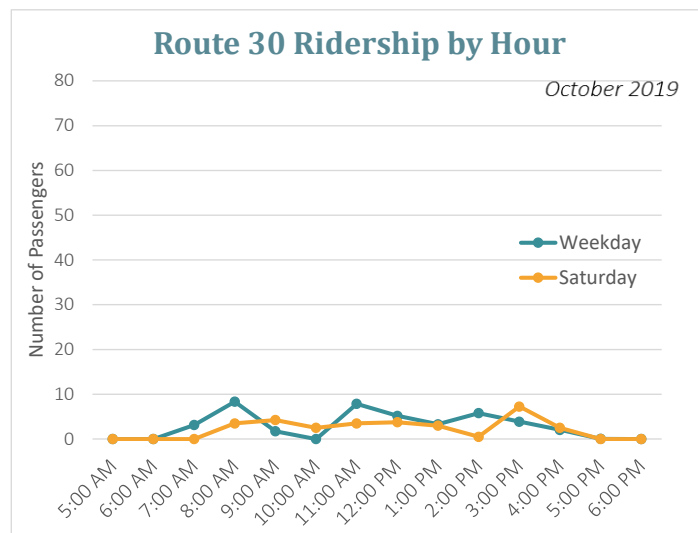
Southbound: From Oroville Transit Center to Gridley/ Biggs

Service Summary

- Weekday Service: 3 Round Trips Daily
- Saturday Service
- 1 Peak Bus to Operate
- Late 22% of runs



Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Annual Boardings	11,288	12,892	10,428	6,933
Hours	1,668	1,671	1,671	1,666
Boardings / Vehicle Hr	6.8	7.7	6.2	4.2



STRENGTHS

- ✓ Serves Biggs, Gridley, Farm labor housing, Feather Falls Casino, Oak Grove
- ✓ Transfers to Routes 20, 24, 25, 26 and 27 in Oroville

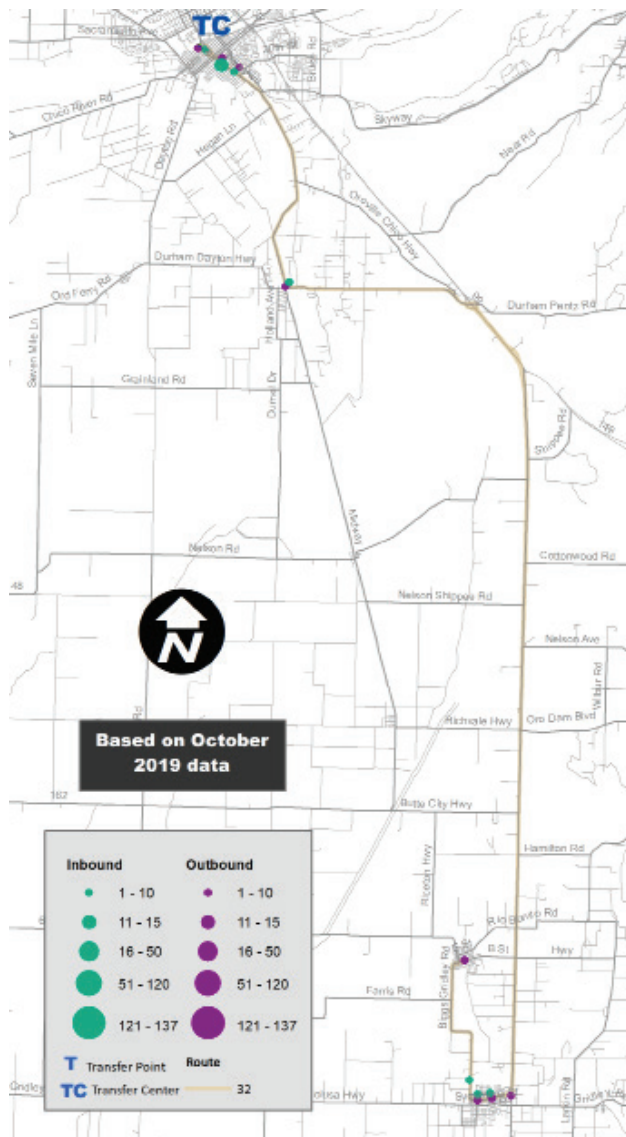
CHALLENGES

- ✗ Slightly below average productivity
- ✗ Limited trips
- ✗ Moderately poor on-time performance

Route 32: Gridley-Chico Monday-Friday

Northbound: From Gridley/Biggs to Chico

Southbound: From Chico to Gridley/Biggs



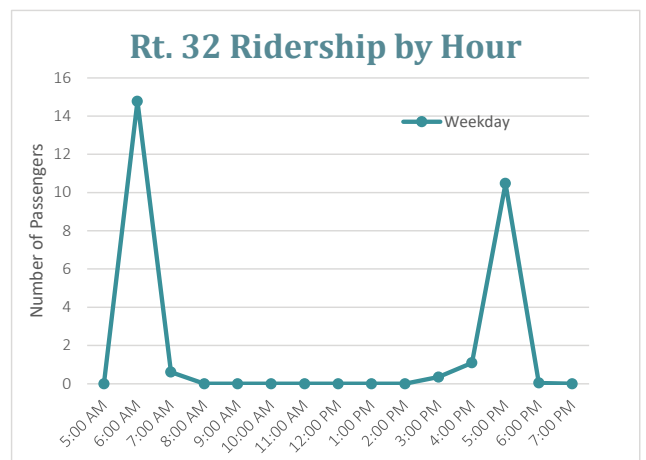
STRENGTHS

- ✓ Serves Biggs, Gridley, Durham, Chico
- ✓ Transfers to most routes at Chico Transit Center

Service Summary

- Weekday Service: 1 Morning northbound trip, 1 Evening southbound trip
- No Weekend Service
- 1 Peak Bus to Operate
- Late 24% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	3,585	5,114	3,710	979
Hours	516	514	512	510
Boardings / Vehicle Hr	6.9	9.9	7.2	1.9



CHALLENGES

- ✗ Limited service
- ✗ Poorest productivity of all routes
- ✗ Poor on-time performance
- ✗ Low ridership in Durham

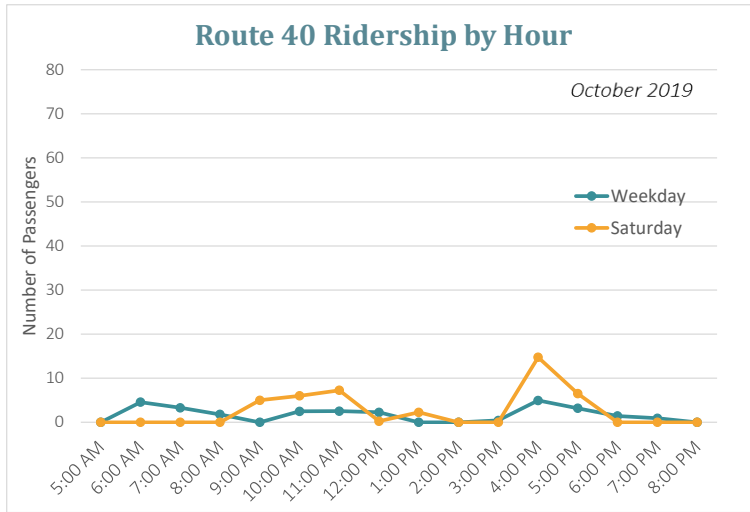
Route 40: Paradise-Chico Monday - Friday

Eastbound: From Chico to Paradise (Clockwise)

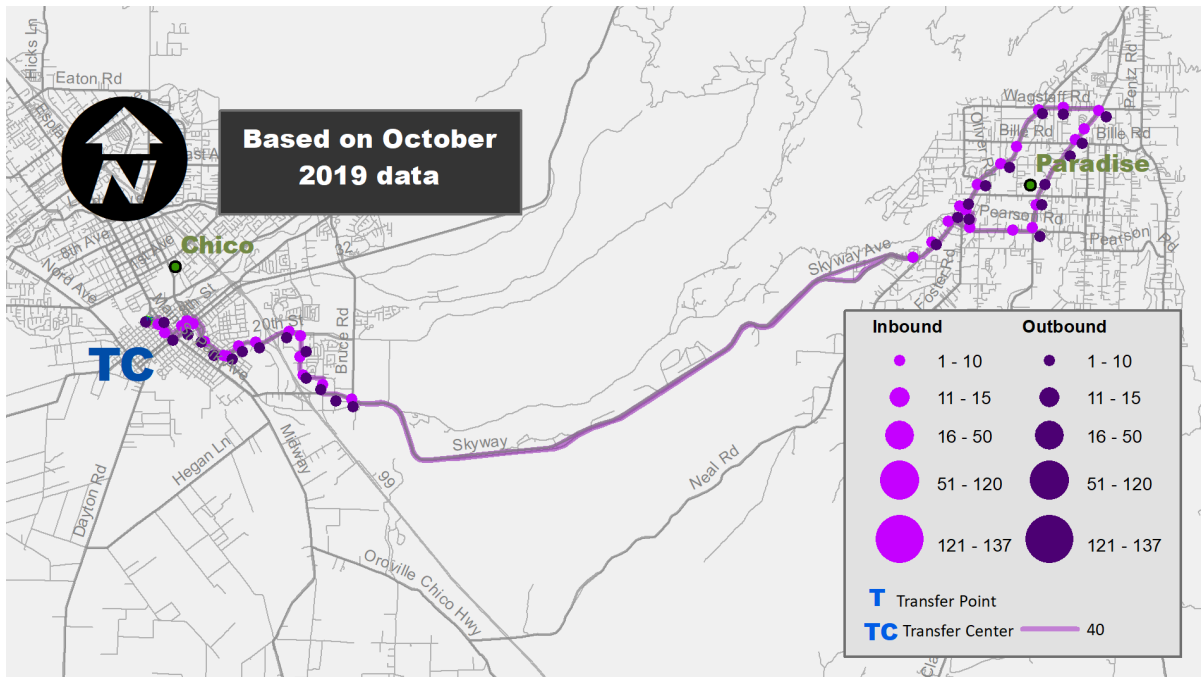
Westbound: From Paradise from Chico (Counterclockwise)

Service Summary

- Weekday Service: 6:50AM to 7:20 PM, 4 runs daily
- Saturday Service: 9:50 AM to 6:00 PM, 3 Times Daily
- 1 Peak Bus to Operate
- Late 11% of runs



Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	64,445	27,624	6,597	4,604
Hours	5,256	4,183	2,355	2,347
Boardings / Vehicle Hr	12.3	6.6	2.8	2.0



STRENGTHS

- ✓ Connects Chico with Paradise
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Transfers at Skyway/Wagstaff to Route 41
- ✓ Relatively good on-time performance
- ✓ Serves key destinations in Paradise and within Chico
- ✓ Schedule coordinated with Route 41

CHALLENGES

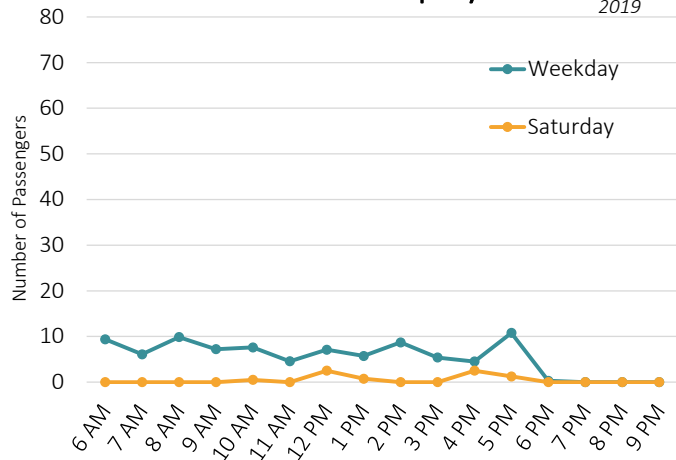
- ✗ Limited frequency
- ✗ Very poor productivity
- ✗ Large drop in ridership

Route 41: Magalia-Chico Monday - Saturday

Eastbound: From Chico Transit Center to Paradise/Magalia

Westbound: From Magalia to Chico Transit Center

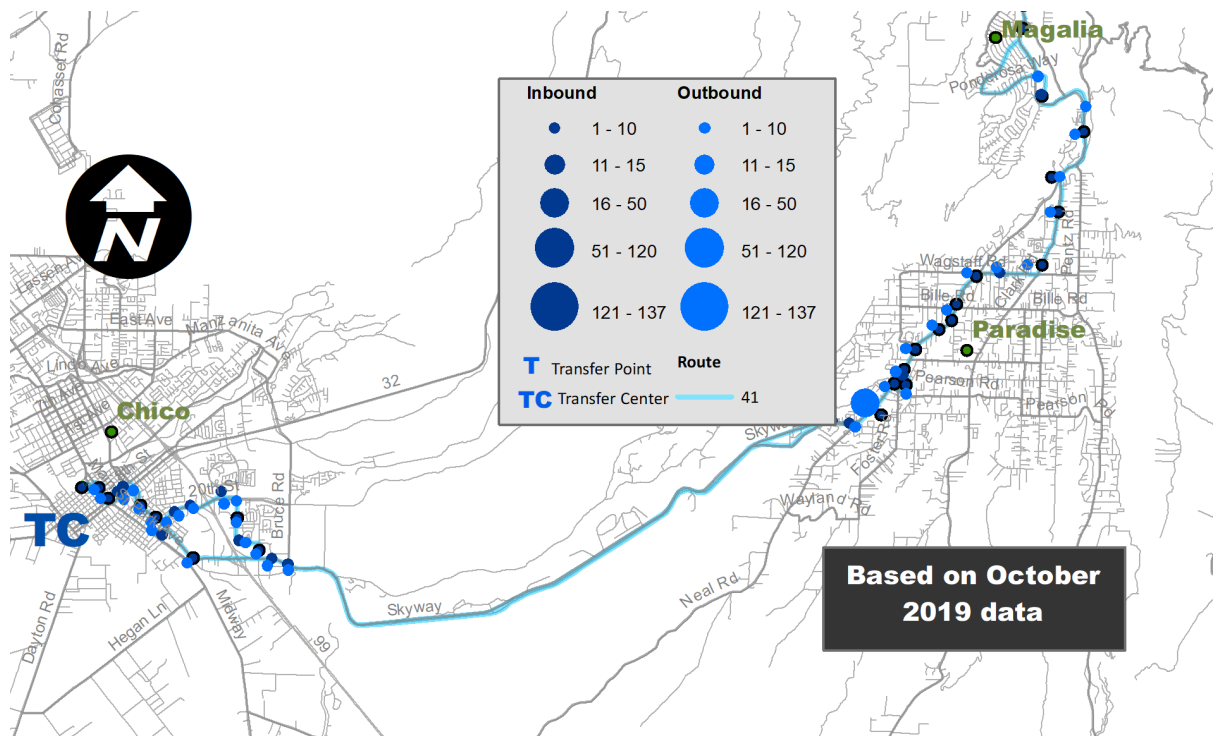
Route 41 Ridership by Hour October 2019



Service Summary

- Weekday Service: 6:35 AM to 6:24 PM, 5 runs per day, approximately every 2 ½ hours
- Saturday Service: 3 round trips
- No Sunday Service
- 1 Peak Bus to Operate
- Late 28% of runs

Ridership	2017-2018	2018-2019	2019-2020	2020-2021
Boardings	48,676	28,754	18,720	12,018
Hours	4,044	4,041	3,162	3,149
Boardings / Vehicle Hr	12.0	7.1	5.9	3.8



STRENGTHS

- ✓ Connects Chico with Paradise and Magalia
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Transfers at Skyway/Wagstaff to Route 40
- ✓ Schedule coordinated with Route 40

CHALLENGES

- ✗ Limited frequency
- ✗ Camp Fire has impacted demand

Route 52: Chico Airport Express Monday - Friday

Northbound: From Downtown Chico to Airport

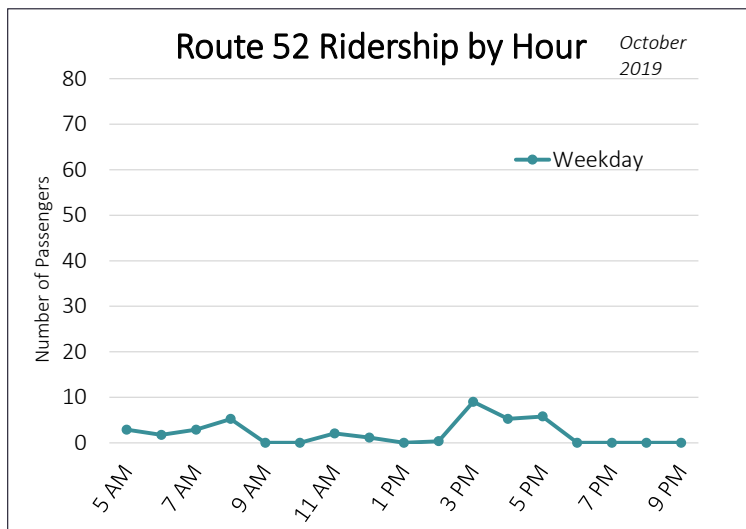
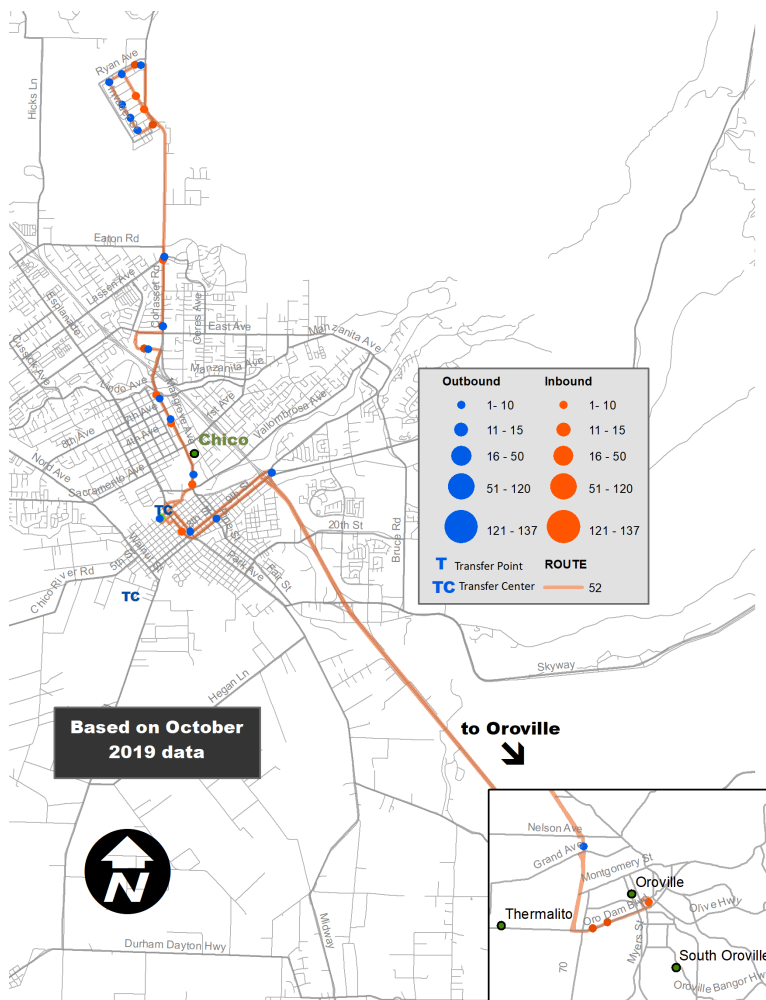
Southbound: From Airport to Downtown Chico

Service Summary

- Weekday Service: 6:30 AM to 5:40 PM, 5 runs per day
- No Weekend Service
- 1 Peak Bus to Operate
- Late 5% of runs

Note: Downtown Chico-Oroville service recently dropped

	2017-2018	2018-2019	2019-2020	2020-2021
Ridership				
Boardings	7,742	7,826	6,963	4,099
Hours	1,980	1,928	1,920	1,525
Boardings / Vehicle Hr	3.9	4.1	3.6	2.7



STRENGTHS

- ✓ Connects Chico Transit Center with Chico Airport
- ✓ Transfers to most routes at Chico Transit Center
- ✓ Transfers at Pillsbury Road to Routes 2, 3, and 4
- ✓ Transfers at Lassen and Cohasset to Routes 2 and 15

CHALLENGES

- ✗ Limited frequency
- ✗ Poor productivity

B-LINE OPERATIONAL AND RIDERSHIP DETAILED DATA

B-LINE OPERATIONAL AND RIDERSHIP DETAILED DATA

B-Line Ridership and Operational Details

The tables and figures herein provide greater detail to support the findings presented in the *Butte Routing Optimization Study: Technical Memorandum One*, to which this is an appendix. A list of the tables and figures is as follows:

- Figure C-1: Butte Regional Transit 2021 Route Frequencies
- Table C-1: B-Line Annual Ridership by Route
- Table C-2: B-Line Annual Ridership by Month
- Table C-3: B-Line Ridership by Day of Week
- Table C-4: B-Line Chico Routes - Weekday Ridership by Hour
- Table C-5: B-Line Intercity Routes - Weekday Ridership by Hour
- Table C-6: B-Line Oroville Routes - Weekday Ridership by Hour
- Figure C-2: B-Line Weekday Ridership by Hour
- Table C-7: B-Line Chico Routes - Saturday Ridership by Hour
- Table C-8: B-Line Intercity Routes - Saturday Ridership by Hour
- Figure C-3: Summary of All Routes Saturday Ridership by Hour
- Table C-9: B-Line - Sunday Ridership by Hour
- Figure C-4: B-Line Sunday Ridership by Hour
- Table C-10: B-Line Boardings by Fare Type
- Table C-11: B-Line Revenue by Fare Type
- Table C-12: B-Line Vehicle Fleet - Fixed Route Service
- Table C-13: B-Line Vehicle Fleet - Paratransit Service
- Table C-14: Summary of Existing B-Line Bus Stops

Figure C-1: Butte Regional Transit 2021 Route Frequencies

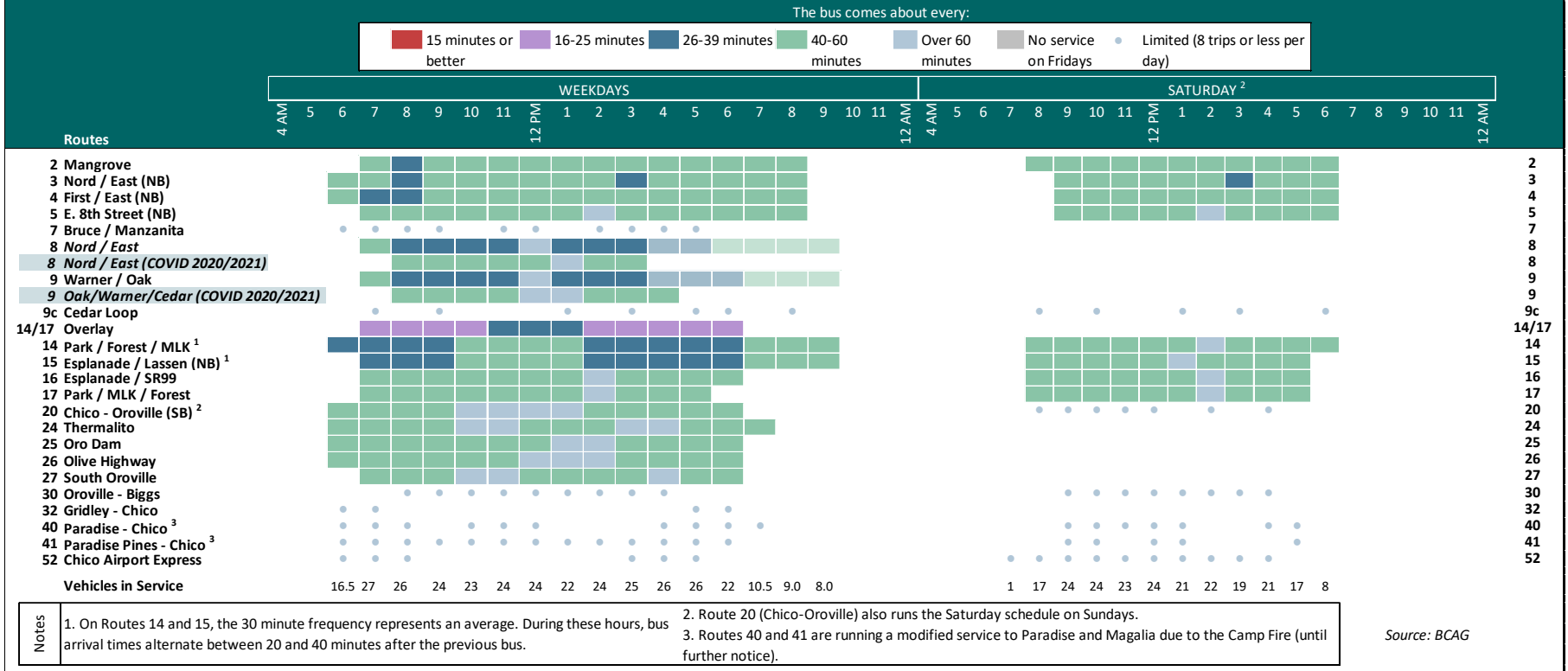


Table C-1: B-Line Annual Ridership by Route

Route	Fiscal Year												
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
1	109,623	104,687	36,661	< discontinued									
2	99,023	89,555	85,385	81,230	81,179	90,029	85,371	86,129	69,762	65,973	65,289	55,604	32,256
3	108,614	104,735	92,452	93,622	91,656	106,306	113,396	93,717	96,519	69,255	71,282	63,854	34,068
4	99,750	90,358	91,608	92,714	108,041	101,406	101,672	100,095	87,678	70,319	62,110	47,299	29,075
5	117,354	107,739	79,068	65,656	62,471	57,591	63,236	68,429	56,093	48,265	53,552	42,978	20,088
6	204,758	198,743	73,143	< discontinued									
7	21,723	16,846	15,866	13,631	13,582	13,910	15,894	14,323	18,064	14,862	12,163	7,993	4,512
8	73,925	72,734	62,532	78,625	85,252	98,758	91,295	101,192	101,022	61,329	69,345	45,471	4,875
9	84,858	93,709	67,180	64,390	78,338	78,168	79,779	87,247	82,111	79,483	75,876	65,744	9,383
10	57,784	53,202	16,956	< discontinued									
14	initiated >							123,334	111,714	105,262	115,965	90,051	43,928
15	initiated >		208,628	334,276	340,185	326,367	329,954	115,038	95,908	80,398	81,776	64,773	35,472
16	initiated >		8,818	67,796	69,071	71,148	61,035	59,168	59,141	46,881	44,777	37,604	21,979
17	initiated >							52222	42717	40650	44199	33932	18646
20	127,320	123,216	128,505	153,500	165,188	157,993	150,707	135,469	119,605	109,854	106,292	79,671	42,486
24	7,188	5,760	17,298	27,586	29,345	34,357	35,453	26,814	24,464	20,439	20,386	16,434	8,704
25	11,778	12,017	13,534	15,778	16,694	15,993	14,764	13,048	12,523	12,788	14,322	13,657	9,038
26	6,269	8,055	13,379	17,182	14,894	14,527	14,033	12,576	10,178	11,610	12,025	10,133	6,553
27	9,740	8,395	9,503	15,182	14,541	15,741	17,002	14,034	14,490	12,904	12,378	10,293	6,267
30	15,559	15,103	16,164	19,088	18,299	19,695	17,359	12,869	12,102	10,753	12,892	10,428	6,933
31	5,403	4,352	5,151	6,166	6,239	4,545	3,881	2,389	1,922	2,178	584	< discontinued	
32	initiated >		1,767	2581	2709	2556	4427	3600	3668	3232	5114	3710	979
40	75,680	77,582	77,195	84,789	86,562	83,121	82,498	77,688	70,040	61,347	27,624	6,597	4,604
41	47,138	49,820	57,603	71,665	68,066	60,001	55,429	50,909	50,764	47,175	28,754	18,720	12,018
46	731	677	1,021	825	559	899	366	< discontinued					
52	initiated >							2,078	6,694	7,826	6,963	4,099	
Total	1,284,218	1,237,285	1,179,417	1,306,282	1,352,871	1,353,111	1,337,551	1,250,290	1,142,563	981,651	944,531	731,909	355,963
Source: BCAG													

Source: BCAG

Table C-2: B-Line Annual Ridership by Month

Fiscal Year	Months (Fiscal Calendar)												Annual
	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	
2008-09	84,105	98,926	125,534	136,858	101,321	104,104	95,368	111,237	116,105	122,128	104,926	83,606	1,284,218
2009-10	81,249	92,763	120,877	125,393	98,495	97,803	87,438	113,117	115,518	118,526	102,017	84,089	1,237,285
2010-11	82,880	102,000	120,169	119,501	91,984	85,737	85,817	99,664	108,344	108,215	95,347	79,759	1,179,417
2011-12	75,675	109,391	124,341	124,803	108,901	100,055	101,951	125,513	111,828	123,151	112,835	87,838	1,306,282
2012-13	83,510	106,932	122,070	142,599	117,143	108,754	105,387	124,727	117,108	127,127	117,760	79,754	1,352,871
2013-14	81,604	103,529	127,229	139,986	112,324	109,220	110,787	123,651	117,404	130,697	110,540	86,140	1,353,111
2014-15	86,619	102,895	134,782	145,783	108,887	111,474	108,578	118,422	114,601	123,646	98,968	82,896	1,337,551
2015-16	82,218	100,097	131,733	130,817	101,595	100,256	86,660	119,487	110,629	112,695	97,285	76,818	1,250,290
2016-17	68,535	97,617	117,712	117,943	103,610	88,559	83,033	97,131	103,483	99,410	96,099	69,431	1,142,563
2017-18	64,749	90,120	107,671	112,225	94,476	80,523	65,719	68,944	64,138	90,952	84,294	57,840	981,651
2018-19	59,332	76,250	88,640	110,906	69,396	74,890	73,978	81,552	84,855	91,977	79,880	58,215	949,871
2019-20	61,898	74,986	91,844	102,760	76,358	73,539	55,254	85,041	40,697	19,047	25,199	25,479	732,102
2020-21	27,008	25,572	24,124	29,429	25,135	25,023	22,724	24,611	29,592	32,141	30,331	29,813	325,503
2021-22	29,680	37,594	45,741	44,206	39,341	35,527	33,515	43,239	45,185				354,028
Average	69,219	87,048	105,891	113,086	89,212	85,390	79,729	95,453	91,392	99,978	88,883	69,360	1,056,196

Source: BCAG

Table C-3: B-Line Ridership by Day of Week

Pre-COVID and COVID Conditions

Day of the Week	Average Daily Ridership		Change	
	Pre-COVID ¹	COVID ²	#	%
Sunday	117	44	-74	-63%
Monday	3,054	984	-2,070	-68%
Tuesday	3,053	940	-2,112	-69%
Wednesday	3,397	953	-2,444	-72%
Thursday	3,166	946	-2,219	-70%
Friday	2,825	1,045	-1,781	-63%
Saturday	1,190	557	-633	-53%
Average	2,415	787	-1,628	-67%

Note 1: Data averages from Sept 1, 2019 to March 15, 2020

Note 2: Data averages from March 16, 2020 to Oct 31, 2020.

Source: BCAG

Table C-4: B-Line Chico Routes - Weekday Ridership by Hour

October 1, 2019 - October 31, 2019

Average Daily Ridership by Hour

		Average Daily Ridership by Route												
		Chico Routes												
														Subtotal Chico Routes
Time		2	3	4	5	7	8	9 ¹	14	15	16	17	52	
Hour of Day	5:00 AM	--	0.0	0.3	0.2	--	--	--	--	0.0	--	--	2.9	3.4
	6:00 AM	12.2	14.0	15.6	12.6	3.1	--	--	31.5	11.3	3.7	--	1.7	105.6
	7:00 AM	20.9	41.1	20.4	26.6	15.2	27.5	33.4	31.1	47.0	15.3	6.4	2.9	287.6
	8:00 AM	25.8	42.8	17.8	26.7	7.7	53.4	79.9	36.9	25.4	16.8	15.5	5.2	353.8
	9:00 AM	21.4	30.7	14.8	13.2	3.0	44.5	79.0	25.6	24.9	14.6	11.9	0.0	283.6
	10:00 AM	22.4	27.3	19.4	20.7	0.0	51.7	71.3	24.1	15.9	14.1	18.7	0.0	285.5
	11:00 AM	25.3	20.1	13.7	19.4	2.0	40.2	49.1	26.2	23.7	15.0	17.1	2.0	253.7
	12:00 PM	21.0	30.4	16.5	14.7	1.1	12.7	23.0	27.1	20.1	14.4	13.3	1.1	195.4
	1:00 PM	24.6	26.8	16.5	10.9	0.0	43.4	62.2	28.5	22.4	17.4	18.0	0.0	270.8
	2:00 PM	23.1	22.0	36.4	19.1	5.5	38.3	47.7	46.0	43.4	14.9	14.1	0.3	310.8
	3:00 PM	16.5	31.2	30.7	18.0	5.8	33.8	61.9	36.6	46.2	21.4	17.5	9.0	328.5
	4:00 PM	13.5	23.2	17.6	27.1	3.1	29.7	46.0	31.7	26.5	14.0	12.7	5.3	250.2
	5:00 PM	10.4	19.1	19.4	21.4	3.0	28.6	44.6	30.0	25.1	9.7	9.4	5.8	226.5
	6:00 PM	5.5	17.1	9.7	11.5	--	11.1	27.4	12.1	12.1	6.1	1.1	--	113.7
	7:00 PM	4.7	9.4	4.7	4.4	--	8.1	10.1	10.0	8.1	--	--	--	59.6
8:00 PM	1.4	4.7	5.9	1.2	--	3.2	4.3	5.8	4.1	--	--	--	30.6	
9:00 PM	--	--	--	--	--	2.7	3.8	4.1	2.0	--	--	--	12.6	
TOTAL		249	360	259	248	50	429	644	407	358	177	156	36	3372

Note 1: Route 9C ridership was combined with Route 9

Table C-5: B-Line Intercity Routes - Weekday Ridership by Hour

October 1, 2019 - October 31, 2019

Average Daily Ridership by Hour

		Average Daily Ridership by Route					
		Intercity Routes					Subtotal Intercity Routes
		20	30	32	40	41	
Hour of Day	Time						
	5:00 AM	19.6	--	--	--	0.1	19.7
	6:00 AM	34.5	--	14.8	4.6	9.4	63.3
	7:00 AM	45.0	3.1	0.6	3.3	6.1	58.2
	8:00 AM	32.1	8.4	--	1.8	9.9	52.1
	9:00 AM	24.5	1.7	--	0.0	7.2	33.4
	10:00 AM	24.9	0.0	--	2.5	7.6	35.0
	11:00 AM	18.3	7.9	--	2.5	4.6	33.3
	12:00 PM	20.8	5.2	--	2.3	7.1	35.3
	1:00 PM	35.3	3.3	--	0.0	5.7	44.3
	2:00 PM	32.9	5.8	--	0.0	8.7	47.4
	3:00 PM	37.2	3.9	0.4	0.4	5.4	47.2
	4:00 PM	39.3	2.0	1.1	5.0	4.5	51.9
	5:00 PM	25.4	0.0	10.5	3.2	10.8	49.8
	6:00 PM	15.4	--	0.0	1.4	0.3	17.2
	7:00 PM	4.9	--	--	0.9	--	5.8
	8:00 PM	--	--	--	--	--	0.0
	9:00 PM	--	--	--	--	--	0.0
TOTAL		410	41	27	28	87	594

Table C-6: B-Line Oroville Routes - Weekday Ridership by Hour

October 1, 2019 - October 31, 2019

Average Daily Ridership by Hour

		Average Daily Ridership by Route				
		Oroville Routes				Subtotal Oroville Routes
		24	25	26	27	
Hour of Day	Time					
	5:00 AM	0.1	0.0	--	--	0.2
	6:00 AM	7.6	2.6	1.8	--	12.1
	7:00 AM	7.8	7.4	4.3	10.7	30.1
	8:00 AM	5.4	3.8	3.7	5.0	17.9
	9:00 AM	10.2	7.1	4.3	3.3	24.9
	10:00 AM	1.8	6.5	5.4	2.8	16.5
	11:00 AM	7.9	5.1	3.7	2.0	18.7
	12:00 PM	7.1	3.4	2.3	4.1	16.9
	1:00 PM	5.1	1.2	6.1	4.4	16.8
	2:00 PM	6.4	7.7	5.8	2.7	22.5
	3:00 PM	3.4	4.1	5.6	6.2	19.3
	4:00 PM	3.0	3.6	4.7	2.3	13.6
	5:00 PM	2.9	3.5	4.3	2.0	12.7
	6:00 PM	2.0	1.4	1.2	1.4	6.0
	7:00 PM	1.8	--	0.2	0.7	2.7
	8:00 PM	--	--	--	--	0.0
	9:00 PM	--	--	--	--	0.0
TOTAL		72	57	53	47	231

Figure C-2: B-Line Weekday Ridership by Hour

October 1, 2019 - October 31, 2019

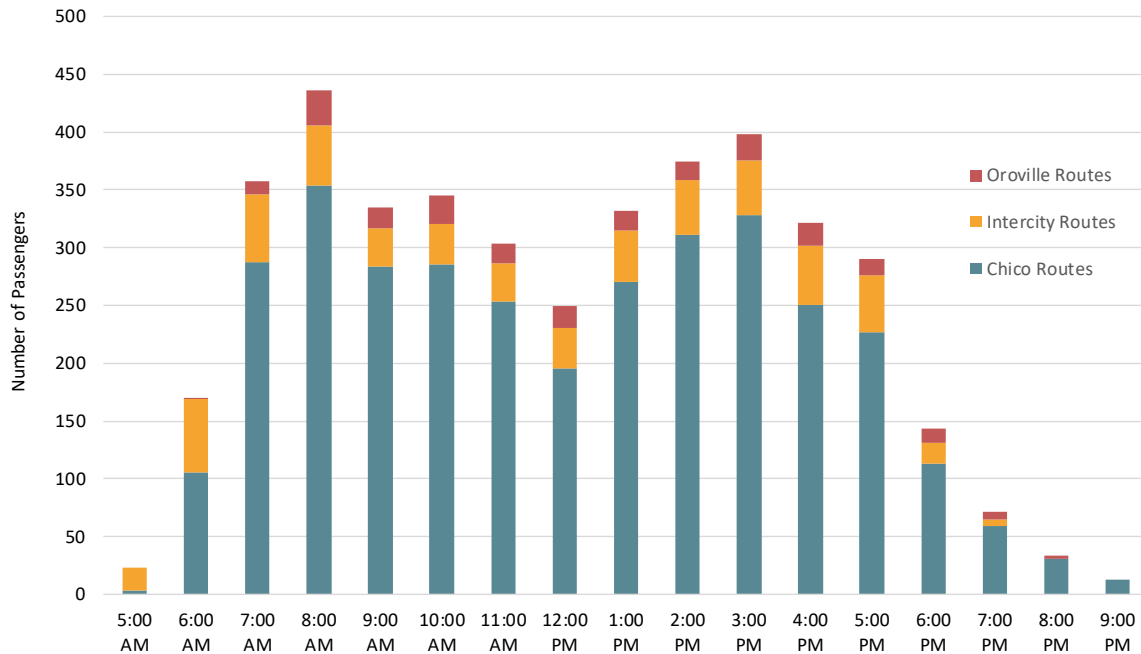


Table C-7: B-Line Chico Routes - Saturday Ridership by Hour

October 1, 2019 - October 31, 2019

Average Daily Ridership by Hour

		Average Daily Ridership by Route								
		Chico Routes								
		2	3	4	5	9 ¹	14	15	16	17
Hour of Day	6:00 AM	--	--	--	--	--	--	1.0	2.8	--
	7:00 AM	--	--	--	--	--	10.0	8.0	11.0	--
	8:00 AM	8.3	6.5	3.3	7.8	2.5	24.0	10.0	6.8	9.8
	9:00 AM	12.3	15.0	13.3	8.5	0.0	22.5	10.0	11.0	13.3
	10:00 AM	11.0	15.3	9.3	8.3	3.3	18.5	10.0	14.3	15.8
	11:00 AM	10.3	17.8	14.5	11.0	0.0	22.0	10.0	8.3	13.5
	12:00 PM	10.8	20.3	18.8	12.0	0.0	23.5	8.3	8.5	22.3
	1:00 PM	11.5	20.8	15.8	6.0	3.5	30.3	12.0	9.3	13.3
	2:00 PM	13.0	20.3	24.3	8.8	0.0	24.8	10.3	9.8	24.5
	3:00 PM	22.0	19.8	10.8	15.0	2.5	33.8	15.8	8.3	12.8
Hour of Day	4:00 PM	10.8	25.0	13.5	11.8	0.0	24.5	6.5	4.5	20.8
	5:00 PM	7.3	20.0	5.8	8.3	0.0	30.8	12.3	--	4.5
Hour of Day	6:00 PM	6.5	8.5	6.5	4.5	1.0	8.8	--	--	1.8
	TOTAL	124	189	136	102	13	273	114	94	152

Note 1: Route 9C ridership was combined with Route 9

Table C-8: B-Line Intercity Routes - Saturday Ridership by Hour

October 1, 2019 - October 31, 2019

Average Daily Ridership by Hour

		Average Daily Ridership by Route					
		Intercity Routes					Subtotal Intercity Routes
		20	30	32	40	41	
Hour of Day	6:00 AM	--	--	--	--	--	0.0
	7:00 AM	2.8	--	--	--	--	2.8
	8:00 AM	17.5	3.5	--	--	--	21.0
	9:00 AM	11.5	4.3	--	5.0	--	20.8
	10:00 AM	15.3	2.5	--	6.0	0.5	24.3
	11:00 AM	9.0	3.5	--	7.3	0.0	19.8
	12:00 PM	12.0	3.8	--	0.3	2.5	18.5
	1:00 PM	10.0	3.0	--	2.3	0.8	16.0
	2:00 PM	11.5	0.5	--	0.0	0.0	12.0
	3:00 PM	13.5	7.3	--	0.0	0.0	20.8
	4:00 PM	18.5	2.5	--	14.8	2.5	38.3
	5:00 PM	4.5	--	--	6.5	1.3	12.3
	6:00 PM	1.0	--	--	--	--	1.0
TOTAL		127	31	0	42	8	207

Figure C-3: Summary of All Routes Saturday Ridership by Hour

October 1, 2019 - October 31, 2019

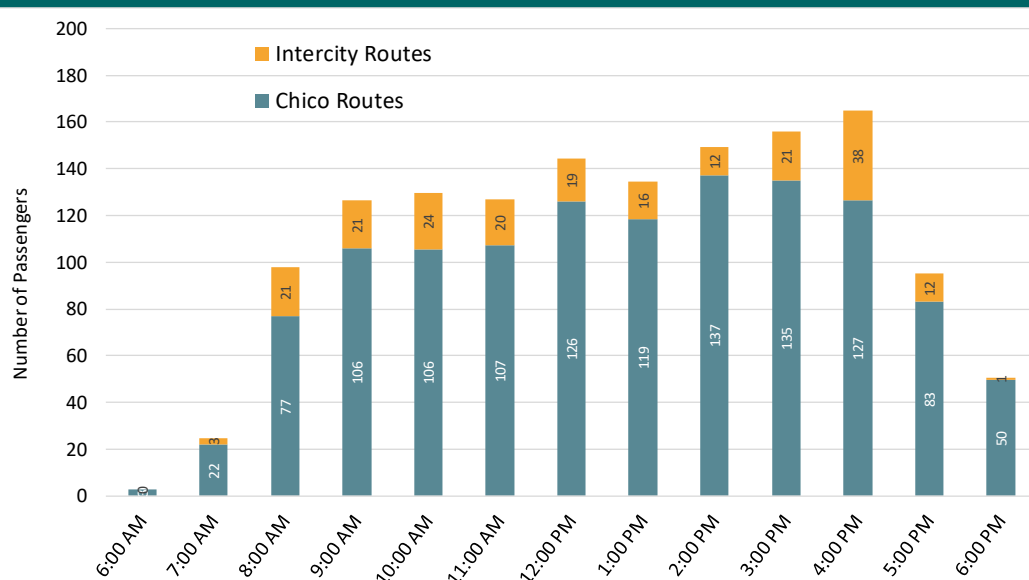


Table C-9: B-Line - Sunday Ridership by Hour (Route 20)

October 1, 2019 - October 31, 2019

	Time	Average Daily Ridership by Hour
		Route 20
Hour of Day	7:00 AM	4.8
	8:00 AM	11.8
	9:00 AM	11.3
	10:00 AM	7.8
	11:00 AM	11.8
	12:00 PM	12.5
	1:00 PM	5.0
	2:00 PM	16.8
	3:00 PM	13.3
	4:00 PM	22.8
	5:00 PM	11.0
	6:00 PM	0.5
TOTAL		129

Figure C-4: B-Line Sunday Ridership by Hour (Route 20)

October 1, 2019 - October 31, 2019

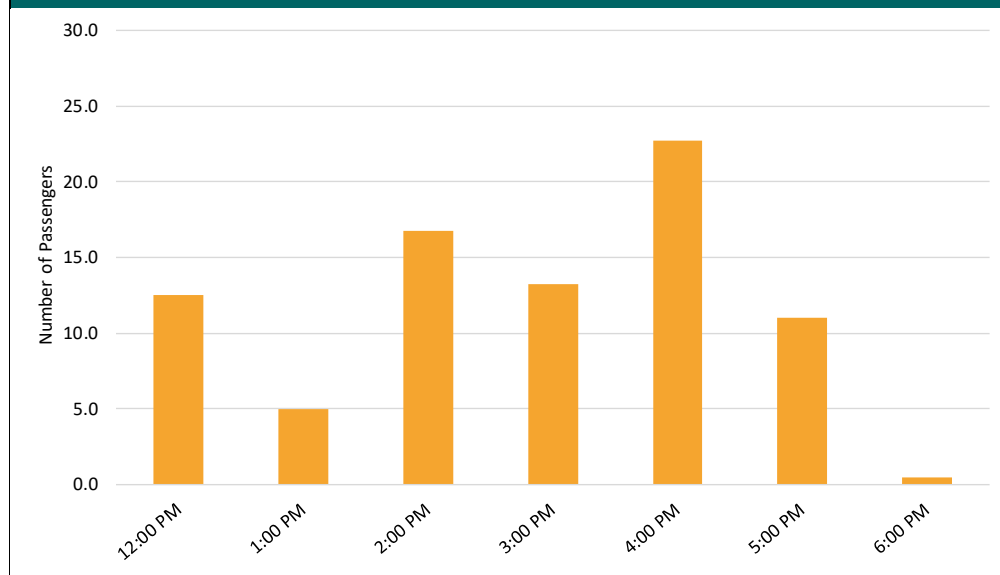


Table C-10: B-Line Boardings by Fare Type

			Boardings - February 2020		Boardings - August 2021	
			#	%	#	%
Cash Boardings	All	All	17,964	21.1%	15,570	41.4%
1-Ride Regional Regular	All	All	830	1.0%	329	0.9%
2-Ride Pass	Local	Regular	1,791	2.1%	200	0.5%
		Discount	444	0.5%	77	0.2%
		Youth	277	0.3%	122	0.3%
	Regional	Regular	246	0.3%	62	0.2%
		Discount	146	0.2%	103	0.3%
		Youth	53	0.1%	14	0.0%
All Day Pass	All	All	890	1.0%	658	1.8%
10-Ride Pass	Local	Regular	954	1.1%	265	0.7%
		Discount	1,268	1.5%	550	1.5%
		Youth	411	0.5%	277	0.7%
	Regional	Regular	547	0.6%	137	0.4%
		Discount	373	0.4%	148	0.4%
		Youth	107	0.1%	10	0.0%
30-Day Pass	Local	Regular	2,074	2.4%	962	2.6%
		Discount	10,001	11.8%	4,451	11.8%
		Youth	2,822	3.3%	446	1.2%
	Regional	Regular	1,441	1.7%	620	1.6%
		Discount	3,486	4.1%	1,775	4.7%
		Youth	590	0.7%	197	0.5%
Smart Card	All	All	--	--	418	1.1%
Stored Value Card	All	All	220	0.3%	92	0.2%
University Card ⁴	All	All	31,239	36.7%	7,242	19.3%
365 Day Employee	All	All	1,356	1.6%	415	1.1%
365 Day Soc. Service	All	All	5,501	6.5%	2,447	6.5%
Paratransit (2-Ride)	All	All	10	0.01%	7	0.02%
TOTAL	All	All	85,041	100.0%	37,594	100.0%

Note 1: Seniors (65+), Disabled, and Medicare card holders are all eligible for discounted fares with supplemental

Note 2: Youth ages 6 to 18 are eligible for youth fare rate

Note 3: Children 6 and under can ride free with a fare-paying adult

Note 4: California State University Chico students ride free by showing a Wildcat ID card.

Table C-11: B-Line Revenue by Fare Type

			Revenue - Oct. 2018		Revenue - Oct. 2021		% Change
			\$ Amount	% of Total Revenues	\$ Amount	% of Total Revenues	
2-Ride Pass	Local	Regular	\$153	0.1%	\$193	0.4%	26%
		Regular - Bulk	\$1,391	1.3%	\$0	0.0%	-100%
		Discount	\$51	0.0%	\$92	0.2%	80%
		Discount - Bulk	\$135	0.1%	\$0	0.0%	-100%
		Youth	\$156	0.1%	\$53	0.1%	-66%
		Youth - Bulk	\$108	0.1%	\$0	0.0%	-100%
	Regional	Regular	\$624	0.6%	\$125	0.2%	-80%
		Regular - Bulk	\$702	0.7%	\$0	0.0%	-\$1.00
		Discount	\$260	0.2%	\$41	0.1%	-84%
		Discount - Bulk	\$90	0.1%	\$0	0.0%	-\$1.00
		Youth	\$15	0.0%	\$70	0.1%	367%
		Youth - Bulk	\$54	0.1%	\$0	0.0%	-\$1.00
10-Ride Pass	Local	Regular	\$3,470	3.3%	\$504	0.9%	-85%
		Discount	\$5,218	4.9%	\$2,111	3.9%	-60%
		Youth	\$2,403	2.3%	\$1,485	2.8%	-38%
	Regional	Regular	\$936	0.9%	\$1,244	2.3%	33%
		Discount	\$621	0.6%	\$194	0.4%	-69%
		Youth	\$296	0.3%	\$1,424	2.7%	381%
30-Day Pass	Local	Regular	\$17,775	16.7%	\$2,262	4.2%	-87%
		Discount	\$22,344	21.0%	\$10,772	20.1%	-52%
		Youth	\$2,600	2.4%	\$13,906	25.9%	435%
	Regional	Regular	\$7,236	6.8%	\$1,208	2.3%	-83%
		Discount	\$22,050	20.7%	\$1,020	1.9%	-95%
		Youth	\$2,006	1.9%	\$1,080	2.0%	-46%
Paratransit (2-Ride)	All	All	\$1,032	1.0%	\$2,499	4.7%	142%
Paratransit \$25 Card	All	All	\$5,400	5.08%	\$8,600	16.04%	59%
Paratransit \$50 Card ⁵	All	All	\$9,250	8.70%	\$4,750	8.86%	-49%
TOTAL	All	All	\$106,375	100.0%	\$53,632	100.0%	

Note 1: Seniors (65+), Disabled, and Medicare card holders are all eligible for discounted fares with supplemental verification

Note 2: Youth ages 6 to 18 are eligible for youth fare rate

Note 3: Children 6 and under can ride free with a fare-paying adult

Note 4: California State University Chico and Butte College provide access to B-Line services to students and staff

Note 5: The \$50.00 Paratransit Card was discontinued in 2021.

Table C-12: B-Line Vehicle Fleet - Fixed Route Service

#	Bus #	Length	MFG Year	Make	Fuel Type	Seating Capacity	Wheelchair Tie- Downs
1	1103	35'	2011	GILLIG/BRT	DIESEL	38	2
2	1104	35'	2011	GILLIG/BRT	DIESEL	38	2
3	1105	35'	2011	GILLIG/BRT	DIESEL	38	2
4	1106	35'	2011	GILLIG/BRT	DIESEL	38	2
5	1401	40'	2014	GILLIG/BRT	DIESEL	38	2
6	1402	40'	2014	GILLIG/BRT	DIESEL	38	2
7	1403	40'	2014	GILLIG/BRT	DIESEL	38	2
8	1404	40'	2014	GILLIG/BRT	DIESEL	38	2
9	1405	40'	2014	GILLIG/BRT	DIESEL	38	2
10	1406	40'	2014	GILLIG/BRT	DIESEL	38	2
11	1701	40'	2017	GILLIG/BRT	DIESEL	38	2
12	1702	40'	2017	GILLIG/BRT	DIESEL	38	2
13	1703	40'	2017	GILLIG/BRT	DIESEL	38	2
14	1704	40'	2017	GILLIG/BRT	DIESEL	38	2
15	1705	40'	2017	GILLIG/BRT	DIESEL	38	2
16	1706	35'	2017	GILLIG/BRT	DIESEL	32	2
17	1707	35'	2017	GILLIG/BRT	DIESEL	32	2
18	1708	35'	2017	GILLIG/BRT	DIESEL	32	2
19	1709	35'	2017	GILLIG/BRT	DIESEL	32	2
20	1710	35'	2017	GILLIG/BRT	DIESEL	32	2
21	1711	40'	2017	GILLIG/BRT	DIESEL	38	2
22	1712	40'	2017	GILLIG/BRT	DIESEL	38	2
23	1713	40'	2017	GILLIG/BRT	DIESEL	38	2
24	2001	40'	2020	GILLIG/BRT	DIESEL	38	2
25	2002	40'	2020	GILLIG/BRT	DIESEL	38	2
26	2003	40'	2020	GILLIG/BRT	DIESEL	38	2
27	2004	40'	2020	GILLIG/BRT	DIESEL	38	2
28	2005	35'	2020	GILLIG/BRT	DIESEL	32	2
29	2006	35'	2020	GILLIG/BRT	DIESEL	32	2

Source: BCAG

Table C-13: B-Line Vehicle Fleet - Paratransit Service

#	Bus #	Length	MFG Year	Make	Fuel Type	Seating Capacity	Wheelchair Tie- Downs
1	1301	25'	2013	FORD E-450	GASOLINE	8	3
2	1302	25'	2013	FORD E-450	GASOLINE	8	3
3	1303	25'	2013	FORD E-450	GASOLINE	8	3
4	1306	25'	2013	FORD E-450	GASOLINE	8	3
5	1307	25'	2013	FORD E-450	GASOLINE	8	3
6	1308	25'	2013	FORD E-450	GASOLINE	8	3
7	1309	25'	2013	FORD E-450	GASOLINE	8	3
8	1310	25'	2013	FORD E-450	GASOLINE	8	3
9	1311	25'	2013	FORD E-450	GASOLINE	8	3
10	1313	25'	2013	FORD E-450	GASOLINE	8	3
11	1314	25'	2013	FORD E-450	GASOLINE	8	3
12	1801	25'	2018	FORD E-450	GASOLINE	8	3
13	1802	25'	2018	FORD E-450	GASOLINE	8	3
14	1803	25'	2018	FORD E-450	GASOLINE	8	3
15	1804	25'	2018	FORD E-450	GASOLINE	8	3
16	1805	25'	2018	FORD E-450	GASOLINE	8	3
17	1806	25'	2018	FORD E-450	GASOLINE	8	3
18	2101	25'	2021	FORD E-450	GASOLINE	8	3
19	2102	25'	2021	FORD E-450	GASOLINE	8	3
20	2103	25'	2021	FORD E-450	GASOLINE	8	3
21	2104	25'	2021	FORD E-450	GASOLINE	8	3
22	2105	25'	2021	FORD E-450	GASOLINE	8	3

Source: BCAG

Table C-14: Summary of Existing B-Line Bus Stops

Community	Total Stops	Stop Amenities						Parking Restrictions			
		Shelter	Bench (Without Shelter)	Sign	Schedule Holder	Trash Receptacle	Lighting	Bus Turnout	No Parking	Unpaved Shoulder	No Restrictions
Chico	350	114	17	326	310	74	145	30	245	8	76
Oroville	91	16	3	63	59	8	37	5	34	10	41
Paradise	56	19	6	51	53	4	8	2	27	0	22
Magalia	20	0	0	16	17	0	3	0	0	3	15
Palermo	8	1	0	4	4	0	0	0	0	2	6
Gridley	13	3	1	13	11	1	6	1	6	0	6
Biggs	3	1	0	3	3	0	1	0	0	0	3
Other	3	0	0	2	0	0	1	0	0	0	2
Total Systemwide	544	154	27	478	457	87	201	38	312	23	171
Percent of All Stops In Each Community With Amenity											
Chico	--	33%	5%	93%	89%	21%	41%	9%	70%	2%	22%
Oroville	--	18%	3%	69%	65%	9%	41%	5%	37%	11%	45%
Paradise	--	34%	11%	91%	95%	7%	14%	4%	48%	0%	39%
Magalia	--	0%	0%	80%	85%	0%	15%	0%	0%	15%	75%
Palermo	--	13%	0%	50%	50%	0%	0%	0%	0%	25%	75%
Gridley	--	23%	8%	100%	85%	8%	46%	8%	46%	0%	46%
Biggs	--	33%	0%	100%	100%	0%	33%	0%	0%	0%	100%
Other	--	0%	0%	67%	0%	0%	33%	0%	0%	0%	67%
Total Systemwide	--	28%	5%	88%	84%	16%	37%	7%	57%	4%	31%
Source: BCAG inventory as of August 2019.											

APPENDIX D: B-LINE ONBOARD SURVEY RESULTS

APPENDIX D: B-LINE ONBOARD SURVEY RESULTS

B-Line Onboard Survey Results

B-Line passengers were asked to complete onboard surveys as part of the Butte Route Optimization Study. Survey staff were available on buses for approximately 140 hours total from December 6 to December 13, 2021, to assist and encourage passenger participation. During this time, survey materials were also available on all fixed routes for passengers to complete. Detailed results of the survey effort are provided in this appendix, and key findings will inform the overall Study.

The survey instruments consisted of a one-page questionnaire printed on card stock. One form was in English on one side and Spanish on the reverse side, and a separate form was available in Hmong. The surveys included a simple introduction, with 16 questions in multiple choice, short-answer, or comment format. The number of answers per question varies because many respondents did not answer every single question.

A total of 280 passengers participated in the survey. 269 passengers (96 percent) completed the survey in English, while 11 (4 percent) completed it in Spanish and no responses were received in Hmong. 36 of the forms were completed online and the remainder were completed on paper. Results by question are presented below.

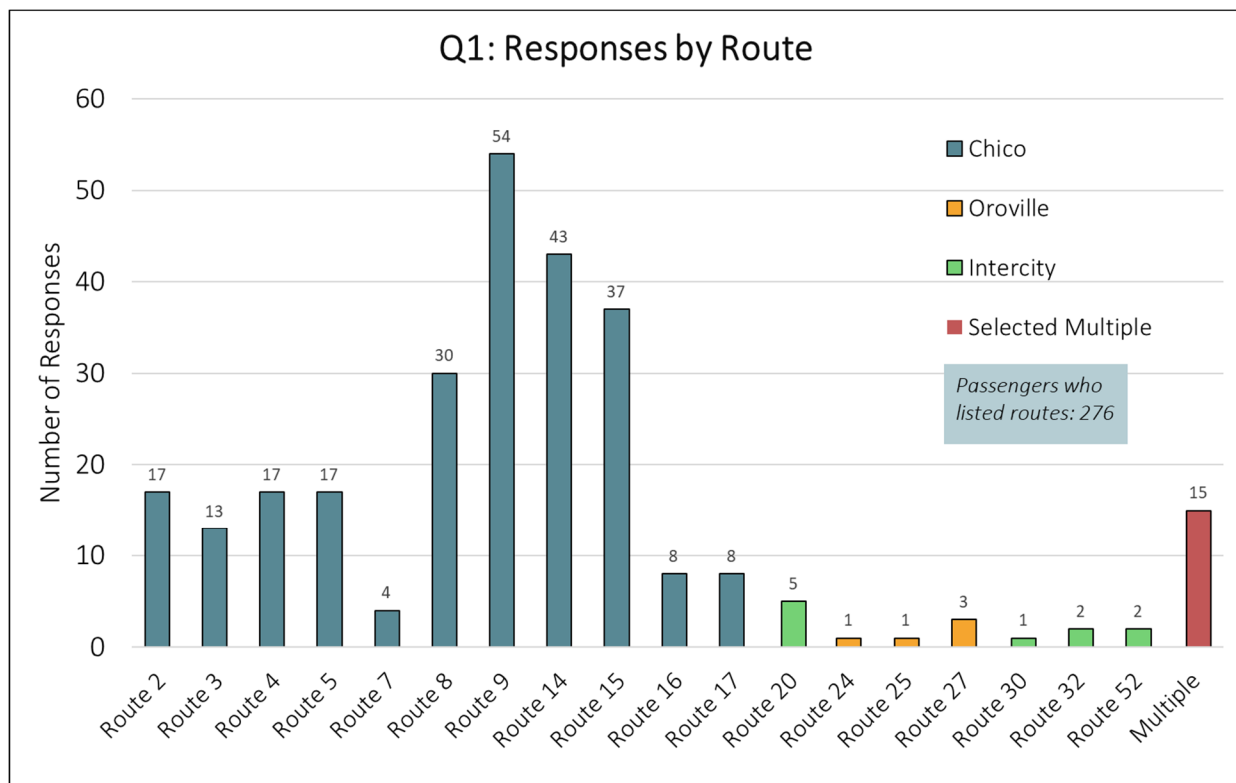
Q1. Responses by route (280 responses): All 280 respondents answered this question, though two chose “other” and did not list a specific route. Most passengers checked one route, as directed, but 6 percent checked multiple routes. Most respondents completed surveys for Chico routes (95 percent, not including answers where multiple routes were listed¹), and almost half (49 percent) were surveyed on Routes 9, 14, and 15. Just 3 percent of the total responses were on Intercity routes, and 2 percent were on Oroville Routes. This data is portrayed in the chart that follows.

A list of the tables and figures is as follows:

- Q1: Responses by Route
- Q2: Time Respondents Boarded Bus
- Q3: Boarding Locations
- Q4: Alighting Locations
- Q3 & Q4: Major Origin/Destination Pairs
- Q5: Round-trips Vs. One-way Travels
- Q6: Routes Passengers Planned to Transfer To or From
- Q6 (Continued): Route Transfer Pattern
- Q7: Trip Purpose

¹ Including the multiple selected routes would distort the information of those who correctly included just the route they were surveyed on.

- Q8 Passenger Opinions of B-Line Service
- Q9: Did Passengers Have a Vehicle Available for their Trip?
- Q11: Did Passengers Have a Driver's License?
- Q10: How Do Passengers Get Information About B-Line Services?
- Q13: What is Your Age?
- Q14: Passenger's Primary Occupations
- Q14 (Continued): Type of Students
- Q15: Desired Improvements
- Q15a: Desire for Increased Weekday Frequency, by Route
- Q15b: Desire for Increased Weekend Frequency by Route
- Q15c: Desire for Earlier Service, by Route
- Q15d: Desire for Later Service, by Route
- Q15e: Desire for Service to Other Locations
- Q15f: Desire for More Shelters
- Q16: Survey Comments



Q2. Boarding times (250 responses):

Passengers reported the time they boarded the bus. Over half of the responses were provided from passengers riding between 8:00 -10:00 AM and 1:00 to 3:00 PM.

Q3. Boarding locations (241 responses):

Boarding location information provides context for determining where survey participants are starting their trips. Additionally, while boarding data is collected by buses, boarding and alighting pairs are reported by the survey respondents. Not surprisingly, many people boarded at the Chico Transit Center. The 20 most common boarding locations are included in the table below.

Q4. Alighting locations (240 responses):

Passengers also wrote down where they would eventually disembark. Many people planned on alighting at the Chico Transit Center. The top 20 most common alighting locations are included in the below table.

Q2: Time Respondent Boarded Bus

From	To		
6:00 AM	7:00 AM	6	2%
7:00 AM	8:00 AM	14	6%
8:00 AM	9:00 AM	30	12%
9:00 AM	10:00 AM	22	9%
10:00 AM	11:00 AM	12	5%
11:00 AM	12:00 PM	13	5%
12:00 PM	1:00 PM	18	7%
1:00 PM	2:00 PM	41	16%
2:00 PM	3:00 PM	39	16%
3:00 PM	4:00 PM	20	8%
4:00 PM	5:00 PM	15	6%
5:00 PM	6:00 PM	11	4%
6:00 PM	7:00 PM	6	2%
7:00 PM	8:00 PM	2	1%
8:00 PM	9:00 PM	1	0%
Total Responses		250	

Q3: Boarding Locations

Chico Transit Center	61	20%
Hickory & W. 7th	15	5%
University Village Apartments	8	3%
W. 4th & Cedar	7	2%
Chico State - Whitney Hall	6	2%
Esplanade	6	2%
Forest & Springfield	6	2%
Lassen Ave	6	2%
Nord	6	2%
Ceres & Lassen	5	2%
20th	4	1%
Chico State	4	1%
Chico State - Meriam Library	4	1%
Park & 13th	4	1%
Pillsbury	4	1%
Pleasant Valley High School	4	1%
Costco, Chico	3	1%
Esplanade & East	3	1%
Forest & 20th	3	1%
Oroville Transit Center	3	1%
Total responses	241	100%

Q4: Alighting Locations

Chico Transit Center	67	28%
Hickory & W. 7th	9	4%
Forest & Springfield	8	3%
W. 4th & Cedar	8	3%
WalMart	7	3%
Chico State	6	3%
University Village Apartments	6	3%
Chico State - Meriam Library	5	2%
Chico State Parking	4	2%
Esplanade	4	2%
20th & Park	3	1%
2nd	3	1%
Cedar	3	1%
Chico High School	3	1%
Cohasset & Pillsbury	3	1%
Esplanade & East	3	1%
Lassen Ave	3	1%
Oroville Transit Center	3	1%
1st	2	1%
Total responses	240	100%

Q3 Versus Q4. Boarding and Alighting Location Crosstabulation

It is particularly useful to review the crosstabulation of passengers boarding location versus alighting location, as shown in the table below. Because of the numerous combinations of individual locations, only those boarding/alighting pairs that had two or more individual responses are included (except in the row and column totals). This also indicates the strong concentration of trips to and from the Chico Transit Center (including transfers), with just under half of passenger-trips either boarding or alighting at this location. The other stops serving the Chico State campus (in total) comprise an additional 10 percent of passenger-trips. Other busy stops among the survey respondents were University Village, Ceres & Lassen, Hickory Street (undefined cross-street), Walmart and 4th and Cedar. Beyond these key activity locations, the data indicates a diffuse pattern of many stops with low ridership activity.

Q5. Round-trip travel (266 responses): A slight majority of the 266 respondents (150 persons or 56 percent) indicated they were completing a round-trip on the B-Line buses, while 116 individuals (44 percent) were only completing a one-way trip.

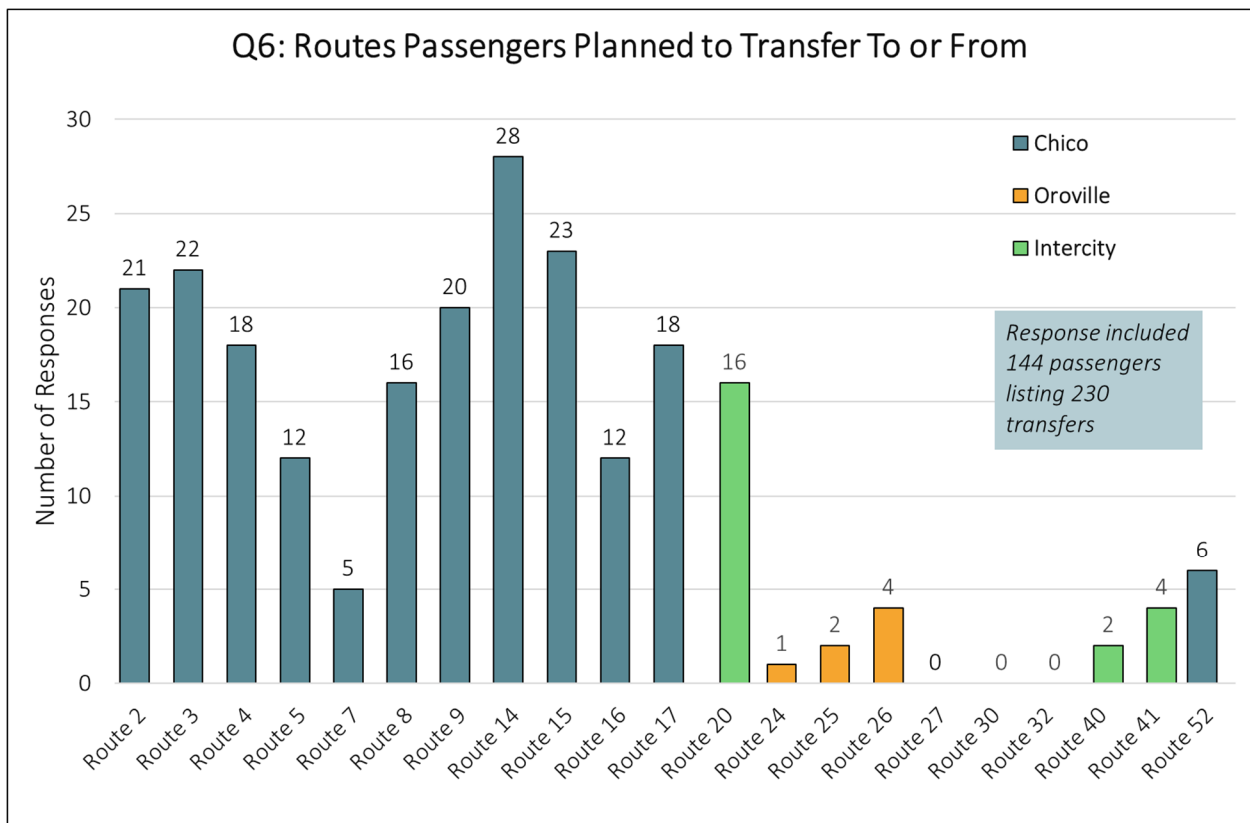
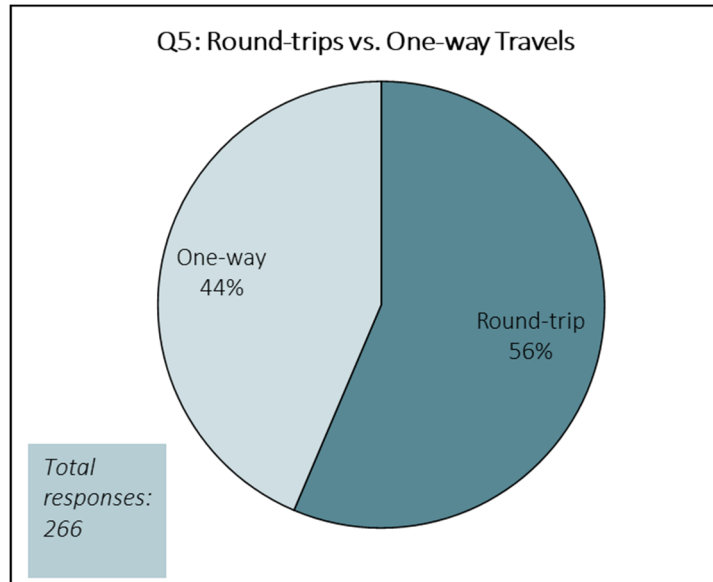
Q6. Transfers (144 Passengers providing 230 responses): Passengers who had either transferred or intended to transfer were asked to identify which routes they planned as part of their trip. Just over half (51 percent) of respondents said that transfers were not a planned part of their trip. The remaining 144 passengers listed routes they planned to transfer to or had transferred from. Transfers were most frequent among Routes 14, 15, and 3, and 2, as shown in the graph below.

Additionally, transfer pairs were analyzed by route. Almost half of the time passengers that answered the questions about transfers they selected the route they were already on without selecting another. After eliminating those responses, transfer pairs were charted, as shown in the second Q6 graph below. As indicated, Route 14 is most often part of a transfer pairing (31 passengers on Route 14 said they would be transferring), followed by Routes 2 and 15 (each with 14), and Route 8 with 17. Routes 3, 4, 14, 15, 17 and 20 were most often cited as routes passengers would include as part of their trip.

Q3 X Q4 - Major Origin/Destination Pairs

Excludes Stops with 1 Boarding or 1 Alighting

Alighting Stop																																																
Boarding Stop	20th and Fair		20th and Park		4th and Cedar		Burlap Ave.		Chico Mall		Chico State		Chico Transit Center		Downtown		East Ave.		Esplanade		Forest Ave.		Lassen Ave.		Mall		Oroville Transit Center		University Village		W Sac. & Victorian		Walmart		Grand Total (1)													
Total Survey Responses																																																
20th St.																																							2									
7th and Oak																																							2									
8th and Forest																																							2									
Ceres & Lassen																																							1	1	4							
Chico Mall																																							2									
Chico State																																							3	1	11							
Chico Transit Center		1	1																																						1	2	1	1	2	1	3	48
Costco																																							1	1	2							
Downtown																																							1	1	3							
E Lassen																																							2	2	2							
Esplanade																																							2	1	5							
Hickory																																							1	3	1	6						
Hickory 7th St																																							2	3	3							
Nord Ave																																							1	1	3							
Oroville Transit Center																																							1	3	3							
University Village																																							2	1	5							
W Sacramento																																							1	2	2							
Walmart																																							2	2	2							
Warner & Legion																																							1	1	2							
Grand Total (1)		2	3	5	2	3	10	55	6	2	3	2	2	3	3	3	5	2	7	213																												
Percent of Total Valid Surveys																																																
20th St.		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
7th and Oak		0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
8th and Forest		0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Ceres & Lassen		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%														
Chico Mall		0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Chico State		0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%														
Chico Transit Center		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	1%	0%	1%	0%	1%	0%	1%	0%	1%	0%	1%	0%	1%	0%	1%	23%														
Costco		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Downtown		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
E Lassen		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Esplanade		0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%														
Hickory		0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%														
Hickory 7th St		0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Nord Ave		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Oroville Transit Center		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
University Village		0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%														
W Sacramento		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Walmart		0%	0%	0%	0%	0%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Warner & Legion		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%														
Grand Total (1)		1%	1%	2%	1%	1%	5%	26%	3%	1%	1%	1%	1%	1%	1%	1%	1%	2%	1%	3%	100%																											
Note 1: Including Stops with 1 Boarding or 1 Alighting																																																



Q6: Route Transfer Pattern

Surveyed	Routes Included as Part of Planned Trip																		
Route	2	3	4	5	7	8	9	14	15	16	17	20	24	25	26	40	41	52	Total
2		1	3	1	0	0	0	3	2	0	1	2	1	0	0	0	0	0	14
3	0		3	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	6
4	0	1		0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	3
5	1	1	1		0	0	0	1	1	1	1	0	0	0	0	0	0	0	7
7	0	0	1	1		0	0	0	0	0	0	0	0	0	0	0	0	0	2
8	0	3	0	0	0		4	2	0	0	0	1	0	0	0	0	0	0	10
9	0	0	1	0	0	2		1	0	1	2	1	0	0	0	0	0	0	8
14	3	1	1	2	0	1	1		8	5	3	4	0	1	0	0	0	1	31
15	2	1	0	2	0	0	0	2		0	3	2	0	0	0	0	1	1	14
16	0	1	0	0	0	0	0	0	0		2	0	0	0	1	0	0	0	4
17	0	0	0	1	0	2	0	3	2	0		1	0	0	0	0	0	0	9
20	1	1	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	2
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Multiple	0	6	6	3	4	1	1	5	3	3	3	1	0	1	1	1	0	3	42
Total	7	16	16	10	4	7	7	18	16	10	15	13	1	2	4	1	2	5	154

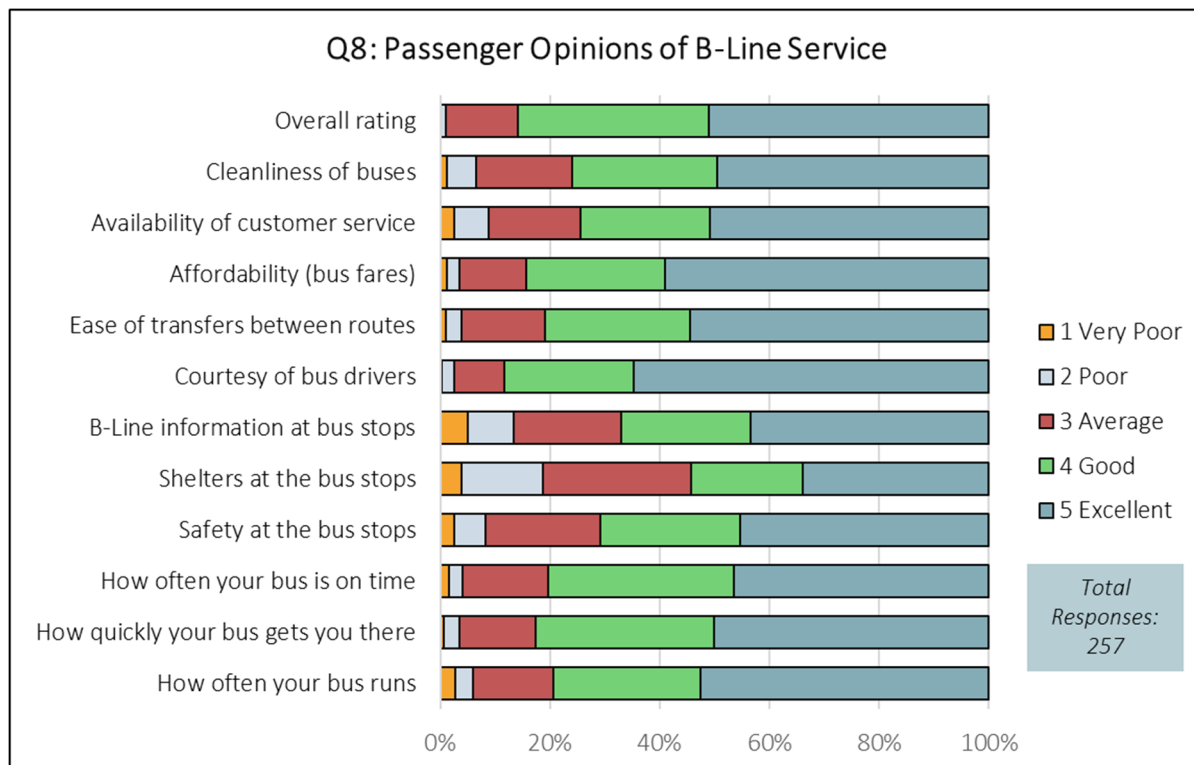
Q7: Trip purpose (269 Passengers

providing 350 responses): Respondents were asked to identify the purpose of their travel the day they completed the survey. Many people responded with more than one answer. School was the most common trip purpose listed by respondents (29 percent), followed by work (23 percent).

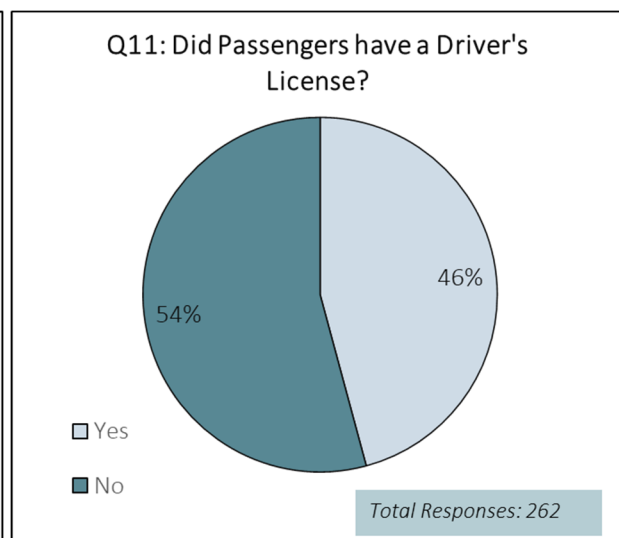
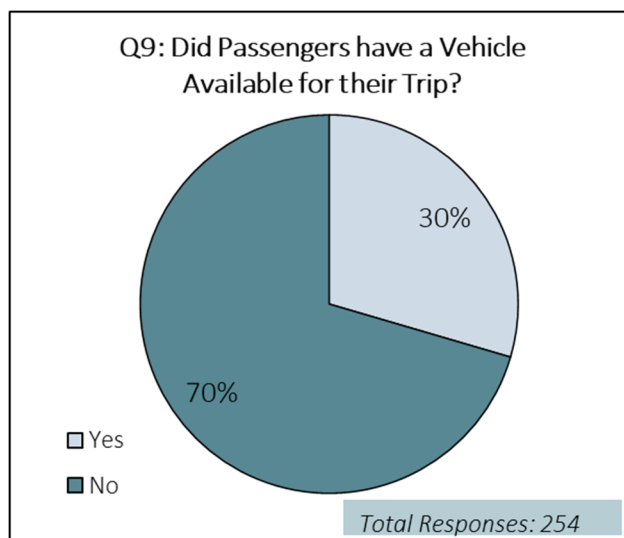
Q7: Trip Purpose

School	101	<div></div>	29%
Work	81	<div></div>	23%
Shopping	55	<div></div>	16%
Dental/Medical	12	<div></div>	3%
Recreation/Social	19	<div></div>	5%
Personal Errands	42	<div></div>	12%
Home	24	<div></div>	7%
Other	16	<div></div>	5%
Total responses	350	<div></div>	100%

Q8. Passenger opinions on B-Line service (325 responses): Passengers were asked to rate the B-Line service on a scale of 1 (poor) to 5 (excellent) on various service characteristics. Between 249 to 257 individuals ranked each factor. Considering all the responses, 78 percent of answers were either 4 (good) or 5 (excellent). The highest ranked B-Line service characteristics included bus driver courtesy (averaging 4.5) and affordability (4.4). The lowest ranked components were bus stops and shelters (3.7) and B-Line information at the bus stops (3.9).












Q9 and Q11. Alternative Vehicle (254 responses) and Driver's License (262 responses): Most passengers surveyed (70 percent) did not have an alternative vehicle available that they could have used for their trip. Slightly less than half of the respondents had a driver's license (46 percent).



Q10. How do passengers get information about B-Line services (493 responses):

People were asked how they get information on B-Line services. Many people responded with more than one answer; in total 253 people submitted 493 responses. The most common answer was that people check the B-Line website (28 percent of all responses) while the least common answer was checking B-Line social media for information (2 percent) and Token App (none).







Q10: How do passengers get information about B-Line services			
B-Line website	136		28%
By phone	69		14%
Word of mouth	43		9%
Printed schedules/maps	80		16%
Ask the driver	72		15%
B-Line Facebook/Twitter	9		2%
DoubleMap App	62		13%
MapMyBus	22		4%
Token Transit App	0		0%
Total responses	493		100%

Q12. Did passengers require a wheelchair lift to board or exit the bus (309 responses):

6 percent of respondents (21 individuals) reported that they require a wheelchair lift to board or exit the bus.

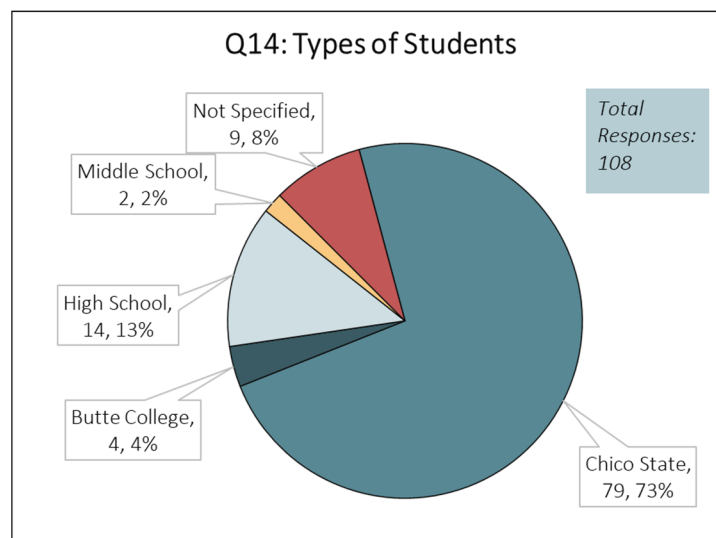
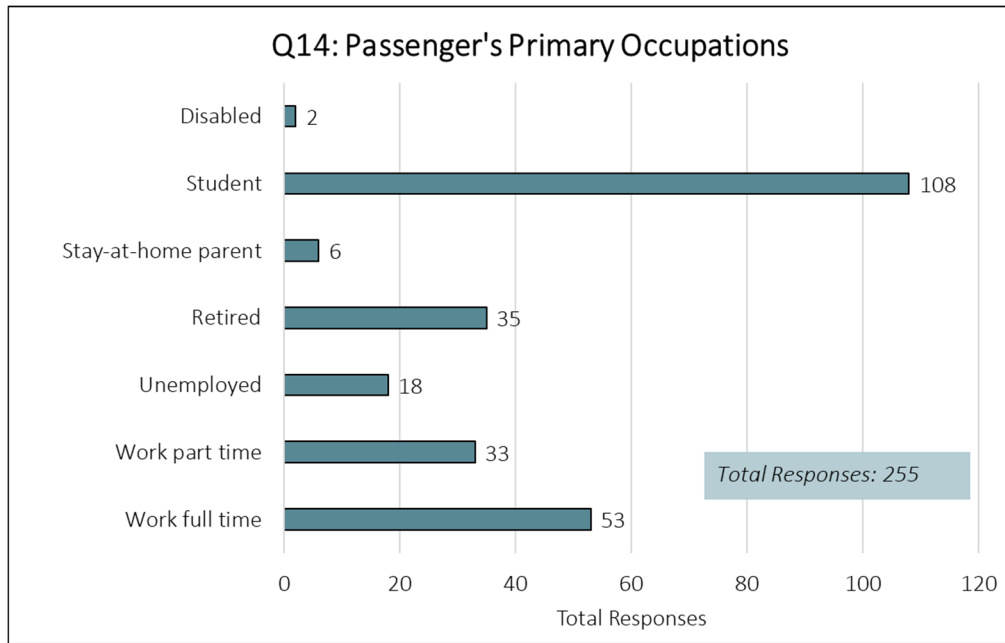
Q13. Age of respondents (258 responses):

Respondents were asked to check their age group from a list. 40 percent of respondents were between the ages of 25 to 61, 32 percent were between the ages of 19 to 24, and 12 percent were children ages 18 or younger. Only 2 percent of respondents were over the age of 75.

Q13: What is your age?			
18 or younger	30		12%
19 to 24	82		32%
25-61	104		40%
62-74	37		14%
75 or older	5		2%
Total responses	258		100%

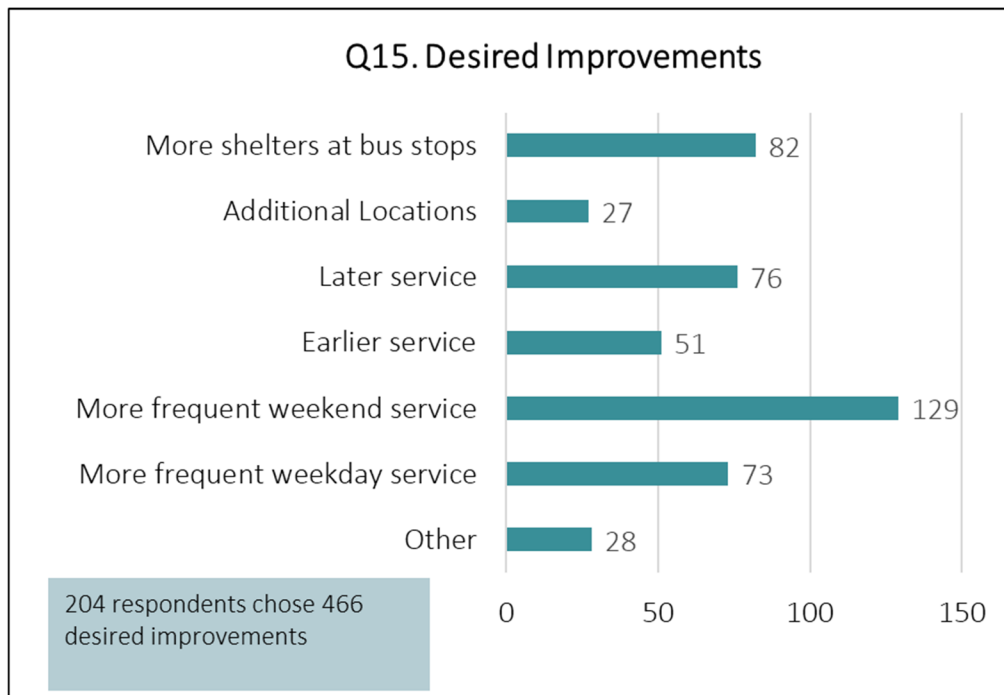
Q14. Passenger's occupations (255 responses):

To better understand the passengers utilizing B-Line services, passengers were asked to list their occupation. Among the choices, passengers could select "A Student" and further select which type. Additionally, passengers could select "Other" and explain their response. When selecting "other," many respondents listed themselves as a student, or provided multiple occupations. In all, 255 passengers responded, and 108 identified themselves as students. After students, 34 percent of passengers identified themselves as working full time or part time. Some students (19) who listed their status as students also said they worked. Among students, 79 (73 percent) were Chico State students, and 14 (13 percent) were high school students, with just 4 Butte College and 3 middle school students.



Q15. Desired improvements to B-Line service (204 Passengers, with 466 responses):

Passengers were asked to select which improvements to B-Line services (if implemented) would encourage them to ride the bus more often. A total of 204 passengers responded, with most selecting multiple desired improvements, totaling 466 responses. The improvement selected most often was “more frequent weekend service” (selected for 28 percent of all improvements), while more shelters at bus stops each accounted for 18 percent, and later service and more frequent weekday service each accounted for 16 percent of responses, and more frequent weekday service and of responses.



Question 15 responses were cross tabulated by route for each improvement category.

- The desire for **increased weekday frequency** was most often cited for Routes 8 and 17, followed by Routes 5 and 16. Route 8 is on 30-minute headways, while Routes 5, 16 and 17 are on hourly headways.
- For **increased weekend service**, passengers particularly wanted to see increased frequency on Routes 3, 8 and 14, followed by Routes 4 and 20. Route 3 operates on 60-minute headways on weekends, and Routes 8 and 9 do not operate weekends.
- **Earlier service** is desired most on Route 9, followed by Routes 4 and 20.
- **Later service** is desired most on Routes 14, 15 and 4.

Q15a: Desire for Increased Weekday Frequency, By Route

Route Surveyed	Routes for Which Increased Frequency is Desired																	Non specified	Total
	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9	Route 14	Route 15	Route 16	Route 17	Route 20	Route 24	Route 27	Route 32	All	Local Chico		
Route 2	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	1	6
Route 3	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	1	4
Route 4	1	0	0	0	2	0	0	0	0	0	0	0	0	1	1	0	0	1	6
Route 5	0	0	1	5	0	0	0	1	0	0	1	0	0	0	0	0	0	2	10
Route 7	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Route 8	0	1	0	0	0	4	0	1	0	0	1	0	0	0	0	0	0	2	9
Route 9	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	4	8
Route 14	1	1	2	2	0	0	0	3	2	2	2	0	0	0	0	2	0	2	19
Route 15	0	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	2	0	5
Route 16	0	1	1	0	0	0	0	0	2	3	0	0	0	0	0	0	0	1	8
Route 17	1	1	0	0	0	1	0	1	0	1	3	0	0	0	0	1	0	0	9
Route 20	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	2
Route 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Route 32	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Route 52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
Not Specified	1	0	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	9	13
Total	6	6	5	7	4	8	5	6	6	7	8	1	1	1	1	5	2	26	105
Percent	6%	6%	5%	7%	4%	8%	5%	6%	6%	7%	8%	1%	1%	1%	1%	5%	2%	25%	100%

Q15b: Desire for Increased Weekend Frequency, By Route

Route Surveyed	Routes for Which Increased Weekend Frequency is Desired																								
	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9	Route 14	Route 15	Route 16	Route 17	Route 20	Route 24	Route 25	Route 26	Route 27	Route 32	Route 40	Route 41	Route 52	Local Chico	To Oroville	Non Specified	All	Total
Route 2	2	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	1	3	0	10
Route 3	1	2	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	2	11
Route 4	2	1	3	0	2	0	0	1	1	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	14
Route 5	0	0	1	3	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	9
Route 7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2
Route 8	0	4	0	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	16
Route 9	0	1	1	0	0	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	21
Route 14	1	2	2	1	0	1	1	4	0	1	5	2	0	0	0	0	0	1	1	1	0	0	7	2	32
Route 15	0	1	0	0	1	0	0	1	5	1	2	2	1	1	1	1	0	0	0	0	2	1	3	1	24
Route 16	0	0	1	1	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	8
Route 17	1	1	0	1	0	1	0	2	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	10
Route 20	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	3
Route 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Route 25	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2
Route 27	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	4
Route 32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2
Route 41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Not Specified	2	4	3	1	1	2	1	2	0	0	0	3	2	2	1	1	0	2	2	0	0	0	5	0	34
Total	9	16	12	8	6	14	11	14	9	6	12	10	5	5	3	4	1	6	4	1	3	2	38	6	205
Percent Total	4%	8%	6%	4%	3%	7%	5%	7%	4%	3%	6%	5%	2%	2%	1%	2%	0%	3%	2%	0%	1%	1%	19%	3%	100%

Q15c: Desire for Earlier Service, By Route

Route Surveyed	Routes for Which Earlier Service is Desired																		
	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9	Route 14	Route 15	Route 16	Route 17	Route 20	Route 25	Route 26	Route 27	Route 30	Route 32	Non Specified	All
Route 2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Route 3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
Route 4	0	0	1	0	0	1	2	0	0	0	0	1	0	0	0	0	0	1	0
Route 5	1	0	1	1	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0
Route 7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Route 8	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0
Route 9	0	1	0	0	0	1	6	0	0	1	1	0	0	0	0	0	0	3	0
Route 14	1	1	2	0	1	0	1	2	2	1	0	0	0	0	0	0	0	3	1
Route 15	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	2	0
Route 16	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
Route 20	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0
Route 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0
Route 32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Not Specified	0	1	1	2	1	0	0	1	0	1	0	1	0	0	0	0	0	5	0
Total	2	4	6	3	3	4	9	3	5	5	1	6	1	1	3	1	1	17	1
Percent Total	3%	5%	8%	4%	4%	5%	12%	4%	6%	6%	1%	8%	1%	1%	4%	1%	1%	22%	1%

Q15d: Desire for Later Service, By Route

Route Surveyed	Routes for Which Later Service is Desired																		
	Route 2	Route 3	Route 4	Route 5	Route 7	Route 8	Route 9	Route 14	Route 15	Route 16	Route 17	Route 20	Route 32	Route 40	Route 41	Route 52	Non Specified	All	Total
Route 2	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	2	0	6
Route 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Route 4	1	1	1	0	1	0	1	1	1	1	1	1	0	0	0	0	1	0	11
Route 5	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	1	0	5
Route 7	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Route 8	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	1	0	3
Route 9	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	7	0	13
Route 14	2	2	3	1	0	0	0	7	2	1	4	1	0	1	1	1	3	1	30
Route 15	1	2	0	0	0	0	1	3	4	0	1	1	0	0	0	0	4	0	17
Route 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
Route 17	0	0	0	0	0	0	0	2	1	1	0	0	0	0	0	0	0	0	4
Route 20	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	2	0	3
Route 32	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Not Specified	1	1	2	1	0	1	1	0	1	0	0	1	0	0	2	0	5	0	16
Total	6	6	8	5	2	3	8	14	9	3	6	6	1	2	3	1	29	1	113
Percent Total	5%	5%	7%	4%	2%	3%	7%	12%	8%	3%	5%	5%	1%	2%	3%	1%	26%	1%	100%

In Question 15, passengers also listed locations which would encourage them to use transit more often. Results are in the table below. Sacramento was most often requested, and specifically the Sacramento International Airport.

Q15e: Desire for Service to Other Locations	
Route Surveyed	Location a bus is desired
5	20th and NVP
14	7th Day Adventist Church
2	Bidwell Park One-Mile Area
9	Colusa
14	Comanche Creek
7	Direct trip to VA Clinic
2 & 7	down Valinberosa
14	Entler Ave
20	Home Depot Oroville
2	I like to see #25 & #27 as one round trip
2 & 41	Magalia
14 & 17	Oasis Bar & Grill (College)
14	Red Bluff
2 & 14	Redding or Red Bluff
9	Ross Stores
3	Concow
3	Sacramento
17	Sacramento
17	Sacramento Airport
20	Sacramento Airport
9	Sacramento International Airport & Sacramento
14	Sacramento International Airport & Sacramento
4	The mall from East Ave.
14	Yuba City
32	Yuba City (Rideout Hospital)

Passengers also indicated that they would like to see more shelters at bus stops and included some specific locations. Route 14 had the most passengers making this request, followed by Route 19.

Q15f: Desire for More Shelters			
Route Surveyed	Location a bus is desired	Responses	
		No.	Percent
2	Clinic	1	1%
2	Non-specified	7	9%
3	Non-specified	2	2%
4	Non-specified	6	7%
5	Non-specified	4	5%
7	Non-specified	2	2%
8	Non-specified	4	5%
9	Non-specified	9	11%
14	Non-specified	16	20%
15	Non-specified	7	9%
16	Non-specified	3	4%
17	Non-specified	3	4%
24	Non-specified	1	1%
27	Non-specified	1	1%
32	Non-specified	1	1%
52	Non-specified	1	1%
Multiple	Non-specified	8	10%
Non-specified	Non-specified	1	1%
8	Near the WREC by West 2nd & Cherry	1	1%
16	Esplanade & Eaton	1	1%
20	Mangrove Round Table south	1	1%
20	Montgomery and table mountain	1	1%
3	More shelters at stops. Add an emergency button for 911 or security	1	1%
		82	100%

Q16. Additional Comments (57 responses): Additional comments were separated into three categories: complaints, compliments, and suggestions, as shown in the table below. Driver compliments were very common. Common recommendations included to improve bus shelters and their design, implement bus service to Sacramento (specifically the airport), and running buses earlier, later, and on Sunday.

Q16: Survey Comments

Surveyed			
	Route	Topic	Comments
Complaint	8	Bus stop	Not always coverings available at stops
	14	Driver	Sometimes drivers aren't nice. No one answered complaints.
	4	On-time	4 usually late at 4:10 and 5:10
	3, 4, 41	Policy	Drivers should let paying riders sit on bus if bus get there early to wait to leave, especially in poor
	20	Schedule	I am a Oroville to Chico commuter utilizing the Oroville park and ride. I can't leave work early spontaneously early since the stop is not on the regular schedule.
Compliment	4	Schedule	40-41 sucks I have . . . and usually have to walk in hot or very cold wet weather 3-4 hours after
	8	Driver	Two survey respondents (2) complimented driver on this route
	14	Driver	Six survey respondents (6) complimented driver on this route
	16	Driver	One survey respondent (1) complimented drivers on this route
	17	Driver	Five survey respondents (5) complimented drivers on this route
	7	Fares	The Token Transit app is a life-saver!
	4	General	The buses have been cleaner recently and staff is kind.
	9	General	Bus is great transportation
	9	General	Excellent
	9	General	I use it Mon-Fri. It's been awesome!
	14	General	Overall the B-Line is great and getting to work earlier than walking 40 minutes.
	15	General	As of Fall 2021, I've had a good, reliable mobility....Thank you, and good job!
	5	Gratitude	Thank you for the great service.
	7	Gratitude	Thank you
	8	Gratitude	Thank you!!
	14	Gratitude	Thank you very much!
	30	Schedule	Route 30 then 26 very little down time between bus and that is a good thing
Suggestion	3	Area Served	Need route to Concow and SAC
	9	Area Served	It would be great if a bus could come to Pomona Ave.
	14	Area Served	I hope that we can go to Sacramento & Sacramento International Airport
	20	Area Served	Please establish route to SAC Airport. THX Oroville Public Works is in dire need of repair.
	Multiple	Area Served	Hire a bus service to Sacramento.
	2	Bus stop	The transit center needs benches where 8 & 9c stop
	15	Bus stop	Enclosed shelters
	15	Bus stop	Put bus stop marker at Thrifty Bargain
	2, 14	Bus stop	Bus stop needs metal instead of plexiglass covers for shelters.
	2, 7	Bus stop	Lights at bus stops for the drive to see the rider.
	14	Buses, Fares	(Condensed) Cleaner buses. Cheaper--I'm homeless and unemployed and it's hard to afford. Would ride more if fares lowered.
	9	General	Fix bus route roads!!
	9	General	Volunteer riders club to help post schedules and clean up.
	20	General	Fix the bus route roads!
	20	Info, fares	More comment slips, schedules on bus
	3	Policy	Drivers should always kneel bus
	2	Schedule	Please look into making 25-27 as one round trip
	5, 15	Schedule	Want the half-hour 5 back
	3	Service Span	Add a bus route for Friday afternoon/evening that combines cedar loop and Nord Ave stops for
	9	Service Span	The 9 should run fully I need it 24/7.
	14	Service Span	Need weekend route Sunday
	14	Service Span	Sunday buses can't do any errands without bus
	2, 41	Service Span	Additional runs on Saturday and Sunday. Later service during week.
	Numerous	Service Span	I think all buses should run on Sundays

Focused Survey Results – Oroville

To better understand the perspectives of B-Line riders outside the City of Chico, a focused analysis was completed on the 7 surveys submitted by riders who reported that they were either on or had recently ridden a local Oroville route (Routes 24, 25, 26, 27). This limited sample indicates the following:

- Most (5 of 7) were students, while 1 works full time and 1 is retired.
- Most (5 of 7) did not have a car available or a driver's license.
- Most got their information from the website or the Double-Map app.
- Most (6 of 7) did not transfer as part of their trip.
- Average ranking of overall B-Line service was good at 4.3 out of a scale of 1 to 5.
- As with all other respondents, the Oroville passengers were asked which potential improvements to B-Line service would encourage them to ride the bus more frequently. 6 of the 7 individuals said they would prefer more frequent weekend service, and the routes suggested were Routes 3, 4, and 9. One-third of the Oroville respondents reported that they desired earlier service (weekends; Tuesday/Thursday on Route 9), later service (weekends; weekends on Routes 9, 14), and more shelters. Comparatively, only 1 respondent said they would prefer more frequent weekday service, and no one expressed a desire for buses to new locations.

Comparison to Survey Results from 2021 Transit and Non-Motorized Plan

As a part of the community engagement efforts for the 2021 *Transit and Non-Motorized Plan* for Butte County, an on-board passenger survey was available to B-Line passengers during the fall of 2019. This prior survey effort, hereafter the 2019 survey, generated 85 total responses. This total is far less than the survey effort for the Butte Route Optimization Study, hereafter the 2021 survey, which generated 280 responses. The findings from the 2019 and 2021 surveys were compared to determine if B-Line ridership trends and passenger opinions had remained similar over time or if they had changed.

Both the 2019 and 2021 surveys found that a large number of B-Line passengers are transit dependent; in 2019, 84 percent of respondents reported that they did not have a car available to them versus 70 percent of respondents in 2021. 46 percent of respondents to the 2021 survey said they do not have their driver's license, while 39 percent of respondents to the 2019 survey said the B-Line is their only transportation option. These data points indicate that a substantial portion of B-Line ridership continues to be made up of transit-dependent individuals.

In both surveys passengers were asked to rate the B-Line service on a scale of 1 (poor) to 5 (excellent) on various service characteristics. Overall, B-Line passengers approved of the transit service, providing the overall service a rating of 3.95 in 2019 and 4.20 in 2021. Bus driver courtesy was the highest ranked factor in both surveys (4.2 and 4.5), and bus stop shelters were the lowest ranked in both survey efforts (3.1 and 3.7). This data demonstrates that passenger opinions regarding B-Line service have remained consistent over time.

In both surveys passengers were asked to rate the B-Line service on a scale of 1 (poor) to 5 (excellent) on various service characteristics. Overall, B-Line passengers approved of the transit service, providing the overall service a rating of 3.95 in 2019 and 4.20 in 2021. Bus driver courtesy was the highest ranked factor in both surveys (4.2 and 4.5), and bus stop shelters were the lowest ranked in both survey efforts (3.1 and 3.7). This data demonstrates that passenger opinions regarding B-Line service have remained consistent over time.

Appendix E
B-LINE ON-TIME PERFORMANCE

B-LINE ON-TIME PERFORMANCE

On-Time Performance by Route

The attached tables are summary data of schedule adherence for each route. The data was recorded on weekdays in February 2020. This data tracks actual service times at key scheduled stops along each route. The data reflects arrival times (other than the route start, for which departure times are used); therefore, many observations were recorded as “early” when in practice, a route is not considered early unless it departs a stop before the published scheduled time. This analysis does not therefore evaluate early departures (which are considered a problem for schedule adherence) as such data is lacking. Instead, the data considers early arrivals as on-time. Service is considered late if the bus arrives or departs five to fifteen minutes past the published, scheduled time, or very late if arrivals or departures are over fifteen minutes past the published, scheduled time. This data is referenced in the Route Profiles (Appendix B) as well, which categorizes on-time performance as follows:

- Very good: late 5% of the time or less
- Good: late 5-15% of the time
- Fair: late 15-20% of the time
- Poor: late 20-30% of the time
- Very poor: late 30% of the time or more

Below is a list of included tables:

Summary of Observed On-Time Performance and Running Time: Route 2 – Mangrove

Summary of Observed On-Time Performance and Running Time: Route 3 – Nord/East

Summary of Observed On-Time Performance and Running Time: Route 4 – First/East

Summary of Observed On-Time Performance and Running Time: Route 5 – E. 8th Street

Summary of Observed On-Time Performance and Running Time: Route 7 – Bruce/Manzanita

Summary of Observed On-Time Performance and Running Time: Route 8 – Nord

Summary of Observed On-Time Performance and Running Time: Route 9 – Warner/Oak

Summary of Observed On-Time Performance and Running Time: Route 9c – Cedar Loop

Summary of Observed On-Time Performance and Running Time: Route 14 – Park/Forest/MLK

Summary of Observed On-Time Performance and Running Time: Route 15 – Esplanade/Lassen

Summary of Observed On-Time Performance and Running Time: Route 16 – Esplanade/SR 99

Summary of Observed On-Time Performance and Running Time: Route 17 – Park/MLK/Forest

Summary of Observed On-Time Performance and Running Time: Route 20 – Chico-Oroville

Summary of Observed On-Time Performance and Running Time: Route 24 – Thermalito

Summary of Observed On-Time Performance and Running Time: Route 25 – Oro Dam

Summary of Observed On-Time Performance and Running Time: Route 26 – Olive Highway

Summary of Observed On-Time Performance and Running Time: Route 27 – South Oroville

Summary of Observed On-Time Performance and Running Time: Route 30 - Oroville – Biggs

Summary of Observed On-Time Performance and Running Time: Route 32 – Gridley - Chico

Summary of Observed On-Time Performance and Running Time: Route 40 – Paradise-Chico

Summary of Observed On-Time Performance and Running Time: Route 41 – Paradise Pines – Chico

Summary of Observed On-Time Performance and Running Time: Route 52 – Chico Airport Express

Summary of Observed On-Time Performance and Running Time: Route 2 - Mangrove

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
North bound	Transit Center 2nd & Salem	Dep	317	5	301	11	0	2%	95%	3%	0%
	Mangrove Ave & 5th	Arr	311	103	189	19	0	33%	61%	6%	0%
	Rio Lindo & Parmac	Arr	309	119	168	22	0	39%	54%	7%	0%
	North Valley Plaza	Arr	311	42	216	53	0	14%	69%	17%	0%
	Ceres & Lassen	Arr	253	81	135	37	0	32%	53%	15%	0%
Subtotal			1501	350	1009	142	0	23%	67%	9%	0%
South bound	Ceres & Lassen	Dep	292	156	117	19	0	53%	40%	7%	0%
	North Valley Plaza	Arr	291	66	199	26	0	23%	68%	9%	0%
	Rio Lindo & Parmac	Arr	293	77	179	36	1	26%	61%	12%	0%
	Mangrove & 5th	Arr	289	33	192	63	1	11%	66%	22%	0%
	Transit Center 2nd & Salem	Arr	255	168	68	18	1	66%	27%	7%	0%
Subtotal			1420	500	755	162	3	35%	53%	11%	0%
Total			2921	850	1764	304	3	29%	60%	10%	0%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour																90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	
North bound	Mangrove Ave & 5th	7	7	-	6	7	7	6	7	8	8	8	7	9	7	9	7	5	5	9
	Rio Lindo & Parmac	5	4.2	-	-	5	4	4	5	4	4	5	4	5	4	4	3	4	3	5
	North Valley Plaza	4	4.8	-	-	4	5	5	5	5	6	5	5	5	5	5	4	5	4	5
	Ceres & Lassen	8	8	-	-	6	13	6	8	8	0	8	13	7	6	0	7	7	6	13
South bound	North Valley Plaza	6	8.6	-	5	11	11	13	6	7	12	7	6	8	11	11	6	5	-	12
	Rio Lindo & Parmac	5	4.5	-	4	6	5	4	4	4	5	5	5	4	5	4	4	3	-	5
	Mangrove & 5th	3	3.3	-	3	3	4	3	3	4	3	3	4	3	4	3	3	3	-	4
	Transit Center 2nd & Salem	11	7	-	7	8	7	6	7	8	9	8	8	0	7	8	6	7	6	8

Summary of Observed On-Time Performance and Running Time: Route 3 - Nord/East

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
North bound	Transit Center 2nd & Salem	Dep	305	48	218	36	3	16%	71%	12%	1%
	Nord & W 8th Ave	Arr	298	35	198	48	17	12%	66%	16%	6%
	East & Nord	Arr	299	14	206	61	18	5%	69%	20%	6%
	East & Esplanade	Arr	298	15	192	73	18	5%	64%	24%	6%
	North Valley Plaza	Arr	300	52	141	89	18	17%	47%	30%	6%
	Subtotal		1500	164	955	307	74	11%	64%	20%	5%
South bound	North Valley Plaza	Dep	351	3	276	71	1	1%	79%	20%	0%
	East Ave & Esplanade	Arr	350	43	212	87	8	12%	61%	25%	2%
	East & Nord	Arr	349	48	211	82	8	14%	60%	23%	2%
	Nord & W 8th Ave	Arr	352	82	186	77	7	23%	53%	22%	2%
	Transit Center 2nd & Salem	Arr	325	95	155	72	3	29%	48%	22%	1%
	Subtotal		1727	271	1040	389	27	16%	60%	23%	2%
Total			3227	435	1995	696	101	13%	62%	22%	3%

Running Time From Previous Stop (Min)			Scheduled Time	Average Total	Average By Hour																90th Percentile
					5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM
North bound	Nord & W 8th Ave	9	11		10	8	10	10	10	12	12	13	14	12	11	16	11	11	10	-	14
	East & Nord	2	2.3		-	2	2	3	3	2	2	2	3	2	2	2	2	2	2	-	3
	East & Esplanade	5	4		-	4	4	4	4	5	6	5	4	5	4	4	3	4	4	-	5
	North Valley Plaza	5	5		-	5	5	4	4	5	5	5	5	5	5	4	4	4	4	-	5
South Bound	East Ave & Esplanade	5	6		4	5	5	6	5	6	6	6	7	8	8	7	4	4	4	-	8
	East & Nord	5	4.1		4	5	4	4	4	4	4	4	4	4	4	4	4	4	3	-	4
	Nord & W 8th Ave	3	2.4		2	3	3	2	3	2	2	2	2	2	2	2	2	3	2	-	3
	Transit Center 2nd & Salem	9	8		6	10	8	8	9	8	8	10	8	8	7	8	8	7	7	10	10

Summary of Observed On-Time Performance and Running Time: Route 4 - First/East

Weekdays in Month of February, 2020

On-Time Performance		Number of Observations						% of Total Observations			
		Dep/Arr	Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
North bound	Transit Center 2nd & Salem	Dep	339	5	304	29	1	1%	90%	9%	0%
	Chico Jr High School	Arr	334	14	295	25	0	4%	88%	7%	0%
	First & Longfellow	Arr	331	79	181	69	2	24%	55%	21%	1%
	Pleasant Valley High School	Arr	331	12	213	100	6	4%	64%	30%	2%
	North Valley Plaza	Arr	334	123	114	92	5	37%	34%	28%	1%
Subtotal			1669	233	1107	315	14	14%	66%	19%	1%
South bound	North Valley Plaza	Dep	339	6	277	47	9	2%	82%	14%	3%
	Manzanita Ave & Marigold Ave	Arr	340	25	221	78	16	7%	65%	23%	5%
	First & Longfellow	Arr	339	43	204	77	15	13%	60%	23%	4%
	Chico Jr High School	Arr	339	79	154	88	18	23%	45%	26%	5%
	Transit Center 2nd & Salem	Arr	300	130	92	60	18	43%	31%	20%	6%
Subtotal			1657	283	948	350	76	17%	57%	21%	5%
Total			3326	516	2055	665	90	16%	62%	20%	3%

Running Time From Previous Stop (Min)			Scheduled Time	Average Total	Average By Hour																90th Percentile
					5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	
North bound	Chico Jr High School	4	4		3	4	3	4	4	4	4	4	4	4	4	4	3	3	-	4	
	First & Longfellow	6	6.5		-	5	7	6	6	6	6	7	6	10	8	10	6	5	5	10	
	Pleasant Valley High School	3	4		-	5	4	4	4	4	4	4	4	4	4	4	4	4	-	4	
	North Valley Plaza	12	10		-	10	10	10	10	10	11	11	11	10	11	11	10	9	8	8	11
South Bound	Manzanita Ave & Marigold Ave	9	10		8	12	11	9	11	10	10	10	13	12	10	10	10	10	9	12	
	First & Longfellow	4	2.9		3	3	3	3	3	3	3	3	3	4	3	3	2	2	3	2	
	Chico Jr High School	6	5.5		4	5	5	5	5	6	6	6	6	6	6	6	5	5	5	6	
	Transit Center 2nd & Salem	6	5		5	5	4	4	5	4	5	5	5	6	4	1	7	4	4	6	

Summary of Observed On-Time Performance and Running Time: Route 5 - E. 8th Street

Weekdays in Month of February, 2020

On-Time Performance			Number of Observations					% of Total Observations			
			5-15 15+					5-15 15+			
			On	On	Min	Min	On	Min	Min	Min	
		Dep/Arr	Total	Early	Time	Late	Late	Early	Time	Late	Late
West bound	Forest Xfer (Bank)	Dep	373	15	288	69	1	4%	77%	18%	0%
	8th Street & Forest	Arr	376	182	147	47	0	48%	39%	13%	0%
	E 8th St & Hwy 32	Arr	366	146	187	33	0	40%	51%	9%	0%
	8th Street & Olive	Arr	372	95	242	35	0	26%	65%	9%	0%
	Transit Center 2nd & Salem	Arr	355	235	96	24	0	66%	27%	7%	0%
	Subtotal		1842	673	960	208	1	37%	52%	11%	0%
East bound	Transit Center 2nd & Salem	Dep	347	137	206	4	0	39%	59%	1%	0%
	9th Street & Pine	Arr	357	57	269	31	0	16%	75%	9%	0%
	Fir Street Park & Ride	Arr	355	77	244	34	0	22%	69%	10%	0%
	E 8th St & Forest	Arr	357	25	287	43	2	7%	80%	12%	1%
	Forest Xfer (Bank)	Arr	354	94	197	62	1	27%	56%	18%	0%
	Subtotal		1770	390	1203	174	3	22%	68%	10%	0%
Total			3612	1063	2163	382	4	29%	60%	11%	0%

Running Time From Previous Stop (Min)			Scheduled Time	Average Total	Average By Hour																90th Percentile
					5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	
West bound	8th Street & Forest		11	9		9	9	9	9	9	9	10	9	10	9	9	8	8	8	0	10
	E 8th St & Hwy 32		4	3.9		4	5	4	4	4	3	3	3	3	3	5	4	5	5	0	5
	8th Street & Olive		3	3		3	3	4	3	4	3	4	3	3	3	3	3	3	3	0	4
	Transit Center 2nd & Salem		7	5		5	5	5	5	5	5	5	5	5	5	5	6	5	5	4	5
East Bound	9th Street & Pine		7	11		7	13	13	8	9	12	14	10	8	8	13	16	9	11	9	14
	Fir Street Park & Ride		3	2.3		2	2	3	2	2	2	3	2	2	2	2	2	2	2	2	3
	E 8th St & Forest		3	3		0	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Forest Xfer (Bank)		11	11		0	9	10	10	11	12	13	11	12	11	11	11	10	10	10	12

Summary of Observed On-Time Performance and Running Time: Route 7 - Bruce/Manzanita

Weekdays in Month of February, 2020

On-Time Performance				Number of Observations					% of Total Observations			
			Dep/Arr	5-15		15+		5-15		15+		
				Total	Early	On Time	Min Late	Min Late	On Time	Min Late	Min Late	
North bound	North BC Courthouse	Dep	148	2	128	18	0	1%	86%	12%	0%	
	Marsh Jr High	Arr	156	60	77	19	0	38%	49%	12%	0%	
	Pleasant Valley High School	Arr	156	111	43	2	0	71%	28%	1%	0%	
	Ceres & Lassen	Arr	157	92	63	2	0	59%	40%	1%	0%	
	Subtotal		617	265	311	41	0	43%	50%	7%	0%	
South bound	Lassen & Ceres	Dep	124	1	102	21	0	1%	82%	17%	0%	
	Pleasant Valley HS	Arr	138	45	80	13	0	33%	58%	9%	0%	
	Marsh Jr High	Arr	136	50	76	10	0	37%	56%	7%	0%	
	North BC Courthouse	Arr	137	27	74	36	0	20%	54%	26%	0%	
	Subtotal		535	123	332	80	0	23%	62%	15%	0%	
Total			1152	388	643	121	0	34%	56%	11%	0%	

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour																	90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM		
North bound	Marsh Jr High	7	6	-	6	7	6	-	-	6	-	-	-	5	6	6	-	-	-	6	
	Pleasant Valley High School	12	8	-	-	8	8	8	-	-	9	-	-	8	9	8	-	-	-	9	
	Ceres & Lassen	6	5	-	-	5	5	6	-	-	6	-	-	5	5	5	-	-	-	6	
South Bound	Pleasant Valley HS	7	6	-	-	6	6	6	-	-	5	-	6	6	6	-	-	-	-	6	
	Marsh Jr High	9	7.5	-	-	9	7	7	-	-	7	-	8	8	7	-	-	-	-	8	
	North BC Courthouse	9	10	-	-	10	8	9	-	-	10	-	-	12	10	10	-	-	-	10	

Summary of Observed On-Time Performance and Running Time: Route 8 - Nord

Weekdays in Month of February, 2020

On-Time Performance		Number of Observations						% of Total Observations			
		Dep/Arr	Total	Early	On		Late	5-15			
					Time	Min		Min	On	Min	15+
Loop	Transit Center 2nd & Normal	Dep	423	13	369	39	2	3%	87%	9%	0%
	W Sac & Nord	Arr	437	176	220	38	3	40%	50%	9%	1%
	Nord at Univ Village Apts	Arr	440	187	222	28	3	43%	50%	6%	1%
	Warner & W Sac	Arr	434	100	280	50	4	23%	65%	12%	1%
	Transit Center 2nd & Normal 2	Arr	408	156	202	49	1	38%	50%	12%	0%
	<i>Subtotal</i>		<i>2142</i>	<i>632</i>	<i>1293</i>	<i>204</i>	<i>13</i>	<i>30%</i>	<i>60%</i>	<i>10%</i>	<i>1%</i>
Total			2142	632	1293	204	13	30%	60%	10%	1%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour																90th	
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	Percentile
Loop	W Sac & Nord	8	7			6	6	6	6	6	8	7	7	8	8	9	8	6	7	6	8
	Nord at Univ Village Apts	6	4.9			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
	Warner & W Sac	4	3.7			5	3	3	3	3	4	4	4	4	4	4	4	3	3	4	4
	Transit Center 2nd & Normal 2	6	5			6	5	5	5	4	5	5	5	5	5	5	4	4	4	4	5

Summary of Observed On-Time Performance and Running Time: Route 9 - Warner/Oak

Weekdays in Month of February, 2020

On-Time Performance			Number of Observations					% of Total Observations			
					5-15 Min	15+ Min			5-15 Min	15+ Min	
		Dep/Arr	Total	Early	On Time	Late	Late	Early	On Time	Late	Late
North bound	Transit Center 2nd & Normal	Dep	431	8	272	144	7	2%	63%	33%	2%
	4th Ave & Cedar	Arr	434	27	225	174	8	6%	52%	40%	2%
	Transit Center 2nd & Normal 2	Arr	400	33	163	188	16	8%	41%	47%	4%
	Subtotal		1265	68	660	506	31	5%	52%	40%	2%
South bound	4th Ave & Cedar	Arr	20	0	19	1	0	0%	95%	5%	0%
	Transit Center 2nd & Normal 2	Arr	19	1	17	1	0	5%	89%	5%	0%
	Subtotal		39	1	36	2	0	3%	92%	5%	0%
West bound	Transit Center 2nd & Normal	Dep	434	25	323	82	4	6%	74%	19%	1%
	Hickory & 7th St	Arr	430	85	269	73	3	20%	63%	17%	1%
	Transit Center 2nd & Normal 2	Arr	427	30	276	118	3	7%	65%	28%	1%
	Subtotal		1291	140	868	273	10	11%	67%	21%	1%
Total			2595	209	1564	781	41	8%	60%	30%	2%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour																		90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	10 PM	
North bound	4th Ave & Cedar	8	9			0	7	8	8	9	9	8	10	10	8	10	8	8	8	7	10	10
	Transit Center 2nd & Normal 2	8	8			0	8	8	8	7	9	8	8	8	7	8	7	7	6	7	6	9
South bound	Transit Center 2nd & Normal 2	8	9			9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
West Bound	Hickory & 7th St	6	6			5	5	6	5	5	0	6	6	6	6	6	6	6	6	6	0	6
	Transit Center 2nd & Normal 2	5	5.2			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	0	5

Summary of Observed On-Time Performance and Running Time: Route 9c - Cedar Loop

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	5-15		15+	Early	5-15		15+
					On	Min			On	Min	
				Time	Late	Late		Time	Late	Late	
Loop	Transit Center 2nd & Normal	Dep	11	1	10	0	0	9%	91%	0%	0%
	4th Ave & Cedar	Arr	12	4	8	0	0	33%	67%	0%	0%
	Transit Center 2nd & Salem	Arr	9	5	4	0	0	56%	44%	0%	0%
	<i>Subtotal</i>		32	10	22	0	0	31%	69%	0%	0%
Total			32	10	22	0	0	31%	69%	0%	0%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour																90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM
Loop	4th Ave & Cedar	7	8													8	8		8	8
	Transit Center 2nd & Salem	7	5.7													9	4		4	4

Summary of Observed On-Time Performance and Running Time: Route 14 - Park/Forest/MLK

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
Loop	Transit Center 2nd & Salem	Dep	458	7	440	9	2	2%	96%	2%	0%
	20th St & Park	Arr	455	169	267	17	2	37%	59%	4%	0%
	Forest Xfer (WalMart)	Arr	489	135	277	73	4	28%	57%	15%	1%
	E Park & MLK	Arr	488	151	220	112	5	31%	45%	23%	1%
	20th St & Park 2	Arr	487	78	271	126	12	16%	56%	26%	2%
	Transit Center 2nd & Salem 2	Arr	406	159	133	98	16	39%	33%	24%	4%
	<i>Subtotal</i>		2783	699	1608	435	41	25%	58%	16%	1%
Total			2783	699	1608	435	41	25%	58%	16%	1%

Running Time From Previous Stop (Min)	Scheduled Time	Average Total	Average By Hour																	90th Percentile
			5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	9 PM	
20th St & Park	7	6		5	6	6	6	7	7	6	7	6	7	7	7	6	7	5	5	7
Forest Xfer (WalMart)	7	8		-	5	6	7	7	9	10	9	9	9	8	9	7	8	6	6	9
E Park & MLK	6	5		4	4	5	5	5	6	7	6	6	5	5	6	5	6	4	9	7
20th St & Park 2	6	7		6	6	6	7	7	7	8	7	7	7	7	7	5	6	5	4	7
Transit Center 2nd & Salem 2	9	6.9		5	8	7	7	5	8	8	8	8	7	7	7	6	6	5	6	8

Summary of Observed On-Time Performance and Running Time: Route 15 - Esplanade/Lassen

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
North bound	Transit Center 2nd & Salem	Dep	452	6	438	8	0	1%	97%	2%	0%
	Esplanade & 5th Ave	Arr	445	96	337	12	0	22%	76%	3%	0%
	Esplanade & East Ave	Arr	444	49	329	66	0	11%	74%	15%	0%
	Lassen & Cohasset	Arr	443	51	254	136	2	12%	57%	31%	0%
	Ceres & Lassen	Arr	434	98	224	111	1	23%	52%	26%	0%
	Subtotal		2218	300	1582	333	3	14%	71%	15%	0%
South bound	Ceres & Lassen	Dep	464	19	339	105	1	4%	73%	23%	0%
	Lassen & Cohasset	Arr	460	109	265	85	1	24%	58%	18%	0%
	Esplanade & East	Arr	462	46	292	123	1	10%	63%	27%	0%
	Esplanade & 5th Ave	Arr	464	14	263	178	9	3%	57%	38%	2%
	Transit Center 2nd & Salem	Arr	358	71	157	126	4	20%	44%	35%	1%
	Subtotal		2208	259	1316	617	16	12%	60%	28%	1%
Total			4426	559	2898	950	19	13%	65%	21%	0%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour																90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	
North bound	Esplanade & 5th Ave	7	7	6	6	6	6	7	7	7	7	7	8	7	6	7	6	7	5	7
	Esplanade & East Ave	5	6	0	5	6	6	6	7	7	7	6	7	7	7	5	5	5	4	7
	Lassen & Cohasset	5	6	0	5	6	5	6	6	7	8	6	7	7	7	6	5	5	5	7
	Ceres & Lassen	7	6	0	6	6	6	5	6	6	6	5	6	5	6	5	5	9	4	6
South Bound	Lassen & Cohasset	2	1	1	1	2	1	1	2	1	2	2	2	1	1	1	1	1	0	2
	Esplanade & East	5	6	6	7	6	6	6	7	6	7	6	6	5	6	5	5	4	0	7
	Esplanade & 5th Ave	5	5	4	5	5	5	5	6	5	6	5	5	5	5	5	5	4	0	6
	Transit Center 2nd & Salem	8	7	7	8	8	7	7	8	7	7	7	7	7	7	5	7	6	0	8

Summary of Observed On-Time Performance and Running Time: Route 16 - Esplanade/SR 99

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
North bound	Transit Center 2nd & Salem	Dep	235	5	223	7	0	2%	95%	3%	0%
	Esplanade & 5th Ave	Arr	233	71	156	6	0	30%	67%	3%	0%
	Rio Lindo & Parmac	Arr	234	78	145	11	0	33%	62%	5%	0%
	Esplanade & East Ave	Arr	234	25	175	33	1	11%	75%	14%	0%
	Esplanade & Hwy 99	Arr	226	13	113	92	8	6%	50%	41%	4%
	<i>Subtotal</i>		1,162	192	812	149	9	17%	70%	13%	1%
South bound	Esplanade & Hwy 99	Dep	233	7	122	96	8	3%	52%	41%	3%
	Esplanade & East	Arr	235	7	97	119	12	3%	41%	51%	5%
	Rio Lindo & Parmac	Arr	231	20	94	106	11	9%	41%	46%	5%
	Esplanade & 5th Ave	Arr	234	11	87	114	22	5%	37%	49%	9%
	Transit Center 2nd & Salem	Arr	181	8	66	85	22	4%	36%	47%	12%
	<i>Subtotal</i>		1,114	53	466	520	75	5%	42%	47%	7%
Total			2,276	245	1,278	669	84	11%	56%	29%	4%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour														90th	
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	Percentile
North bound	Esplanade & 5th Ave	7	7			6	6	6	6	7	7	7	7	8	7	7	6	0	7
	Rio Lindo & Parmac	7	7			7	6	7	6	7	7	6	7	7	7	6	7	0	7
	Esplanade & East Ave	3	4			4	4	4	4	4	4	4	5	5	5	4	4	0	5
	Esplanade & Hwy 99	8	10			9	9	8	8	9	10	10	10	11	14	11	10	12	12
South Bound	Esplanade & East	9	10			11	12	9	10	9	10	10	10	11	11	11	10	0	11
	Rio Lindo & Parmac	5	4			3	3	3	4	4	4	4	4	5	4	4	4	0	4
	Esplanade & 5th Ave	6	6.6			6	6	7	7	6	8	6	7	8	6	6	6	0	8
	Transit Center 2nd & Salem	7	7			8	7	8	7	7	8	7	7	9	6	7	6	0	8

Summary of Observed On-Time Performance and Running Time: Route 17 - Park/MLK/Forest

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15	15+	Early	On Time	5-15	15+
						Min Late	Min Late			Min Late	Min Late
Loop	Transit Center 2nd & Salem	Dep	214	2	142	66	4	1%	66%	31%	2%
	20th St & Park	Arr	213	71	71	69	2	33%	33%	32%	1%
	E Park & MLK	Arr	210	42	88	68	12	20%	42%	32%	6%
	Forest Xfer (Bank)	Arr	212	49	80	70	13	23%	38%	33%	6%
	20th St & Park 2	Arr	212	18	82	78	34	8%	39%	37%	16%
	Transit Center 2nd & Salem 2	Arr	167	18	48	62	39	11%	29%	37%	23%
	Subtotal		1,228	182	463	351	65	15%	38%	29%	5%
Total			1,228	182	463	351	65	15%	38%	29%	5%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour													90th	
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	Percentile
Loop	20th St & Park	7	6			6	5	7	6	6	7	7	7	7	6	7	0	7
	E Park & MLK	7	7			7	7	7	7	6	7	8	8	7	7	6	0	8
	Forest Xfer (Bank)	6	6			5	6	6	6	6	6	6	6	6	6	6	5	6
	20th St & Park 2	6	8			6	6	6	7	8	8	8	9	9	9	9	8	9
	Transit Center 2nd & Salem 2	9	9			0	20	7	7	7	7	8	9	10	7	9	10	10

Summary of Observed On-Time Performance and Running Time: Route 20 - Chico-Oroville

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15	15+	Early	On Time	5-15	15+
						Min Late	Min Late			Min Late	Min Late
North bound	Transit Center Mitchell & Spencer	Dep	251	1	219	25	6	0%	87%	10%	2%
	Oroville Public Works	Arr	256	40	181	30	5	16%	71%	12%	2%
	Forest Xfer (Bank)	Arr	215	86	96	28	5	40%	45%	13%	2%
	Fir Street Park & Ride	Arr	255	78	127	42	8	31%	50%	16%	3%
	Transit Center 2nd & Salem	Arr	228	91	86	43	8	40%	38%	19%	4%
	Subtotal		1,205	296	709	168	32	25%	59%	14%	3%
South bound	Transit Center 2nd & Salem	Dep	238	1	188	46	3	0%	79%	19%	1%
	Fir Street Park & Ride	Arr	235	44	132	56	3	19%	56%	24%	1%
	Forest Xfer (WalMart)	Arr	177	0	75	96	6	0%	42%	54%	3%
	Oroville Public Works	Arr	234	20	73	130	11	9%	31%	56%	5%
	Transit Center Mitchell & Spencer	Arr	236	62	67	97	10	26%	28%	41%	4%
	Subtotal		1,120	127	535	425	33	11%	48%	38%	3%
Total			2,325	423	1,244	593	65	18%	54%	26%	3%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour																90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	8 PM	
North bound	Oroville Public Works	11	11		10	11	12	12	12	0	12	0	11	11	12	11	10	11	0	12
	Forest Xfer (Bank)	26	24		25	27	24	24	23	0	24	0	24	25	25	0	23	22	0	25
	Fir Street Park & Ride	5	7		4	4	4	4	6	0	6	0	6	6	8	23	13	6	4	13
	Transit Center 2nd & Salem	8	7		6	7	8	7	8	8	7	0	7	7	8	8	7	7	8	8
South Bound	Fir Street Park & Ride	7	7		6	6	7	8	7	8	0	7	8	8	8	9	7	0	0	8
	Forest Xfer (WalMart)	6	7		0	0	0	6	0	7	0	8	7	8	8	8	7	0	0	8
	Oroville Public Works	25	25.6		24	25	25	26	0	27	0	26	26	26	26	26	26	0	0	26
	Transit Center Mitchell & Spencer	12	10		9	14	9	9	0	9	0	9	9	10	10	11	12	12	0	12

Summary of Observed On-Time Performance and Running Time: Route 24 - Thermalito

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15	15+	Early	On Time	5-15	15+
						Min Late	Min Late			Min Late	Min Late
Loop	Transit Center Mitchell & Spencer	Dep	231	1	158	62	10	0%	68%	27%	4%
	14th & Grand	Arr	228	59	93	60	16	26%	41%	26%	7%
	Oroville Public Works	Arr	229	68	85	65	11	30%	37%	28%	5%
	Transit Center Mitchell & Spencer 2	Arr	225	68	80	67	10	30%	36%	30%	4%
	<i>Subtotal</i>		913	196	416	254	47	21%	46%	28%	5%
Total			913	196	416	254	47	21%	46%	28%	5%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour															90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	
Loop	14th & Grand	14	14		15	14	14	13	0	13	12	14	14	17	16	15	13	12	16
	Oroville Public Works	13	13		0	13	14	12	12	0	13	12	13	13	12	12	12	12	13
	Transit Center Mitchell & Spencer 2	9	8		-35	9	9	8	8	0	8	8	8	9	9	8	9	8	9

Summary of Observed On-Time Performance and Running Time: Route 25 - Oro Dam

Weekdays in Month of February, 2020

On-Time Performance		Number of Observations						% of Total Observations			
		Dep/Arr	Total	Early	5-15		15+	5-15		15+	
					On	Min		On	Min		
Loop	Transit Center Mitchell & Spencer	Dep	236	21	132	67	16	9%	56%	28%	7%
	Wal Mart	Arr	232	22	103	80	27	9%	44%	34%	12%
	Transit Center Mitchell & Spencer 2	Arr	210	30	74	74	32	14%	35%	35%	15%
	<i>Subtotal</i>		678	73	309	221	75	11%	46%	33%	11%
Total			678	73	309	221	75	11%	46%	33%	11%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour														90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM
Loop	Wal Mart	7	9	6	7	8	7	9	10	12	0	10	9	9	8	7	0	10
	Transit Center Mitchell & Spencer 2	11	11	9	10	11	12	13	14	12	13	12	11	11	10	10	9	13

Summary of Observed On-Time Performance and Running Time: Route 26 - Olive Highway

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
26A	Transit Center Mitchell & Spencer	Dep	195.0	8.0	110.0	56.0	21.0	4%	56%	29%	11%
	Myers & D St	Arr	96.0	17.0	59.0	18.0	2.0	18%	61%	19%	2%
	Gold Country Casino	Arr	97.0	19.0	53.0	23.0	2.0	20%	55%	24%	2%
	Kelly Ridge & Royal Oaks	Arr	97.0	9.0	39.0	38.0	11.0	9%	40%	39%	11%
	Oroville Hospital	Arr	97.0	13.0	34.0	38.0	12.0	13%	35%	39%	12%
	Subtotal		582.0	66.0	295.0	173.0	48.0	11%	51%	30%	8%
26B	Transit Center Mitchell & Spencer	Dep	229.0	7.0	83.0	94.0	45.0	3%	36%	41%	20%
	Myers & D St	Arr	115.0	20.0	40.0	38.0	17.0	17%	35%	33%	15%
	Gold Country Casino	Arr	114.0	16.0	41.0	39.0	18.0	14%	36%	34%	16%
	Oroville Hospital	Arr	113.0	6.0	45.0	41.0	21.0	5%	40%	36%	19%
	Orange & Acacia	Arr	114.0	12.0	42.0	38.0	22.0	11%	37%	33%	19%
	Subtotal		685.0	61.0	251.0	250.0	123.0	9%	37%	36%	18%
Total			1,267.0	127.0	546.0	423.0	171.0	10%	43%	33%	13%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour														90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	
26A	Myers & D St	4	4		3	0	3	4	4	0	0	0	3	4	4	4	0	4
	Gold Country Casino	8	8		7	8	7	8	8	0	0	0	0	8	0	8	0	8
	Kelly Ridge & Royal Oaks	9	11		9	11	9	12	10	17	0	0	0	11	0	10	0	12
	Oroville Hospital	11	11		0	10	0	11	0	11	0	0	0	11	0	10	0	11
	Transit Center Mitchell & Spencer	2	3		-	2	-	3	-	3	0	0	-	3	-	3	0	3
26B	Myers & D St	4	4		0	3	0	3	0	4	4	3	4	3	3	3	4	4
	Gold Country Casino	8	8		0	7	10	8	8	8	9	0	7	0	8	0	9	9
	Oroville Hospital	5	5		0	5	5	5	4	5	5	0	5	0	5	0	4	5
	Orange & Acacia	6	5.7		0	6	6	5	6	5	6	0	6	0	6	0	5	6
	Transit Center Mitchell & Spencer	5	6		0	-	6	-25	7	-	6	-	6	-	6	-	6	6

Summary of Observed On-Time Performance and Running Time: Route 27 - South Oroville

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min Late	15+ Min Late	Early	On Time	5-15 Min Late	15+ Min Late
Loop	Transit Center Mitchell & Spencer	Dep	211	0	121	72	18	0%	57%	34%	9%
	Las Plumas High School	Arr	208	38	87	65	18	18%	42%	31%	9%
	Myers & D St	Arr	209	11	93	80	25	5%	44%	38%	12%
	Transit Center Mitchell & Spencer 2	Arr	208	38	75	72	23	18%	36%	35%	11%
Subtotal			836	87	376	289	84	10%	45%	35%	10%
Total			836	87	376	289	84	10%	45%	35%	10%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour														90th Percentile	
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM		7 PM
Loop	Las Plumas High School	11	11			11	11	11	10	10	10	11	12	11	10	11	0	11	11
	Myers & D St	4	5			8	5	6	4	4	4	5	5	5	5	5	5	5	6
	Transit Center Mitchell & Spencer 2	5	4			4	3	4	3	4	3	4	4	4	4	4	4	4	4

Summary of Observed On-Time Performance and Running Time: Route 30 - Oroville - Biggs

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15 Min		Early	On Time	5-15 Min	
						Late	Late			Late	Late
North bound	Biggs 6th & B Street	Dep	54	23	25	6	0	43%	46%	11%	0%
	Heritage Oaks Mall	Arr	53	12	29	12	0	23%	55%	23%	0%
	Lincoln & Palermo	Arr	55	7	35	13	0	13%	64%	24%	0%
	Transit Center Mitchell & Spencer	Arr	33	20	11	2	0	61%	33%	6%	0%
	<i>Subtotal</i>		195	62	100	33	0	32%	51%	17%	0%
South bound	Transit Center Mitchell & Spencer	Dep	56	0	51	5	0	0%	91%	9%	0%
	Lincoln & Palermo	Arr	56	14	26	16	0	25%	46%	29%	0%
	Heritage Oaks Mall	Arr	55	16	20	19	0	29%	36%	35%	0%
	Biggs 6th & B Street	Arr	55	18	18	19	0	33%	33%	35%	0%
	<i>Subtotal</i>		222	48	115	59	0	22%	52%	27%	0%
Total			417	110	215	92	0	26%	52%	22%	0%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour												90th Percentile	
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	
North bound	Heritage Oaks Mall	12	13			0	12	0	0	0	13	12	0	0	13	0	13
	Lincoln & Palermo	16	16			0	0	16	0	0	0	16	0	0	17	0	16
	Transit Center Mitchell & Spencer	22	19			0	0	19	0	0	0	0	0	0	19	19	19
South Bound	Lincoln & Palermo	21	22			0	20	0	0	0	23	0	0	24	0	0	23
	Heritage Oaks Mall	17	16.3			0	16	0	0	0	17	0	0	17	0	0	17
	Biggs 6th & B Street	14	12			0	11	0	0	0	13	0	0	12	13	0	13

Summary of Observed On-Time Performance and Running Time: Route 32 - Gridley - Chico

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations				
			Total	Early	5-15		15+	Early	5-15		15+	Late
					On	Min			On	Min		
					Time	Late	Late		Time	Late	Late	
North bound	Biggs 6th & B Street	Dep	17	1	15	1	0	6%	88%	6%	0%	
	Spruce & SR 99	Arr	19	0	16	3	0	0%	84%	16%	0%	
	Midway Durham Dayton Hwy	Arr	19	9	8	2	0	47%	42%	11%	0%	
	Transit Center 2nd & Salem	Arr	4	0	3	1	0	0%	75%	25%	0%	
	<i>Subtotal</i>		59	10	42	7	0	17%	71%	12%	0%	
South bound	Transit Center 2nd & Salem	Dep	20	2	13	5	0	10%	65%	25%	0%	
	Midway Durham Dayton Hwy	Arr	20	0	9	10	1	0%	45%	50%	5%	
	Spruce & SR 99	Arr	20	9	8	3	0	45%	40%	15%	0%	
	Biggs 6th & B Street	Arr	14	4	5	5	0	29%	36%	36%	0%	
	<i>Subtotal</i>		74	15	35	23	1	20%	47%	31%	1%	
Total			133	25	77	30	1	19%	58%	23%	1%	

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour														90th Percentile
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	
North bound	Spruce & SR 99	11	14		14	0	-	-	-	-	-	-	-	-	-	0	0	14
	Midway Durham Dayton Hwy	30	28		0	27	-	-	-	-	-	-	-	-	-	0	0	27
	Transit Center 2nd & Salem	19	19		0	19	-	-	-	-	-	-	-	-	-	0	0	19
South Bound	Midway Durham Dayton Hwy	16	15		0	0	-	-	-	-	-	-	-	-	-	15	0	15
	Spruce & SR 99	32	26.7		0	0	-	-	-	-	-	-	-	-	-	0	27	27
	Biggs 6th & B Street	12	12		0	0	-	-	-	-	-	-	-	-	-	0	12	12

Summary of Observed On-Time Performance and Running Time: Route 40 - Paradise-Chico

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	5-15		15+	On	Min	5-15	15+
					On	Min				On	Min
					Time	Late	Late	Early	Time	Late	Late
East bound	Transit Center 2nd & Salem	Dep	76	61	7	8	0	80%	9%	11%	0%
	Forest Xfer (WalMart)	Arr	76	4	46	25	1	5%	61%	33%	1%
	Almond & Birch	Arr	77	36	31	10	0	47%	40%	13%	0%
	Skyway & Wagstaff	Arr	76	22	45	9	0	29%	59%	12%	0%
	Almond & Birch 2	Arr	76	44	20	11	1	58%	26%	14%	1%
	Subtotal		381	167	149	63	2	44%	39%	17%	1%
West bound	Almond & Birch	Dep	77	59	12	6	0	77%	16%	8%	0%
	Skyway & Wagstaff	Arr	74	39	34	1	0	53%	46%	1%	0%
	Almond & Birch 2	Arr	74	43	30	1	0	58%	41%	1%	0%
	Forest Xfer (Bank)	Arr	75	44	27	4	0	59%	36%	5%	0%
	Transit Center 2nd & Salem	Arr	68	22	39	7	0	32%	57%	10%	0%
	Subtotal		368	207	142	19	0	56%	39%	5%	0%
Total			749	374	291	82	2	50%	39%	11%	0%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour														90th	
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	6 PM	7 PM	Percentile
East bound	Forest Xfer (WalMart)	12	13		0	11	0	0	0	13	0	0	0	0	15	14	0	0	14
	Almond & Birch	22	18		0	17	0	0	0	18	0	0	0	0	18	0	17	0	18
	Skyway & Wagstaff	7	6		0	7	0	0	0	6	0	0	0	0	5	0	5	0	6
	Almond & Birch 2	12	10		0	10	0	0	0	10	0	0	0	0	0	12	11	0	11
West Bound	Skyway & Wagstaff	14	10		0	11	10	0	0	11	10	0	0	0	0	10	10	0	11
	Almond & Birch 2	7	5		0	0	5	0	0	0	5	0	0	0	0	5	5	0	5
	Forest Xfer (Bank)	22	19.3		0	0	19	0	0	0	20	0	0	0	0	0	19	19	19
	Transit Center 2nd & Salem	13	13		0	0	12	12	0	0	15	0	0	0	0	0	13	13	13

Summary of Observed On-Time Performance and Running Time: Route 41 - Paradise Pines-Chico

Weekdays in Month of February, 2020

On-Time Performance		Dep/Arr	Number of Observations					% of Total Observations			
			Total	Early	On Time	5-15		Early	On Time	5-15	
						Min Late	15+ Min Late			Min Late	15+ Min Late
East bound	Transit Center 2nd & Salem	Dep	93	0	73	19	1	0%	78%	20%	1%
	Forest Xfer (WalMart)	Arr	95	6	41	46	2	6%	43%	48%	2%
	Almond & Birch	Arr	96	24	39	32	1	25%	41%	33%	1%
	Skyway & Wagstaff	Arr	95	4	63	27	1	4%	66%	28%	1%
	Lakeridge (Holiday Mkt)	Arr	95	10	60	24	1	11%	63%	25%	1%
	Skyway & Colter	Arr	95	15	54	25	1	16%	57%	26%	1%
	<i>Subtotal</i>		569	59	330	173	7	10%	58%	30%	1%
West bound	Skyway & Colter	Dep	116	2	45	66	3	2%	39%	57%	3%
	Lakeridge (Holiday Mkt)	Arr	112	23	61	27	1	21%	54%	24%	1%
	Skyway & Wagstaff	Arr	130	54	57	18	1	42%	44%	14%	1%
	Almond & Birch	Arr	100	42	46	11	1	42%	46%	11%	1%
	Forest Xfer (Bank)	Arr	95	37	47	10	1	39%	49%	11%	1%
	Transit Center 2nd & Salem	Arr	73	36	24	12	1	49%	33%	16%	1%
	<i>Subtotal</i>		626	194	280	144	8	31%	45%	23%	1%
Total			1195	253	610	317	15	21%	51%	27%	1%

Running Time From Previous Stop (Min)		Scheduled Time	Average Total	Average By Hour													90th Percentile	
				5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM		6 PM
East bound	Forest Xfer (WalMart)	12	14		0	11	0	0	13	0	14	0	0	15	0	17	0	15
	Almond & Birch	22	19		0	19	17	0	18	0	18	19	0	19	0	19	0	19
	Skyway & Wagstaff	7	6		0	0	6	0	6	0	0	6	0	6	0	5	5	6
	Lakeridge (Holiday Mkt)	12	11		0	0	10	0	11	0	0	11	0	11	0	0	10	11
	Skyway & Colter	13	14		0	0	14	0	11	13	0	13	0	12	13	0	21	14
West Bound	Lakeridge (Holiday Mkt)	9	6		6	0	6	0	0	7	0	6	0	0	6	0	5	6
	Skyway & Wagstaff	13	10		11	11	10	0	0	10	0	10	10	0	11	0	9	11
	Almond & Birch	7	6		0	5	6	0	0	6	0	6	7	0	5	0	5	6
	Forest Xfer (Bank)	22	20.4		0	20	0	20	0	21	0	0	20	0	20	0	0	20
	Transit Center 2nd & Salem	13	13		0	8	0	12	0	0	15	0	15	0	13	15	0	15

Summary of Observed On-Time Performance and Running Time: Route 52 - Chico Airport Express

Weekdays in Month of February, 2020

On-Time Performance			Number of Observations					% of Total Observations			
			Dep/Arr	Total	Early	On Time	5-15 Min	15+ Min	On Time	5-15 Min	15+ Min
							Late	Late		Late	Late
North bound	Transit Center 2nd & Salem	Dep		111	0	108	3	0	0%	97%	3%
	Mangrove Ave & 5th	Arr		111	58	48	5	0	52%	43%	5%
	North Valley Plaza	Arr		72	58	13	1	0	81%	18%	1%
	Ryan Ave & Cohasset Rt	Arr		130	52	61	17	0	40%	47%	13%
	Ryan Ave & Cohasset Rd	Arr		131	61	59	11	0	47%	45%	8%
	Subtotal			555	229	289	37	0	41%	52%	7%
South bound	Ryan Ave & Cohasset Rd	Dep		114	16	83	15	0	14%	73%	13%
	North Valley Plaza	Arr		75	3	51	21	0	4%	68%	28%
	Transit Center 2nd & Salem	Arr		111	64	37	10	0	58%	33%	9%
	Subtotal			300	83	171	46	0	28%	57%	15%
52 IPM	Transit Center 2nd & Salem	Dep		20	0	19	1	0	0%	95%	5%
	Fir Street Park & Ride	Arr		20	0	18	2	0	0%	90%	10%
	3rd St & Grand Ave	Arr		20	11	8	1	0	55%	40%	5%
	Transit Center Mitchell & Spencer	Arr		20	1	16	3	0	5%	80%	15%
	Subtotal			80	12	61	7	0	15%	76%	9%
52 OAM	Transit Center Mitchell & Spencer	Dep		18	0	18	0	0	0%	100%	0%
	3rd St & Grand Ave	Arr		18	18	0	0	0	100%	0%	0%
	Fir Street Park & Ride	Arr		18	17	1	0	0	94%	6%	0%
	Transit Center 2nd & Salem	Arr		18	18	0	0	0	100%	0%	0%
	Subtotal			72	53	19	0	0	74%	26%	0%
Total NB/SB				855	312	460	83	0	36%	54%	10%
Total IPM/OAM				152	65	80	7	0	43%	53%	5%

Running Time From Previous Stop (Min)			Scheduled Time	Average Total	Average By Hour													90th Percentile
					5 AM	6 AM	7 AM	8 AM	9 AM	10 AM	11 AM	Noon	1 PM	2 PM	3 PM	4 PM	5 PM	
North bound	Mangrove Ave & 5th	8	7	7	0	5	7	6	0	0	7	9	0	0	7	7	8	8
	North Valley Plaza	5	4	4	0	3	4	4	0	0	0	4	0	0	0	0	0	4
	Ryan Ave & Cohasset Rt	9	9	9	0	8	9	8	0	0	0	9	0	0	0	9	10	9
	Ryan Ave & Cohasset Rd	8	7	7	0	8	8	7	7	0	0	7	0	0	7	7	7	8
South Bound	North Valley Plaza	7	8	8	0	0	0	0	0	0	0	8	0	0	9	8	8	8
	Transit Center 2nd & Salem	17	14.1	14.1	0	0	17	19	0	0	0	13	0	0	12	12	12	17
52 IPM	Fir Street Park & Ride	7	7	7	0	0	0	0	0	0	0	0	0	0	0	7	7	7
	3rd St & Grand Ave	25	22.6	22.6	0	0	0	0	0	0	0	0	0	0	0	0	23	23
	Transit Center Mitchell & Spencer	8	10	10	0	0	0	0	0	0	0	0	0	0	0	0	10	10
52 OAM	3rd St & Grand Ave	10	6	6	6	0	0	0	0	0	0	0	0	0	0	0	0	6
	Fir Street Park & Ride	25	25.2	25.2	0	25	0	0	0	0	0	0	0	0	0	0	0	25
	Transit Center 2nd & Salem	10	9	9	0	9	0	0	0	0	0	0	0	0	0	0	0	9

Appendix F
PROPOSED ELIMINATED STOPS

Appendix F

PROPOSED ELIMINATED STOPS

Community	Stop #	Location	Shelter	Ad	Bench	Sign
Chico	105	East Ave & Manzanita Ave	Yes	No		Yes
Chico	193	Forest Ave & Springfield Dr			Yes	Yes
Chico	196	E 20th St & Huntington Dr	Yes	No		Yes
Chico	197	Notre Dame Blvd & Robailey Dr				Yes
Chico	204	Bruce Rd & Sierra Sunrise Ter				Yes
Chico	205	Bruce Rd & Lakeside Village Commons	Yes	Yes		Yes
Chico	206	Bruce Rd & Cal Park Dr				Yes
Chico	207	Manzanita Ave & Hooker Oak Park				Yes
Chico	208	Manzanita Ave & Hooker Oak Ave				Yes
Chico	209	Bruce Rd & E. 8th St.	Yes	Yes		Yes
Chico	211	Bruce Rd & Sterling Oaks Dr.	Yes	Yes		Yes
Chico	221	Forest Ave & Hartford Dr				Yes
Chico	236	Parmac Rd & Cohasset Rd				Yes
Chico	331	Esplanade & Shasta				Yes
Chico	332	Esplanade at Cavalier Bike Path				Yes
Chico	333	Esplanade & Eaton				Yes
Chico	334	Esplanade & Toney				Yes
Chico	335	Esplanade at Shasta School				Yes
Chico	336	Esplanade & Valley Ct				Yes
Chico	337	Esplanade & Hwy 99				Yes
Chico	338	Esplanade & Nord				Yes
Chico	339	Esplanade & Nord				Yes
Chico	340	Esplanade & Eaton				Yes
Chico	341	Esplanade & Yellowstone	Yes	Yes		Yes
Chico	342	Esplanade & Shasta				Yes
Chico	348	Ellene Ave & Manzanita Ave				Yes
Chico	349	Ellene Ave & Manzanita Ave	Yes	No		Yes
Chico	352	Marsh Jr High				Yes
Chico	367	East Ave & Cactus Ave	Yes	No		Yes
Chico	368	Bruce Rd & Lakewest Dr.	Yes	No		Yes
Chico	404	Diablo & Ceres	Yes	No		Yes
Chico	446	East Ave & Tuolumne				Yes
Chico	456	Ceres Ave & Diablo				Yes
Chico	464	Manzanita Ave & Centennial Ave				Yes
Chico	517	Esplanade & Cohasset				
Chico	518	Garner Ln & Esplanade				Yes
Chico	528	Notre Dame Blvd & E. 20th St				Yes
Chico	534	Eaton Rd & Lassen Ave				Yes
Chico	535	Eaton Rd & Keith Hopkins Pl				Yes
Chico	537	Floral Ave & Glenshire Ln				Yes
Chico	538	Floral Ave & Whitewood				Yes
Chico	581	Floral Ave & Ravenshoe Way				Yes
Chico	582	Floral Ave & East Ave				Yes
Chico	583	Eaton Rd & Lassen Ave				
Chico	584	Eaton Rd & San Miguel Ct				Yes
Chico	585	Eaton Rd & Floral Ave				
Chico	586	Eaton Rd & Floral Ave				Yes
Chico	587	Lupin Ave & Ceres Ave				Yes
Chico	588	Ceres & Lassen				Yes
Chico	592	East Ave & Cactus Ave				Yes
Chico	607	Esplanade at DeGarmo Park				Yes
Chico	608	Esplanade at DeGarmo Park				Yes
Chico	621	Concord & Bruce				
Chico	623	North BC Courthouse				Yes
Chico	624	E 20th St & Concord				Yes
Chico	626	Ryan Ave & Cohasset Rt				Yes

Community	Stop #	Location	Shelter	Ad	Bench	Sign
Chico	627	Marauder St & Lockheed Ave				Yes
Chico	628	Marauder St & Convair Ave				Yes
Chico	629	Boeing Ave & Marauder St				Yes
Chico	630	Boeing Ave & Fortress St				Yes
Chico	631	Fortress St & Convair Ave				Yes
Chico	632	Fortress St & Lockheed Ave				
Chico	633	Fortress St & Ryan St				Yes
Chico	634	Ryan Ave & Marauder St				Yes
Chico	635	Ryan Ave & Cohasset Rd				Yes
Magalia	25	Skyway & Perry Rd				Yes
Magalia	26	Skyway & Wycliff				Yes
Magalia	27	Skyway & Woodward Dr				Yes
Magalia	28	Skyway & Hidden Lake Ln				Yes
Magalia	29	Skyway & Fremont				Yes
Magalia	30	Skyway & Colter				Yes
Magalia	415	Skyway & Hollywood Rd				Yes
Magalia	416	Skyway & Fir Haven				Yes
Magalia	417	Skyway at Paradise Pines RV Park				Yes
Oroville	47	Oro Dam Blvd & 5th Ave	Yes	Yes		Yes
Oroville	59	Table Mountain Blvd & Jasmine Ct				Yes
Oroville	60	Table Mountain Blvd & Flying Cloud Dr	Yes	No		Yes
Oroville	448	3rd St & Grand Ave				Yes
Oroville	474	Yard St & Bridge St				Yes
Oroville	478	Olive Hwy & Arbol Ave				Yes
Oroville	479	Gold Country Casino				
Oroville	480	Olive Hwy & Foothill Blvd				
Oroville	506	Oro Dam Blvd & 5th Ave				Yes
Oroville	549	Olive Hwy & Skyline Blvd				Yes
Oroville	550	Olive Hwy & Skyline Blvd				Yes
Oroville	551	Las Plumas High School				Yes
Oroville	557	Mitchell Ave & Washington Ave				Yes
Oroville	596	Washington Ave & Yard St				Yes
Oroville	598	Kelly Ridge & Royal Oaks				Yes
Oroville	599	14th & Grand				Yes
Paradise	11	Clark Rd & Billie Rd	Yes	Yes		Yes
Paradise	12	Clark Rd & Maple Park Dr	Yes	Yes		Yes
Paradise	13	Clark Rd & Shadowbrook Wy			Yes	Yes
Paradise	14	Clark & Pearson	Yes	No		Yes
Paradise	15	Pearson Rd & Chapel Dr			Yes	
Paradise	16	Pearson Rd & Black Olive Dr	Yes	No		Yes
Paradise	17	Clark & Pearson				Yes
Paradise	18	Clark Rd & Shadowbrook Rd	Yes	No		Yes
Paradise	19	Clark Rd & Elliot Rd				Yes
Paradise	20	Clark Rd & Rossi Wy	Yes	Yes		Yes
Paradise	21	Clark Rd & Billie Rd	Yes	Yes		Yes
Paradise	405	Pearson Rd & Sierra Park Dr	Yes	Yes		Yes
Paradise	409	Clark Rd & Elk Ln				Yes
Paradise	410	Pearson Rd & Mallan Lane				Yes
Paradise	411	Pearson Rd & Churchill	Yes	Yes		Yes
Paradise	412	Pearson Rd & Recreation Dr				Yes
Paradise	445	Almond & Birch	Yes	No		Yes
Paradise	513	Black Olive Dr & Pearson Rd				Yes
Paradise	514	Clark Rd & Central Park Dr.	Yes	Yes		Yes
Paradise	515	Clark Rd & Central Park Dr				Yes
Paradise	531	Clark Rd & Armstrong Pl				Yes
Paradise	601	Clark Rd & Armstrong Pl				Yes

Appendix G
PUBLIC WORKSHOP SUMMARIES

Appendix G

Public Workshop Summaries

BCAG B-Line Routing Study Community Workshop # 1 Summary

BCAG B-Line Routing Study Community Workshop # 2 Summary

BCAG B-Line Routing Study Community Workshop # 3 Summary

BCAG B-Line Routing Study Virtual Workshop - Pictures

BCAG B-Line Routing Study

Community Workshop #1 Summary

Project Overview

The Butte County Association of Governments (BCAG), operators of Butte Regional Transit (B-Line), are performing an in-depth routing study of the B-Line services. This study will provide a thorough and comprehensive analysis of all aspects of B-Line operations to determine how best to improve the transit system within available resources. The study will evaluate current routes, schedules, passes, technologies, ridership, marketing, fare policy, media, finances, vehicle size and fleet, facilities, and other assets. The goal of this is to figure out how riders use the B-Line system, what routes best serve riders, and how to improve the user experience for the region's future mobility needs.



To carry out the goal of this study, the County hosted a virtual workshop that analyzed the existing conditions, asked residents in the community for feedback, and discussed the future of transit in Butte County. This meeting took place on July 14th, 2022, online via Zoom, with a total of sixteen community members who joined.

Meeting Format

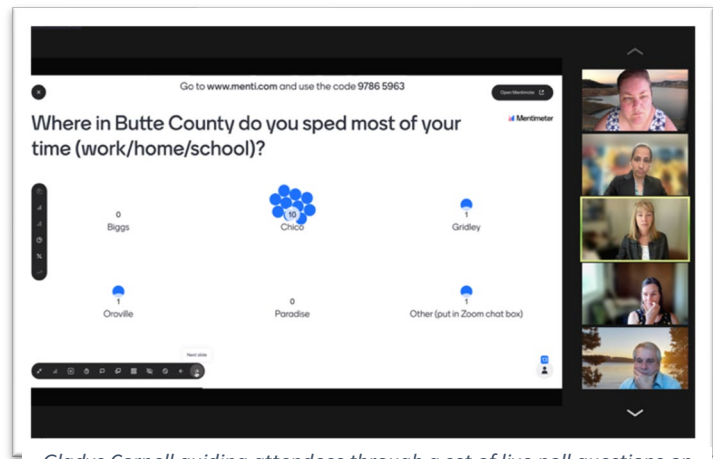
The meeting started with a welcome given by Gladys Cornell, of AIM Consulting. Cornell then explained how attendees would be able to participate and provide input throughout the meeting using Zoom chat or emoji reaction features. She also let the audience know that the recording will be posted on the website along with a summary and encouraged them to share it with their family, friends, and personal networks who may not have been able to join that evening. Afterward, she presented a rundown of the meeting's agenda, giving participants an idea of how it will flow. The agenda was outlined in the following way:

- Meet the Project Team
- Live Polls
- Project Introduction
- Existing Conditions and Service Evaluation
- Survey Outreach and Results
- Potential Improvement Options
- Questions and Answers
- Stay Involved – Next Steps

Gladys then led the attendees to an introduction of the project team. The project team includes:

- Sara Cain of BCAG
- Jon Clark of BCAG
- Victoria Proctor of BCAG
- Amy White of BCAG
- Gordon Shaw of LSC
- Selena McKinney of LSC
- Andrew Ittigson of AECOM
- Gladys Cornell of AIM Consulting
- Katie DeMaio of AIM Consulting
- Angelika Williams of AIM Consulting

Cornell then gave instructions on how participants would be able to answer a couple of live poll questions through the Mentimeter website, an interactive and engaging approach for presenting live questions and answers. We found that most participants do not currently use the B-Line service, with only 3/14 responding that they use it. We also discovered that these community members spend most of their time in Chico, with 11/14 choosing that city over Biggs, Gridley, Oroville, and Paradise.



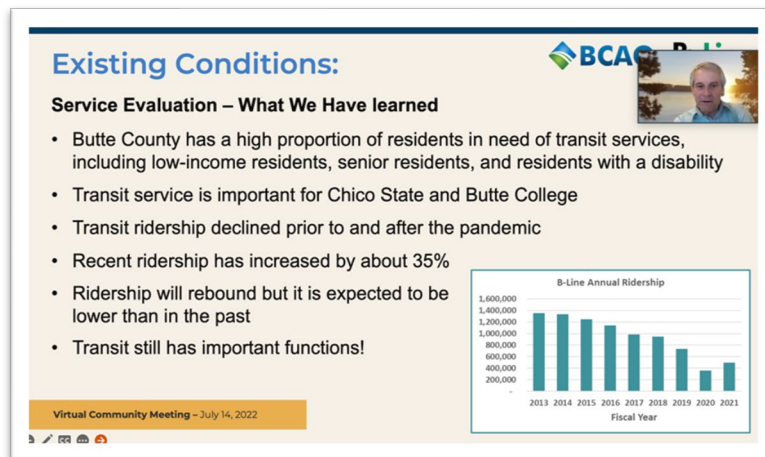
Gladys Cornell guiding attendees through a set of live poll questions on Mentimeter.

Concluding her welcoming remarks and introduction questions, Gladys handed over the presentation to Sara Cain, of the Butte County Association of Governments (BCAG).

Presentation

Sara Cain of BCAG greeted the attendees and introduced herself before giving some background information on what BCAG is – a Regional Transportation Planning Agency (RTPA), a Metropolitan Planning Organization (MPO), and the owner and manager of Butte Regional Transit, known as B-Line. She stated that BCAG is essentially responsible for preparing all state and federally required transportation plans and programs that are necessary for securing transportation funding for highways, streets and roads, transit, bike, and pedestrian facilities, and other transportation modes. Cain then introduced the Routing Study, which will analyze routes and schedules, review fare policies and media, evaluate technologies vehicle needs, and other assets, identify B-Line’s strengths and weaknesses and evaluate service options to improve the functionality of transit in the region and identify preferred service options to develop a plan for implementation through public input. She lastly turned it over to Gordon Shaw of LSC, who would review the study’s goals.

Gordon began introducing himself and the goal of this study. The main goals he mentioned were to provide recommendations to effectively expand mobility, identify, and thoroughly evaluate alternative routing options (i.e., where the bus goes and at what times, extended services like on weekends, service types that would be more appropriate in rural areas), and develop innovative solutions that make the best use of B-Line’s existing resources. He explained that the idea is to be realistic on funding limits and employment limits that public transit has, emphasizing the focus on utilizing existing resources in the short term. He acknowledged the change in the needs of people in the last decade and especially the last two years. He stated that in the big picture, the objective is to make sure we are developing a transit plan for the future that meets the current needs.



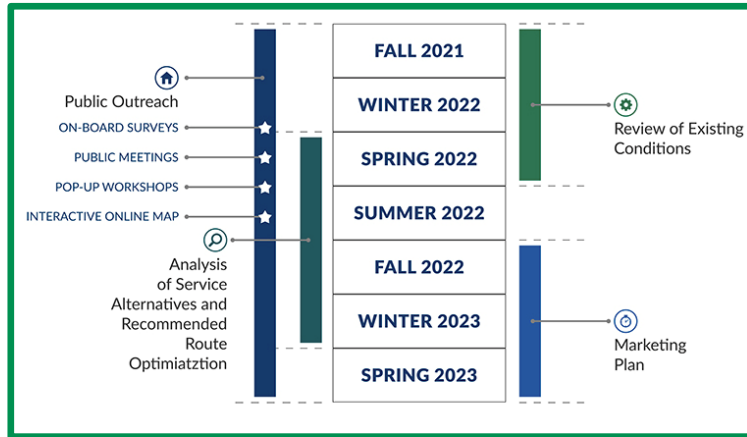
Gordon Shaw describes the existing conditions of B-Line's ridership.

Shaw then followed up by discussing the existing conditions of the B-Line. He expressed that for Butte County, there is a high portion of residents in need of transit services, including college students, low-income residents, senior citizens, and those with a disability. He talked about the steady decline in ridership prior to and after the pandemic, but also how there has been a recent increase of about 35%, proving that transit still has important functions (i.e., day-to-day functions, social service trips, getting to work, and the possible need

considering the rise in gas prices). Shaw indicated some areas of Chico that generate low ridership, as well as high ridership that occurs between downtown/Chico State and the Chico Mall/Butte College areas, and the potential to better serve northern Chico, especially North Valley Plaza. He also identified that the core area of Oroville, east of Highway 99 and south of the river, has higher ridership compared to outlying areas. He suggested that smaller vehicles could serve expected passenger loads in Oroville, especially because there is a problem with on-time dependability.

After that, Gordon talks about the survey outreach that took place in December 2021. There were 280 people who participated in the survey. Outreach for this included flyers and other awareness materials or signs in English, Spanish, and Hmong. Of the findings, it was discovered that 1/3 of respondents were students, while another 1/3 were local employees. The survey results also showed where transfers are most common – between Routes 3 & 4 and Routes 14 & 15. There were 87% of respondents ranked the B-Line service as good or excellent, revealing that the people who use the service find it useful. Survey-takers ranked affordability and driver courtesy the highest but ranked bus stops and shelters and B-Line information at bus stops the lowest. They also requested more frequent weekend services and more shelters at bus stops.

Lastly, Shaw went into the potential improvement options for transit services. Traditionally, Gordon explained how this study will look at route maps to make sure they are on the right streets or finding alternative routes, and if there is too much service in an area, where it can be resourced elsewhere. He also mentioned analyzing the schedules, span of service, and frequency of service. Shaw made sure to reference the idea of using microtransit service in low ridership areas and explained to the audience how it works, comparing it to Uber or Lyft where one can use their phone or web browser to request a ride. The main improvement options will include expanding hours of service, expanding weekend service, and providing buses with priority at key traffic signals. Before heading into the final set of live polling questions by Gladys Cornell, Gordon provided the schedule of this Routing Study (image below).



Gladys then presented the last two live poll questions for attendees to respond to through the Mentimeter website again. We found that all who answered the first question admitted to being more inclined to use microtransit after learning about it during the presentation. A participant even commented that they would be more likely to use BCAG microtransit over Uber or Lyft services. The last question asked participants to rank three potential improvement options in their

order of preference. The number one option was expanding weekend service. An attendee recommended that Sunday would specifically be an ideal day to expand those service hours.

Feedback

Towards the end the presentation, Cornell opened up the floor to allow attendees to ask questions they had or to give their feedback. Participants either had already asked some questions in the chatbox during the presentation or formed questions and comments during this time. These were some exchanges:

- Q: “How would you increase public transit usage and market your new and existing services? B-line to Sacramento? What about free transportation for low or no-income riders?”
 - A: Gordon – “Earlier this year, BCAG completed a commuter study to Sac, it goes into the San Joaquin train system because there are buses today that provide that but there is space to shift it to local ridership service (train).”
 - A: Sara – “We are looking at North Passenger rail in a study from North Natomas to San Joaquin County, hopefully, complete in the next year or so. Currently, there is a train available for that connection. We hope to explore options for free transportation for low or no-income riders”
- Comment: “Suggestion to connect from Yuba-Sutter first to see the numbers there first.”
- Q: “What have been the ridership impacts in the 9 zones for Sacramento's microtransit?”
 - A: Gordon – “It has been modest, about 3 passengers per hour. There are areas that are higher than that and communities that have seen higher than that though. Combining paratransit and micro transit may make best use.”
 - A: Andrew – “Sometimes we minivans or small vans that are meant to provide for lower numbers.”
- Q: “Does the study include Para transit routes?”
 - A: Sara – “Yes it does. The main focus is fixed route, but it will look at paratransit.”
- Q: “Hello. Passenger rail service would not be implemented for many years (I believe the estimate is 2030); if there is time, can you elaborate on why the bus study implementation would need to happen after completion of the rail study when it's a much shorter-term project? Also, SJPA Thruway buses are not open to bus-only tickets Chico-Sacramento which is a barrier to transit access in the north state.”

- A: Sara – “The bus service would be supplemental to rail service, so they are both being considered as part of the passenger rail study. In addition, there have been other delays on SJJPA's side and variations in ridership due to COVID/remote work.”
- Comment: “Butte College is interested in possible options for bus stop(s) to be added at our Main Campus location (3536 Butte Campus Drive on Durham Pentz Road) onto the Chico to Oroville routes and Paradise to Oroville routes. Also, additional service coverage for the south county areas (Biggs/Gridley/Palermo) as well as Paradise.”
- Comment: “I am disabled and would be more interested if improvements were made.” – referring to microtransit services
- Comment: “As I understand it, microtransit could be great for door-to-door for short trips that are within the same zone.”
 - Response: “Typical zones are a few square miles that can connect to a transit hub but are mostly used for shopping trips, school commute, etc.”
- Q: “What are the anticipated fare structures for microtransit?”
 - A: Gordon – “It is to be determined. It would be around the same fare as the fixed route but maybe a little higher like 15-25 cents more.”
- Q: “If the zones are that small, I would never use it; I would use my bike.”
 - A: Gordon – “You’re right. There are people who would choose their bicycle. Maybe three-square miles is a little small because it can get larger than that. With a smaller radius though, there is less opportunity to pick up other passengers for a short trip.”
- Comment: “I support the concept of microtransit in areas that already exist and weren't built in a way that supports fixed route. I would love to see it used in a way that nicely feeds into the fixed route :) Kind of like an alternative to biking for first/last mile, for people who don't can't bike.”
- Comment: “I believe Butte College students would be interested in this type of service depending on location.” – referring to microtransit services
- Comment: “If the microtransit zones are crafted carefully around social service hubs, or low-income housing areas, it could be very useful for low-income residents.”
- Q: “I'm also curious about the above question on phone call requests. Also, curious about how we may support riders who don't have smartphones or even cell phones. Do we have a lot of passengers who don't have phones/smartphones?”
 - A: Sara – “With the rollout of our mobile ticketing app, we haven't heard from many that don't have a smartphone. However, of course, there are exceptions.”
- Comment: “Chico has weeknight service; Magalia does not. We need a span of service more than weekend service up here.”
- Comment: “Providing buses with priority at key traffic signals would help buses to be on time for classes and transfers to other buses for connections. Butte College.”
- Comment: “I think it would be great for my low-income elder clients to get to stores, appointments.” – referring to microtransit services

Wrap Up

Before close, Sara Cain came back to acknowledge the next steps of the project. She first thanked the audience for their time and input. She mentioned that B-Line is committed to robust and ongoing public engagement throughout the project and provided the link to the B-Line website where community members could stay involved and updated. Sara also offered her contact information to anyone with questions, comments, or concerns – scain@bcag.org.

BCAG B-Line Routing Study

Community Workshop #2

Meeting Summary

Introduction

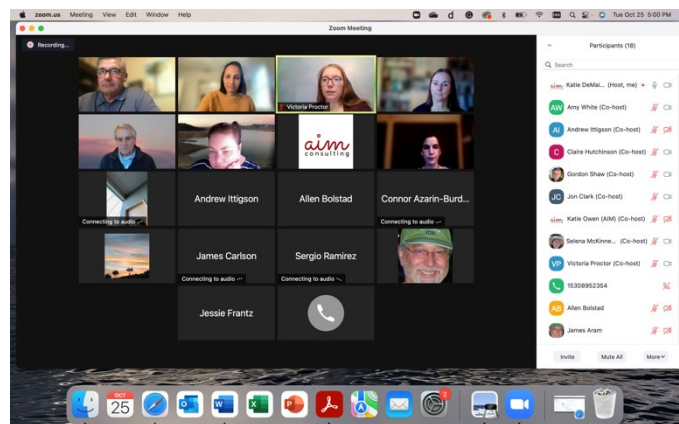
On Tuesday, October 25, 2022, from 5:00 – 6:30 p.m., Butte County Association of Governments (BCAG) held its second virtual community workshop about the B-Line Routing Study, wherein participants had a chance to learn about proposed service improvements following the feedback received at the first community meeting. A total of 16 community members attended the meeting, which was hosted virtually through Zoom to create the most flexibility and accommodation for participants.

About the Project

BCAG operates the B-Line public transit system, serving Butte County and connecting communities such as Chico, Paradise, and Oroville. The B-Line, like many transit systems across the nation, is facing critical changes to ridership due to several factors. The Coronavirus pandemic had an immediate and wide-reaching impact on ridership and has likely changed the long-term demand for transit as many employees and students are working and learning remotely. The Camp Fire significantly impacted many of the region's communities and their mobility patterns. There is also growth in the region and an increasing focus on providing transportation alternatives that need to be considered. Because of all these factors, BCAG is performing an in-depth study that evaluates ridership trends and defines the transit services, routes, and schedules that best meet the region's future mobility needs.

Community Workshop Purpose & Format

Following various pop-up outreach efforts, the first virtual community workshop was held in July to learn more about riders' experiences and needs. The project team then took the findings from that meeting to formulate possible service improvements. The purpose of this second community meeting was to share those proposed improvements and to gather feedback. Specifically, this workshop included a presentation of proposed service improvements; a comment portion for riders and stakeholders to discuss issues on safety, efficiency, and scheduling; and a discussion on the future of transit in Butte County.



As participants joined the meeting, they were welcomed by the project team.

Following a presentation that reviewed the existing conditions and shared potential service concepts, Katie DeMaio of AIM Consulting led the project team in facilitating a large group discussion where participants asked questions and provided input through the virtual “chat box” or by verbally asking questions. The project team concluded the community workshop by reviewing the project's next steps and plans for future outreach events.

Presentation, Part 1: Existing Conditions & Efforts

Katie DeMaio of AIM Consulting first reviewed Zoom norms, went over the meeting agenda, and introduced the project team. Katie then facilitated two polls to gauge participants’ connection to the project: the first asked if participants currently use the B-Line Service (yes, no, and encouraged to share comments in the virtual chat box), and the second asked where in Butte County participants spend most of their time (Biggs, Chico, Gridley, Oroville, Paradise, or other options to share in the chat). For the first question, out of the 14 participants, six use the B-Line compared to seven who do not, including two comments in the chat box: “I’m a rare user, but likely to use more in the future” and “I rarely use it now but feel it is a critical part of a vital community.” The second poll’s results showed a strong representation for Chico (10 out of 14), then two from Paradise and one from Oroville. Two comments in the chat added that they represent the students of each Butte and Chico State respectively, and they come from all over.

1. Do you currently use the B-Line Service?	2. Where in Butte County do you spend most of your time? (Work/Home)
No	Chico
Yes	Chico
Yes	Other (put in chat box)
No	Chico
No	Chico
No	Chico
Comments (put in chat box)	Chico
Yes	Chico
Yes	Chico
Yes	Chico
No	Chico
No	Paradise
No	Oroville
No	Paradise
Yes	Chico

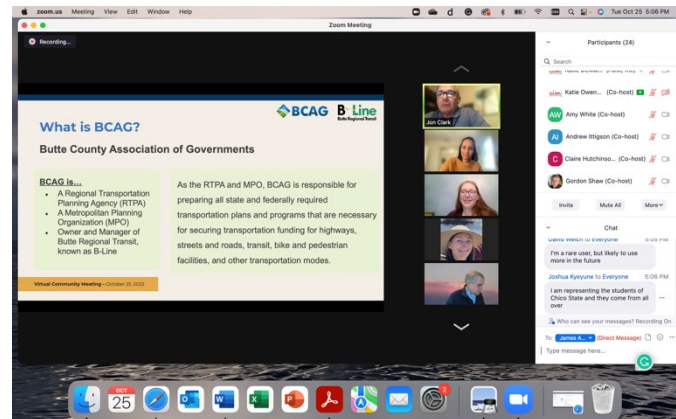
The detailed results of the first two live polls via Zoom, showing most do not use B-Line & most represent Chico.

Jon Clark from BCAG began the formal presentation, which provided an overview of the project, a summary of existing conditions, and prior engagement efforts. Below is a summary of this part of the workshop:

BCAG & Project Overview

Jon explained to participants that the Butte County Association of Governments (BCAG) functions as a regional transportation planning agency, a metropolitan planning organization, and is the owner and manager of Butte Regional Transit (B-Line). As such, they are preparing a routing study that:

- Analyzes B-Line routes and schedules.
- Reviews fare policies & fare media.
- Evaluates technologies, vehicle needs, facilities, and other assets.
- Identifies B-Line's strengths and weaknesses.
- Evaluates service options to improve the functionality of transit in Butte County.
- With public input, identifies preferred service options and develop a plan for implementation.



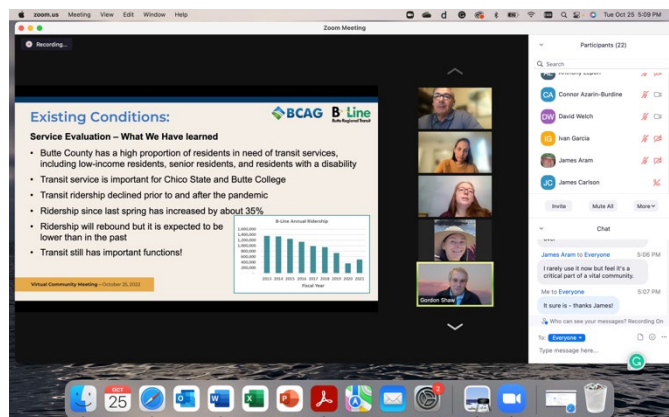
Jon Clark from BCAG provides context and background.

Jon then shared that the study's goals are threefold: provide recommendations to effectively expand mobility, identify and thoroughly evaluate alternative routing options, and develop innovative solutions that make the best use of B-Line's existing resources.

Existing Conditions

Gordon Shaw of LSC then took over to explain the existing conditions of the B-Line public transit system, starting on what has been learned from the service evaluation:

- Butte County has a high proportion of residents in need of transit services, including low-income, seniors, disabilities, etc.
- Transit service is important for Chico State and Butte College.
- Transit ridership declined prior to and after the pandemic (notice the bar graph in the screenshot).
- Ridership since last spring increased by 35% (now 47%, perhaps because of high gas prices and more in-person college classes). Ridership will rebound but is expected to be lower than in the past.



Gordon Shaw of LSC explains what has been learned so far.

Gordon then detailed ridership patterns across the B-Line, including:

- Specific to the Chico area: some areas of Chico generate low ridership, high ridership between downtown/Chico State and the Chico Mall/Butte College, some neighborhoods

are not served, like far to the northwest, and there is potential to better serve northern Chico, focusing on North Valley Plaza.

- Specific to Oroville/Paradise area: core area of Oroville has higher ridership compared to outlying areas, on-time dependability is a problem in Oroville due to being stretched thin, smaller vehicles could serve expected passenger loads in Oroville, low productivity in Paradise/Magalia (routes 40 & 41), and substantial areas of Paradise are not currently served.

Prior Engagement

Katie DeMaio of AIM Consulting then explained prior engagement efforts of the B-Line Routing Study. In December 2021, 280 transit riders completed a survey regarding their travel patterns. As a result of these engagement efforts, the project team learned that:

- 87% of survey respondents ranked B-Line as “good” or “excellent.”
- The highest-ranked factors were “driver courtesy” and “affordability.”
- The lowest-ranked factors were “bus stops and shelters” and “B-Line information at bus stops.”
- Participants requested more frequent weekend service and more shelters at bus stops.

In addition to the survey, a virtual community meeting was held in July (with 16 participants).

Materials for the survey and the meeting were distributed in English, Spanish, and Hmong.

People were assured that today’s meeting will not be the last opportunity to make their voices known.

Presentation, Part 2: Potential Service Concepts

Gordon Shaw then introduced the potential service concepts, broken down by area. He emphasized that this is not a concrete plan, just a set of ideas, and they are open for discussion and comments. Throughout this part of the presentation, Katie encouraged participants to use the chat box to ask questions, and that the team would address them after each area. What follows is a summary of this part of the presentation and comments made:

Chico

The potential near-service concepts proposed for Chico included maintaining key services and the overall route structure is good, addressing on-time performance issues, adding three microtransit zones in lower ridership and less dense areas that are difficult for fixed routes to serve, creating more direct service in southeast Chico, and emphasizing North Valley Plaza as a secondary transit hub.

This part of the presentation also explained what “microtransit” is, a public transit version of Uber or Lyft where service is typically provided within 15-30 minutes of a ride request and costs about the same as fixed route service. A participant commented in the chat, “The microtransit idea is fantastic. Paratransit should have that ease of use. It is very complicated to make reservations.”

Gordon explained the benefits of these proposed changes as providing new stops on the Springfield loop and on Baney Lane/Walmart, providing all-day service on Fair Street, streamlining Route 2, less one-way service in southeast Chico, expanding effective service area with microtransit, improving on-time performance, and reducing overlap between routes. While these changes would increase costs (such as \$250k annually), it would also increase ridership by two to four percent.

Next, mid-range strategies were shared, which would be implemented within five to seven years if the near-term changes are successful. These changes are as follows: add a 15-minute peak service to Routes 2 and 14, update microtransit zones based on ridership patterns, extend service on Saturdays, assess adding Sunday service, and create Route 20 hourly service.

Following this Chico portion of the presentation, Katie DeMaio of AIM Consulting facilitated two live polls asking people “Do you like the concept of replacing fixed-route service with microtransit in the three areas?” and “Do you like the other changes to the fixed routes that are presented?” For both questions, the options were Yes, No, Chat Box – Comments/Concerns. Out of the 14 responses to the first question, all but three expressed support for microtransit. Out of the 10 answers for the second question, all but two support the proposed changes, noting they would share comments in the chat.

1. Do you like the concept of replacing fixed route service with micro transit in the three areas?	1. Do you like the other changes to the fixed routes that are presented?
Yes	Yes
Yes	Yes
No	Yes
Yes	Yes
Yes	Yes
Yes	Yes
Yes	Chat Box - Comments/Concerns
No	Yes
No	Chat Box - Comments/Concerns
Yes	Yes
Yes	Yes
Yes	Yes
Yes	Yes
Yes	Yes

Results of the two live poll questions asked following the Chico portion of the presentation.

During this portion of the presentation, the following comments were made in chat:

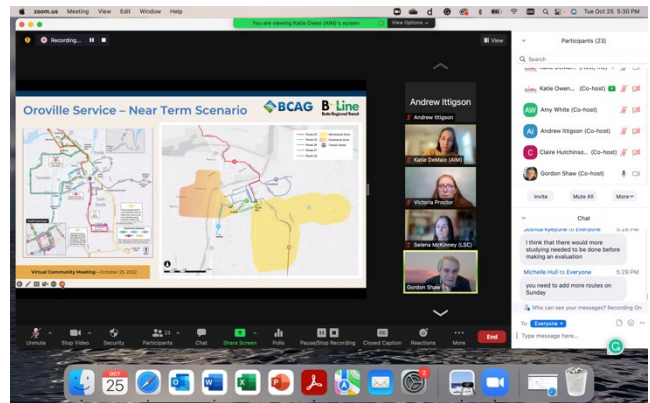
- As new development around E. 20th and Bruce Rd/Meriam Park builds out that will be an important focus for good quality service with its dense housing.
- 15-minute service makes all the difference in people choosing the service voluntarily, not just out of necessity.
- I think that the chosen areas are providing a more specialized service to more affluent residents - would be nice to study other areas.
- Would need more time to study routes to really say.
- Would like to see the concept expanded beyond these plans. A quick response is essential to growing ridership.
- Lumping all changes together is not effective. I do not agree with all and need more time to evaluate.

- I think that there would more studying needed to be done before making an evaluation.
- You need to add more routes on Sunday.

Gordon noted that it is valid to need more time to digest this information to make a more informed decision, and Katie reminded people that the video and summary of this workshop will be available online.

Oroville

Next, potential services concepts for Oroville were presented, including replacing some route segments with microtransit, focusing fixed-route service in high ridership areas such as downtown, using Route 20 for service to the north, maintaining a two-bus system (including a “Thermalito zone” where microtransit shares with paratransit), and potentially ending service at 6:30 p.m.



Gordon Shaw shares proposed service changes to Oroville.

Katie then opened up two more live poll questions, asking similar questions to the ones following Chico. Out of the 10 responses to the question, “Do you like the concept of replacing fixed-route service with microtransit?” all but two expressed yes. There was unanimous support on the second question, “Do you like the other changes to the fixed routes that are presented?” However, it is worth noting that these questions received 10 and eight responses respectively, whereas the meeting has 31 attendees.

1. Do you like the concept of replacing fixed route service with micro transit?			
Yes			
Yes			
No			
Yes			
No			
Yes			
Yes			
Yes			
Yes			
Yes			

1. Do you like the other changes to the fixed routes that are presented?			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			

Results of the two live poll questions asked following the Oroville portion of the presentation.

Paradise/Magalia & Intercity

Next, potential services concepts for Paradise and Magalia were presented, including consolidating Routes 40 and 41, providing consistent hourly service between Chico and Paradise, adding microtransit to serve Magalia and north and east Paradise, and to not reinstate Route 31 (which has not been operational since the Camp Fire).

The benefits of these near-term changes are that hourly service to and from Chico adds three runs per day and makes transit more convenient, it expands service to a larger area, makes use of the planned transit center for transfers, and expands the time in which transit is available. If these changes are successful, the mid-range improvements are to expand Paradise/Chico service in the evenings and weekends, and to expand microtransit to the newly developing areas.

Intercity changes were next shared, including near-term changes to Route 20 (have hourly service and later weekday runs) and mid-term adding of runs to Route 30.

A final set of live poll questions were then asked. The first, “Do you like the concept of replacing fixed route service in Magalia/North Paradise with microtransit in an expanded area?” Five out of six respondents said yes. The second question asked, “Do you like the idea of more consistent weekday hourly service to Chico?” All 12 responses said yes. Finally, participants were asked to select their top preference from a list of improvements to fixed-route Paradise-Chico service, including more runs during weekdays, later service on weekday evenings, more Saturday service, and Sunday service. Only two options received any votes, with “more Saturday service” being selected by five participants, and “more runs during weekdays” selected by four.

1. Do you like the concept of replacing fixed route service in Magalia/North Paradise with microtransit in an expanded area?					
Yes					
Yes					
No					
Yes					
Yes					
Yes					

1. Do you like the idea of more consistent weekday hourly service to Chico?			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			
Yes			

1. Please pick your top preference for the following improvements to fixed-route Paradise-Chico Service					
More runs during weekdays					
More runs during weekdays					
More Saturday service					
More runs during weekdays					
More Saturday service					
More Saturday service					
More Saturday service					
More Saturday service					
More Saturday service					
More runs during weekdays					

Results of the final three poll questions about Paradise/Magalia.

Question & Answer Discussion

The meeting was then opened for questions and answers. What follows is a summary of each question and the project team’s response:

Participant 1 expressed that he was not sure how the microtransit will work for Magalia students needing to connect with the 40/41.

- The project team noted that if they start the microtransit service a half hour before the fixed-route bus gets up the hill, riders can get on the app and request microtransit to get

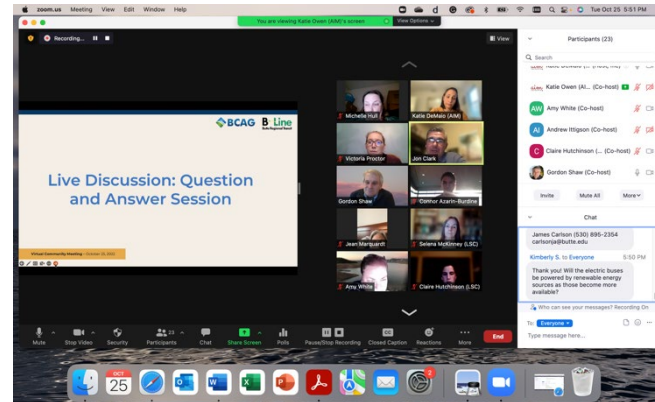
them down to the transit center to then get on the bus that will take them down the hill and make a transfer.

Participant 2 noted that Butte College students need to get to campus by 8 a.m. Would they be able to make it in time using microtransit and transferring to fixed routes?

- The project team would have to look into that.

Participant 3 expressed she just moved from a place where she is used to transit service 24 hours a day, and with the current B-Line system she cannot get anywhere on Sundays.

- The project team noted that will definitely have to be considered when making changes to the B-Line services.



Screenshot from the Q&A Discussion of the meeting.

Participant 4 asked if BCAG is considering free fares for seniors.

- The project team has not looked into fares, but it is an upcoming part of this study. There are more and more systems throughout the country that are creating fare programs for certain demographic groups, so there are a lot of examples out there.

Participant 5 noted that Butte College has stopped bus service to Paradise, so Paradise students rely on B-Line services to get them to Chico where they can connect to one of Butte College's buses to get to them to the main campus. How can we collaborate to make sure our connections match up?

- The project team asked for this participant's information so they can collaborate.

Participant 6 asked what percentage of operating costs currently come from fares?

- The project team would have to look up the specific number, but it is about 15-20%.

Participant 7 asked if there is a planned conversion for switching to cleaner fuel and energy sources? Are there also efforts that cities and towns can do to help with improving the accessibility for residents and improving the overall transit routes?

- The project team shared that BCAG just submitted its Electric Bus Rollout Plan to the California Resources Board, so they now have timeline requirements when they need to start purchasing electric buses. By 2040, their entire fleet has to be converted.
- To the second question, coming to meetings like this lets the project team and other decision-makers know where buses are needed and how the services are used, so participants were encouraged to continue staying a part of this process.

A follow-up question was then asked: Will the electric buses be powered by renewable energy sources as those become more available?

- BCAG answered possibly down the road. Their entire facility has solar power – but once all buses are electric, they will be using more energy than their solar panels can produce.

Next Steps & Conclusion

Jon Clark concluded the meeting by sharing the project schedule, noting that the results and comments made this evening will be used to continue revising the proposed changes. There will be continued public engagement through this process, so watch for those soon. There will be another community meeting to share the complete recommendations, and changes will not be implemented until late 2023 or early 2024.



Project schedule shared at the end of the meeting.

BCAG B-Line Routing Study Community Workshop #3 Meeting Summary

Introduction

On Monday, April 24th, 2023, the Butte County Association of Governments (BCAG) opened its Virtual Open House for the B-Line Routing Study. Here participants had a chance to learn and engage with the project's draft plan and proposed service changes for Chico, Oroville, Magalia/Paradise, and Intercity areas following the feedback received at the previous community meetings. A total of 187 unique community members visited the site from April 24th – May 16th, which was hosted via www.blinedraftplan.com to provide flexibility and accommodation for community members.

The site was divided into four stations and allowed community members the ability to leave a comment and feedback on the proposed changes.

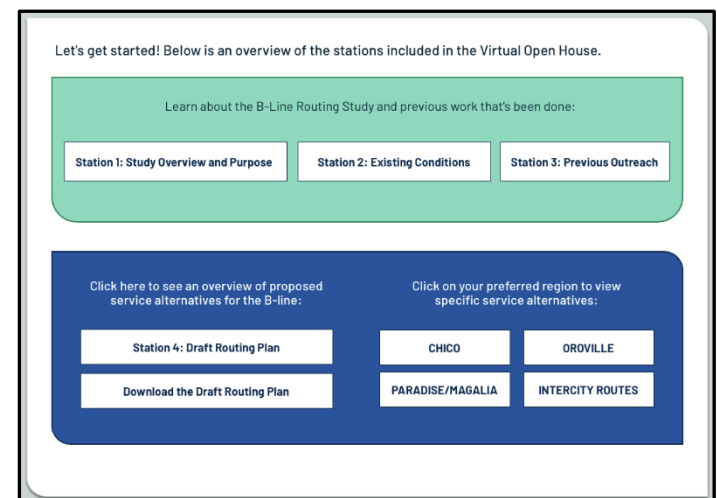
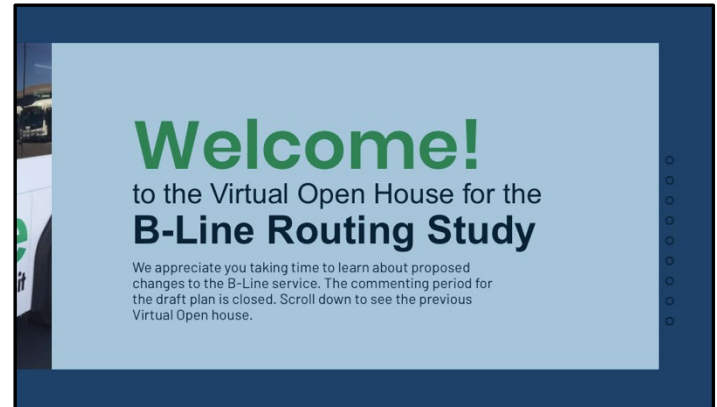
Study Overview and Background

BCAG owns and operates the B-Line public transit system, which, like many transit systems across the nation, is facing critical changes to ridership due to several factors such as the Coronavirus pandemic, the Camp Fire, recent growth in the Butte region, and an increasing focus on providing transportation alternatives in the industry. Because of all these factors, BCAG is performing an in-depth study that evaluates ridership trends and defines the transit services, routes, and schedules that best meet the region's future mobility needs.

The Routing Optimization Study will provide recommendations to improve ridership, identify alternative routing options, and develop innovative solutions that utilize B-Line's existing resources in the form of a Draft Routing Plan. The draft plan will also provide a thorough analysis of all aspects of B-Line operations to determine how to best improve the transit system within available resources. The Draft Routing Plan is available for review and comments at www.blinedraftplan.com.

Virtual Open House Overview

The purpose of the virtual Open House was to provide an easy and accessible way for community members to view and comment on the draft plan at a time and place that worked best for them. The Open House was available via a public standalone website built by AIM Consulting at www.blinedraftplan.com. When community



members visited, they were able to interact with 4 stations to learn about the project, read previous studies and reports from the first two workshops, and dive into the Draft Routing Plan. The website was open until May 16th and the following is a breakdown of the stations and poll results. The poll was conducted via SurveyMonkey.

Station 1: Study Overview and Purpose

The Open House opened into station 1 by providing an overview of the study and the owners and operators of BCAG.

BCAG & Project Overview

As the owner and operator of Butte Regional Transit (B-Line), the Butte County Association of Governments (BCAG) is preparing the B-Line Routing Study to update their service routes and schedules and provide recommendations to improve ridership, identify alternative routing options, and develop innovative transit solutions that utilize B-Line's existing resources.

B-Lines routes were last updated in 2010, and since then, there have been many changes that impact the need for transit services such as regional growth in the Butte area, recent wildfires, ongoing effects of the COVID-19 pandemic, overall reduced demand for transit, and changes in the transit service industry.



Over the last year, the B-Line Routing Study team has conducted onboard surveys, pop-up workshops, and public meetings, reviewed the existing conditions, and analyzed current services and routes to determine potential improvements. The team has developed a draft plan using the data collected and community feedback received and is now presenting the plan for the public to review and comment on.

The purpose of the study is to determine how BCAG can best allocate its resources in an efficient way to meet the diverse needs of current and potential transit users in Butte County.

Station 2: Existing Conditions

Station 2 explained the existing conditions of the B-Line public transit system, starting on what has been learned from the service evaluation. This section highlighted the existing condition memo prepared by the consultant team in July 2022 (a link to the full document was included at the bottom of the station). Highlights of the memo included:

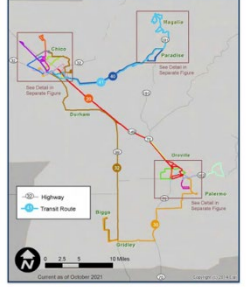
- Demographic studies imply a *high need for public transit*. Compared to national averages, Butte County has proportionally more residents with a mobility-related disability, residents who are low-income, and residents who are aged 65 and older. California State University, Chico, and Butte College students are also likely in need of public transit services.
- Butte County experienced an *overall 61% decline in transit ridership from 2013* due to multiple factors including the Camp Fire in 2018 and the start of the COVID-19 pandemic in 2019.
- Onboard rider surveys indicate that *most people who ride B-Line are dependent on transit services* to get around. Riders primarily take B-Line for shopping or personal errands, school, and work, and would like to see more weekend service, better shelters, and later, more frequent service.

Station 2: Existing Conditions

In July 2022, BCAG and its consultant team prepared a memo describing the existing conditions of B-Line and the current transit needs of Butte County residents.

Some of the key findings from this report include:

- Demographic studies imply a **high need for public transit**. Compared to national averages, Butte County has proportionally more residents with a mobility-related disability, residents who are low-income, and residents who are aged 65 and older. California State University, Chico and Butte College students are also likely in need of public transit services.
- Butte County experienced an **overall 61% decline in transit ridership from 2013** due to multiple factors including the Camp Fire in 2018 and the start of the COVID-19 pandemic in 2019.
- **Lower demand for transit services is expected to remain for the foreseeable future**, with many workers transitioning to hybrid or remote schedules and schools offering online classes. However, **transit services are still needed by many area residents that cannot or prefer not to use private vehicles**, and an important part of solving issues related to traffic congestion, limited parking, and sustainability goals for the future.
- Onboard rider surveys indicate that **most people who ride B-Line are dependent on transit services** to get around. Riders primarily take B-Line for shopping or personal errands, school, and work, and would like to see more weekend service, better shelters, and later, more frequent service.



[View the Existing Conditions Memo Here](#)

Station 3: Previous Outreach

Station 3 allowed community members to engage with the project team, highlighting numerous workshop summaries and onboard survey results. A robust community engagement plan was in place to ensure that BCAG's planning effort aligned with the values and needs of the community during the B-Line Routing Study. This includes:

- Onboard Rider Surveys (December 2021)
- Three Virtual Community Workshops (July 14, 2022, October 25, 2022, and May 9, 2023)
- Pop-up Workshops (completed Spring 2023)

Highlights of the findings from the Onboard surveys included:

- 280 passengers participated in the survey. Almost 1/3 of respondents were students, most from Chico State, and another 1/3 were local employees.

Station 3: Previous Outreach

To ensure that BCAG's planning effort aligned with the values and needs of the community, a public outreach campaign was implemented during the B-Line Routing Study. This includes:



- Onboard Rider Surveys (December 2021)
- Three Virtual Community Workshops (July 14, 2022, October 25, 2022, and [one final workshop planned for May 9, 2023](#))
- Pop-up Workshops (planned for Spring 2023)

Here are the findings from the Onboard Surveys:

- 280 passengers participated in the survey. Almost 1/3 of respondents were students, most from Chico State, and another 1/3 were local employees.
- Transfers are most common between Routes 3 and 4, and between Routes 14 and 15. 20% of all transfers were from passengers riding Route 14.
- 77% of respondents rated B-Line service as good or excellent.
- The highest-ranked aspects of B-Line service were driver courtesy and affordability.
- The lowest-ranked aspects of B-Line service were bus stops/shelters and information at the bus stops.
- Participants most often requested improvement is for more frequent weekend service and more shelters at bus stops.

Below are links to previous outreach summaries.

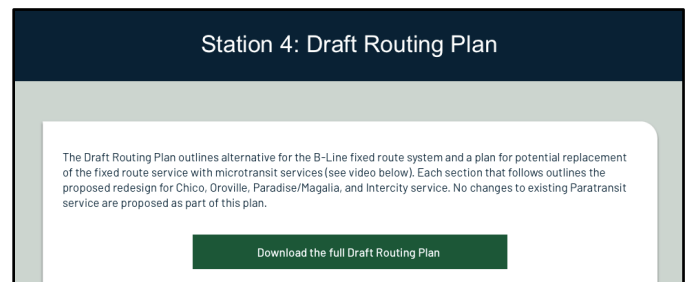
[Onboard Survey Summary](#) [Virtual Workshop #1 Summary](#) [Virtual Workshop #2 Summary](#)

- Transfers are most common between Routes 3 and 4 and between Routes 14 and 15. 20% of all transfers were from passengers riding Route 14.
- 77% of respondents rated B-Line service as good or excellent.
- The highest-ranked aspects of B-Line service were driver courtesy and affordability.
- The lowest-ranked aspects of B-Line service were bus stops/shelters and information at the bus stops.
- Participants most often requested improvement for more frequent weekend service and more shelters at bus stops.

Station 4: Draft Routing Plan

Station 4 presented the Draft Routing Plan which outlined alternatives for the B-Line fixed route system and a plan for potential replacement of the fixed route services with Microtransit changes. After a short educational video produced by the consultant team that explained what micro-transit is, the draft plan dove into three sections covering Chico service changes, Oroville service changes, paradise/Magalia service changes, and Intercity route service changes. At the end of each section community members were encouraged to leave feedback using a four-question SurveyMonkey survey with the following questions:



Survey Questions:

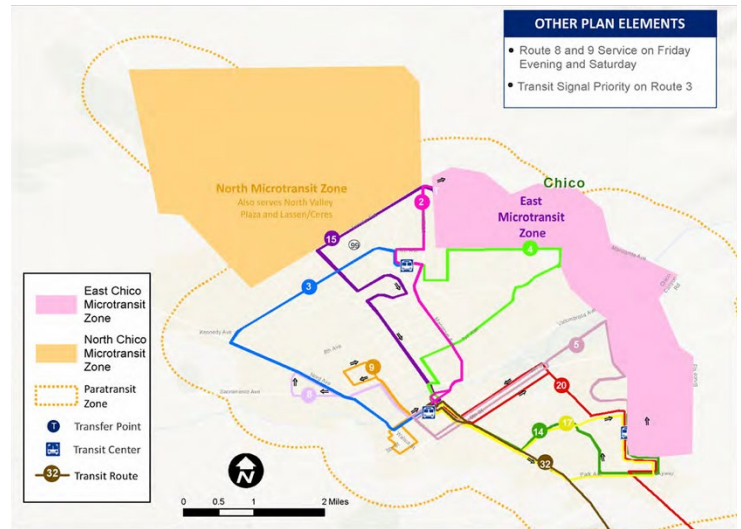
1. On a scale of 1-10 Please rate the proposed service changes for the area on how well they will meet your transit needs (1 being very poor and 10 being excellent)
2. Do you see any challenges or have any concerns about the proposed changes? (Open-ended)
3. On a scale of 1-10 Please rate the proposed service changes for the area's routes on how well you think this will meet the transit needs of the area (1 being very poor and 10 being excellent)
4. Are there any other things that BCAG should take into consideration for the area? (Open-ended)

Chico Service Changes

The existing route network currently serves Chico well. The system provides connections in downtown Chico as well as secondary transfer points at the North Valley Plaza and Forest Avenue in the south. However, there are route segments throughout the system, especially in the lower-density areas to the north and east, that have low ridership. There are other challenges with the on-time performance of some routes at various times of the day.

Guiding principles for the Chico service redesign include:

- Retain key services in downtown Chico
- Reflect community unmet needs
- Address on-time performance issues on existing Chico routes
- Replace low-performing routes with micro-transit service
- Add direct service in the southeast of the city and to new destinations
- Emphasize North Valley Plaza as the secondary transit center



Chico Plan Benefits

- Travel times are reduced on Routes 2 and 5, improving the on-time performance.
- Lower-performing routes have been replaced with Microtransit to better align the service with the market it serves.
- Transit coverage is extended with Microtransit in the east and north areas, with continued connection points at Downtown Chico, North Valley Plaza, and Forest Avenue.
- Direct fixed route local service on Fair Street to the Jesus Center
- Friday evening service and Saturday service is provided on Routes 8 and 9 when CSUC is in session.

Chico service that has changed includes:

- Route 2 Mangrove
- Route 3 Nord/East
- Route 5 East 8th Street
- Route 7 Bruce/Manzanita
- Route 8 Nord
- Route 9 Orange/Warner/Cedar
- Route 15 Esplanade/Lassen
- Route 16 Esplanade/Hwy 99
- Route 17 Park/Fair/Forest
- Route 52 Chico Airport Express
- North Microtransit Zone
- East Microtransit Zone

SurveyMonkey Poll Chico (23 responses):

Question 1: On a scale of 1-10 Please rate the proposed service changes for the Chico on how well they will meet your transit needs (1 being very poor and 10 being excellent)

Q1 On a scale of 1-10, please rate the proposed service changes for the Chico area on how well this will meet your transit needs (1 being very poor and 10 being excellent).

Answered: 23 Skipped: 0

8.6★
average rating



Question 2: Do you see any challenges or have any concerns about the proposed changes? (Open-ended)

- No
- No, but I'm interested in how Microtransit will work
- Great system now, with lots of room for improvement. Proposed changes are well thought out for current and future demand. Much thought was put into offering Microtransit (great!) and adjusting routes - all needed and long overdue. Bus shelters and stops are in BAD shape -please make this a priority.
- No, happy to see more nighttime service
- Need more downtown routes
- Downtown
- Reduce travel time

Question 3: On a scale of 1-10 Please rate the proposed service changes for the Chico routes on how well you think this will meet the transit needs of the area (1 being very poor and 10 being excellent)

Q3 On a scale of 1-10 please rate the proposed service changes for the Chico routes on how well you think this will meet the transit needs of the Chico area (1 being very poor and 10 being excellent).

Answered: 23 Skipped: 0

8.0★
average rating



Question 4: Are there any other things that BCAG should take into consideration for the area? (Open-ended)

- Thank you for the study
- No, I like the bus and want to ride it more but doesn't seem convenient at the moment

- More Microtransit routes
- Bus shelters and stops are in BAD shape - please make this a priority. Some "stops" are not even marked. Shelters have outdated or no schedules posted, broken glass panels, and malfunctioning electronic service boards. Chico Park & Ride is a huge opportunity that is not addressed in the study or proposed route changes. Chico Park & Ride could increase ridership throughout the B-line system, for those that have vehicles and not. Thanks for a great transit system and for looking to improve
- Still, need ways to get into disadvantaged communities more – help them get to the stations and where they need to go
- Help service stay on time
- Fare discounts – bus passes encourage more people to use the bus
- Provide more information about where to find the bus

Oroville Service Changes

The existing service in Oroville operates four routes at 60-minute headways using two buses. This plan reallocates the service hours to improve on-time performance and coverage in the area. The service plan introduces three Microtransit zones and three fixed routes to expand the service to more areas.

The key components of the services in Oroville include:

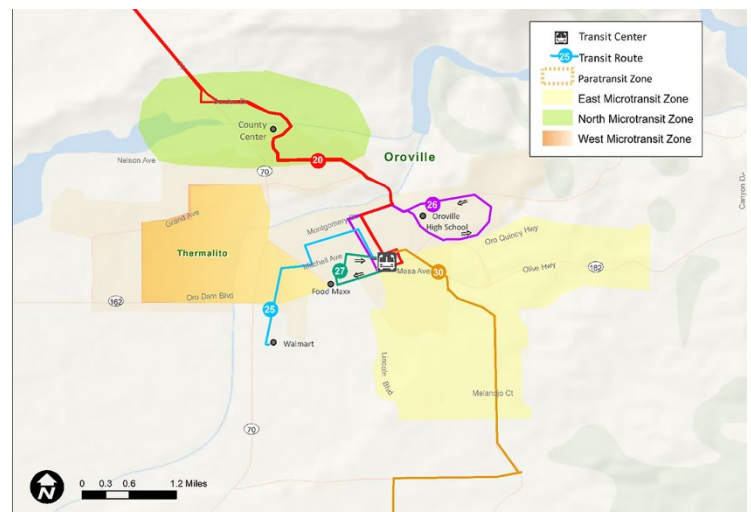
- Retain high ridership routes
- Replace low ridership routes with Microtransit
- Commingle paratransit and general public demand response to extend coverage

Oroville Plan Benefits

- Improved on-time performance for fixed routes.
- Lower-performing routes have been replaced with Microtransit to better align the service with the market it serves. This has the potential to expand ridership in the future.
- Extended transit coverage with Microtransit in the southeast and north areas.
- No additional revenue hours.

Oroville service that has changed includes:

- Route 25 Feather River Boulevard
- Route 26 Orange Ave
- Route 27 Oro Dam/Veatch
- West Microtransit Zone
- Southeast Microtransit Zone
- North Microtransit Zone



SurveyMonkey Poll Oroville (14 responses):

Question 1: On a scale of 1-10 Please rate the proposed service changes for Oroville on how well they will meet your transit needs (1 being very poor and 10 being excellent)

Q1 On a scale of 1-10, please rate the proposed service changes for the Oroville area on how well this will meet your transit needs (1 being very poor and 10 being excellent).

Answered: 14 Skipped: 0

8.3★

average rating



Question 2: Do you see any challenges or have any concerns about the proposed changes? (Open-ended)

- More extended coverage
- Are any bike facilities planned or places to lock up the bike
- Worried about replacing routes with Microtransit
- How does Microtransit make it to hard-to-reach areas – More cars/buses?

Question 3: On a scale of 1-10 Please rate the proposed service changes for the Oroville routes on how well you think this will meet the transit needs of the area (1 being very poor and 10 being excellent)

Q3 On a scale of 1-10 please rate the proposed service changes on how well you think this will meet the transit needs of the Oroville area (1 being very poor and 10 being excellent).

Answered: 14 Skipped: 0

8.1★

average rating

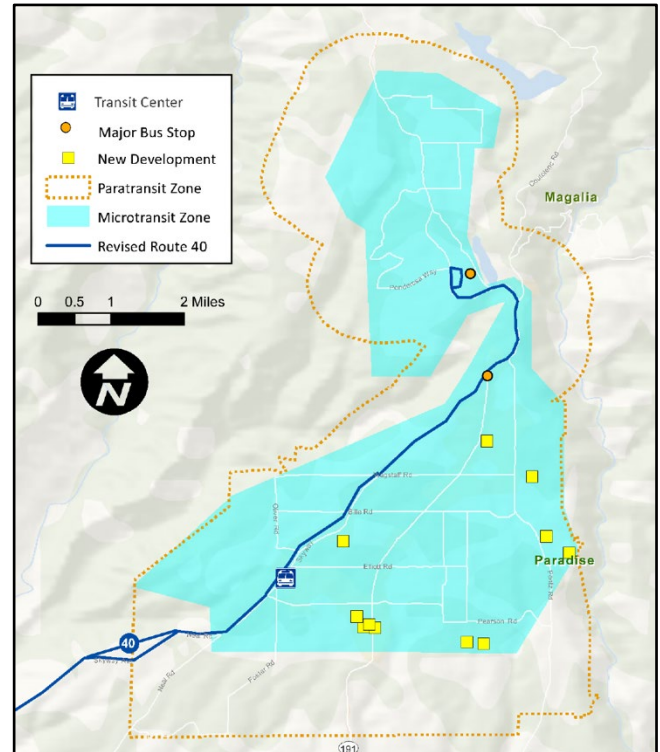


Question 4: Are there any other things that BCAG should take into consideration for Oroville? (Open-ended)

- Need more information on schedules
- Cleaner bus stops, more shade, cell phone chargers
- Mobility needs
- Interested in learning more about Microtransit

Paradise/Magalia & Intercity Service Changes

The existing Routes 40 and 41 will be replaced with a single streamlined Route 40, with all runs traveling to Magalia. Microtransit service is also planned to serve outlying areas, helping to support rebuilding in the two communities. As shown in the map below, the route operates along most of the segment of the existing Route 40 to Wagstaff Road / Clark Road and continues north on Clark Road to the Lakeridge loop in Magalia. The Paradise Transit Center will be served in both directions. Note that the existing Route 41 service along Fair Street in Chico will be eliminated (all services will be along the existing Route 40 in Chico), but the revisions to Route 17 will replace and expand service along Fair Street.



Reflecting current ridership levels, the number of runs on weekdays will be five in the westbound direction and four in the eastbound direction, with three runs in each direction on Saturdays. These runs are scheduled to allow commuting in both directions on weekdays, as well as mid-day services to allow a variety of trip lengths for other purposes. Note that if demand increases in the future, additional runs (particularly on weekdays) could be added.

Paradise/Magalia Microtransit

Outlying areas of Paradise and Magalia will be served by a Microtransit zone. This will replace the various low-ridership loops operated currently by Route 41 and substantially expand the transit service area to encompass new developments in Paradise that are part of rebuilding the community. To provide connections with the fixed route, service will operate from 6:30 AM – 6:00 PM on weekdays and 9:30 AM – 5:30 PM on Saturdays. This service should initially be operated using a single van. If ridership grows to the point where average wait times consistently exceed 30 minutes, a second van could be added during peak times. Fares will be consistent with the local fixed route fares.

Paradise/Magalia Plan Benefits

- Improved on-time performance for fixed route
- Lower-performing route segments have been replaced with Microtransit to better align the service with the market it serves.
- Microtransit significantly expands the portions of the Ridge communities that have transit service. Importantly, this includes scattered multifamily residential developments that cannot be efficiently served by fixed routes. Overall, it provides service that better fits the development pattern as the area

continues to recover from the Camp Fire. It also provides service for trips within the local area at a lower local fare rate rather than the current regional fare rate.

SurveyMonkey Poll Paradise/Magalia (8 responses):

Question 1: On a scale of 1-10 Please rate the proposed service changes for the Paradise/Magalia area on how well they will meet your transit needs (1 being very poor and 10 being excellent)



Question 2: Do you see any challenges or have any concerns about the proposed changes? (Open-ended)

- Concerned about being so heavily reliant on Microtransit – does BCAG have the plan set in place for the entire system?

Question 3: On a scale of 1-10 Please rate the proposed service changes for the Paradise/Magalia routes on how well you think this will meet the transit needs of the area (1 being very poor and 10 being excellent)



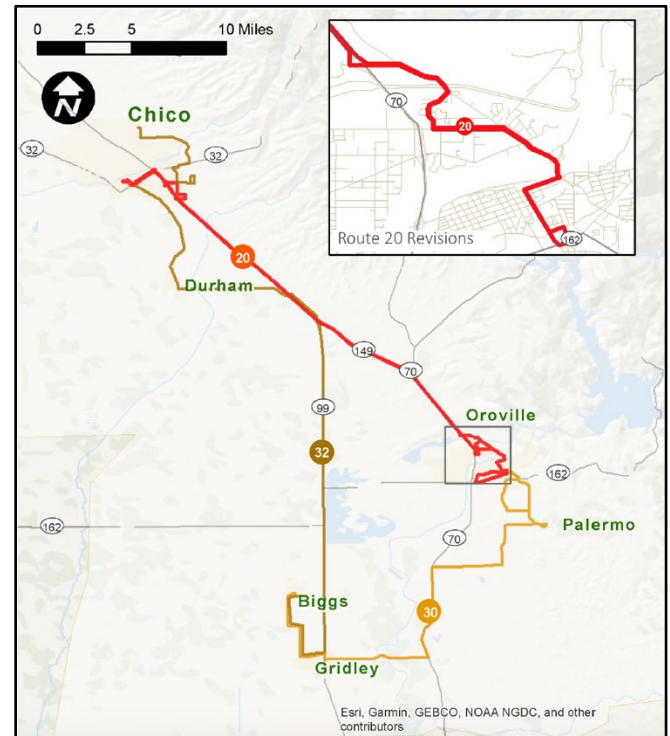
Question 4: Are there any other things that BCAG should take into consideration for Paradise/Magalia? (Open-ended)

- More services to hard-to-reach communities within Paradise/Magalia

Intercity Route Service Changes

Beyond the Paradise/Magalia service, intercity service updates include:

- Route 20 is currently providing critical connections between the most populous areas within Butte County – Chico and Oroville. In this plan, most of the routing of Route 20 will remain the same. The proposed new Route 20 will be bidirectional along SR 70, Garden Dr, Table Mountain Blvd, County Center Dr, Nelson Ave, and back to Table Mountain Blvd. This will reduce the running time by 1 to 2 minutes and improve on-time performance.
- Route 30 is planned to remain unchanged, as current service needs are well served by the current service plan.
- No changes are considered for Route 32. While ridership is low, it is an important lifeline service and serves disadvantaged communities.
- Before the Camp Fire, Route 31 provided service between Paradise and Oroville. Even before the pandemic and fire, ridership on this route was very low. Given that the bulk of the need for a transit connection to Paradise/Magalia is to/from Chico, available transit resources are better used in expanding that service (as discussed above) and reinstatement of Route 31 is not part of this plan.



Benefits of Intercity Services

- Improved on-time performance for intercity routes
- Maintain key service areas of the intercity routes
- Improve regional service efficiency

Paratransit Services

Under this plan, fixed routes will be reduced. As the minimum paratransit service area required under the Americans with Disabilities, Act is a 3/4-mile distance from a fixed route, this provides the potential to reduce paratransit service areas. However, no reductions in existing paratransit services are proposed.

SurveyMonkey Poll Intercity (9 responses):

Question 1: On a scale of 1-10 Please rate the proposed service changes for the Intercity area on how well they will meet your transit needs (1 being very poor and 10 being excellent)

Q1 On a scale of 1-10, please rate the proposed service changes for the Intercity area on how well this will meet your transit needs (1 being very poor and 10 being excellent).

Answered: 9 Skipped: 0

7.8★
average rating



Question 2: Do you see any challenges or have any concerns about the proposed changes? (Open-ended)

- Keep paratransit
- No – challenges wanted to be sure Route 20 stayed
- My comment is on the bidirectional travel on County Center Drive. Currently, bus stops are only on one side of the road. While a bus stop could be placed on the opposite side of the road at the Juvenile Hall stop, there is no room for bus stops on the opposite side of the road at Administration and Public Works since there is only a dirt shoulder with a ditch. Please explain what improvements would be necessary to have bidirectional travel along County Center Drive.

Question 3: On a scale of 1-10 Please rate the proposed service changes for the Intercity routes on how well you think this will meet the transit needs of the area (1 being very poor and 10 being excellent)

Q3 On a scale of 1-10 please rate the proposed service changes for the Intercity routes on how well you think this will meet the transit needs of the Intercity area (1 being very poor and 10 being excellent).

Answered: 9 Skipped: 0

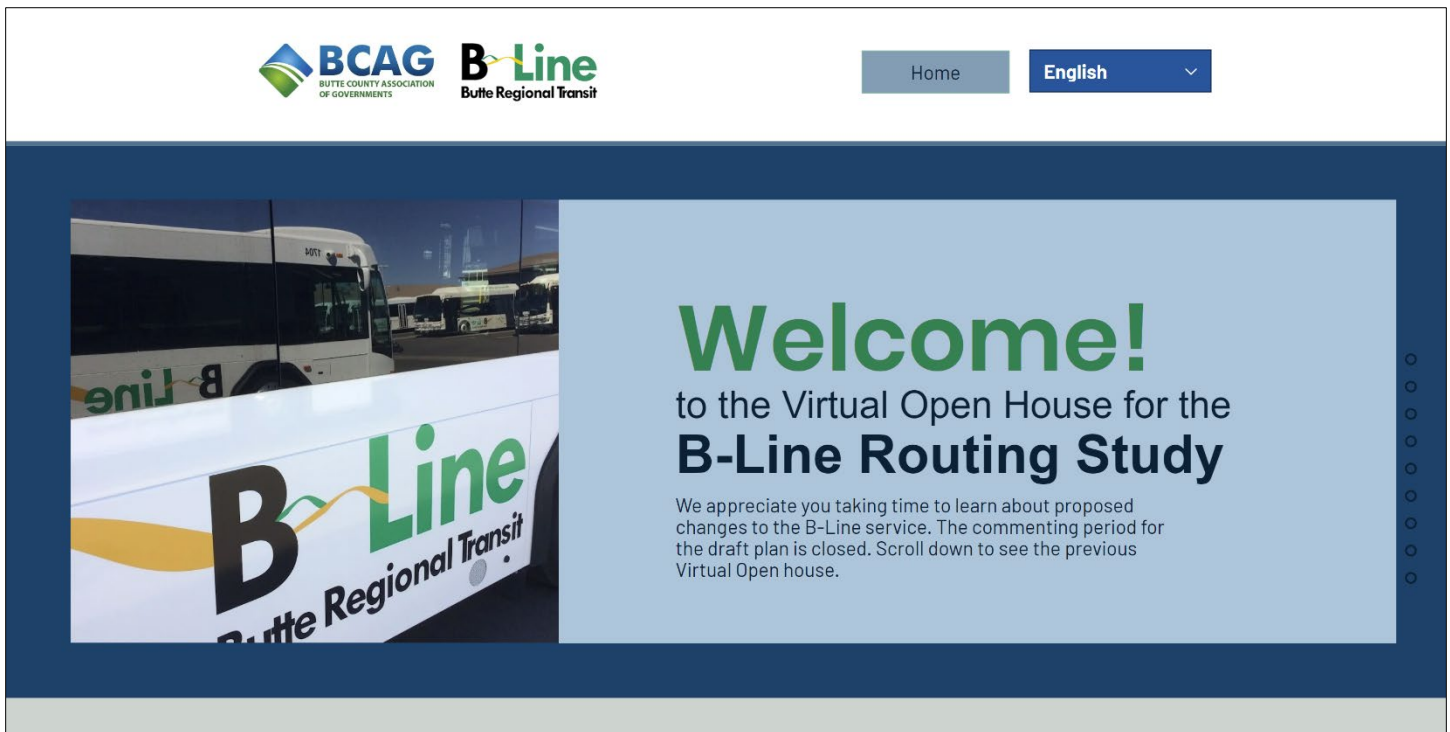
8.2★
average rating



Question 4: Are there any other things that BCAG should take into consideration for Intercity? (Open-ended)

- My bus is late a lot please help
- More shade at bus stops
- Cleaner stops, make it more comfortable to wait

PICTURE OF VIRTUAL OPEN HOUSE WEBSITE (1/2)



PICTURE OF VIRTUAL OPEN HOUSE WEBSITE (2/2)

Let's get started! Below is an overview of the stations included in the Virtual Open House.

Learn about the B-Line Routing Study and previous work that's been done:

Station 1: Study Overview and Purpose

Station 2: Existing Conditions

Station 3: Previous Outreach

Click here to see an overview of proposed
service alternatives for the B-line:

Station 4: Draft Routing Plan

Download the Draft Routing Plan

Click on your preferred region to view
specific service alternatives:

CHICO

OROVILLE

PARADISE/MAGALIA

INTERCITY ROUTES

Appendix H
MARKETING PLAN SAMPLE MATERIALS

FOR IMMEDIATE RELEASE

July 1, 2024

To: Butte County News Media
Contact: Sara Cain, Senior Planner, 530-809-4616

Butte County Association of Governments (BCAG) and B Line Butte Regional Transit (B Line) is implementing new transit services that address the current mobility needs of Butte County residents. A recently completed Transit Routing Study reviewed the performance of all B-Line services and developed improvements to speed services, improve service reliability and expand service areas were needed. These new transit services are coming this summer 2024!

The service changes include the introduction of a new transit concept called microtransit. Similar to ridesharing services such as Uber or Lyft, riders request a trip from their origin to their destination using an app on their phone or laptop, or through calling B-Line. Vans are dispatched to provide a ride (typically within 30 minutes), at a fare consistent with the fixed route fare. Microtransit services are planned for two areas in Chico, three areas in Oroville and throughout Paradise and Magalia.

In addition to the microtransit service, changes in Chico services include new Friday evening and Saturday service on Routes 8 and 9, revisions to Routes 2, 3, 5, 8, 9, 15 and 17, and elimination of Routes 7, 16, and 52

In Oroville, fixed route services will be shortened to focus more on the core area of the community, with outlying areas to the north, southeast and west served by microtransit zones.

Microtransit service in Paradise and Magalia will greatly expand the service area to include areas of new residential development. The existing Routes 40 and 41 will be combined into a single consistent route with all runs extending to Magalia. To fund the microtransit service, the number of daily runs will be reduced while still serving the commute periods and providing various options for other trips to and from Chico.

BCAG and B Line are looking forward to rolling out these new services over the course of the summer, and are committed to improving transit services for Butte County residents. More details are available at www.blinetransit.com, including the full Transit Routing Plan report. For further information, contact BCAG Senior Planner Sara Cain at scain@bcag.org or 530-809-4616.

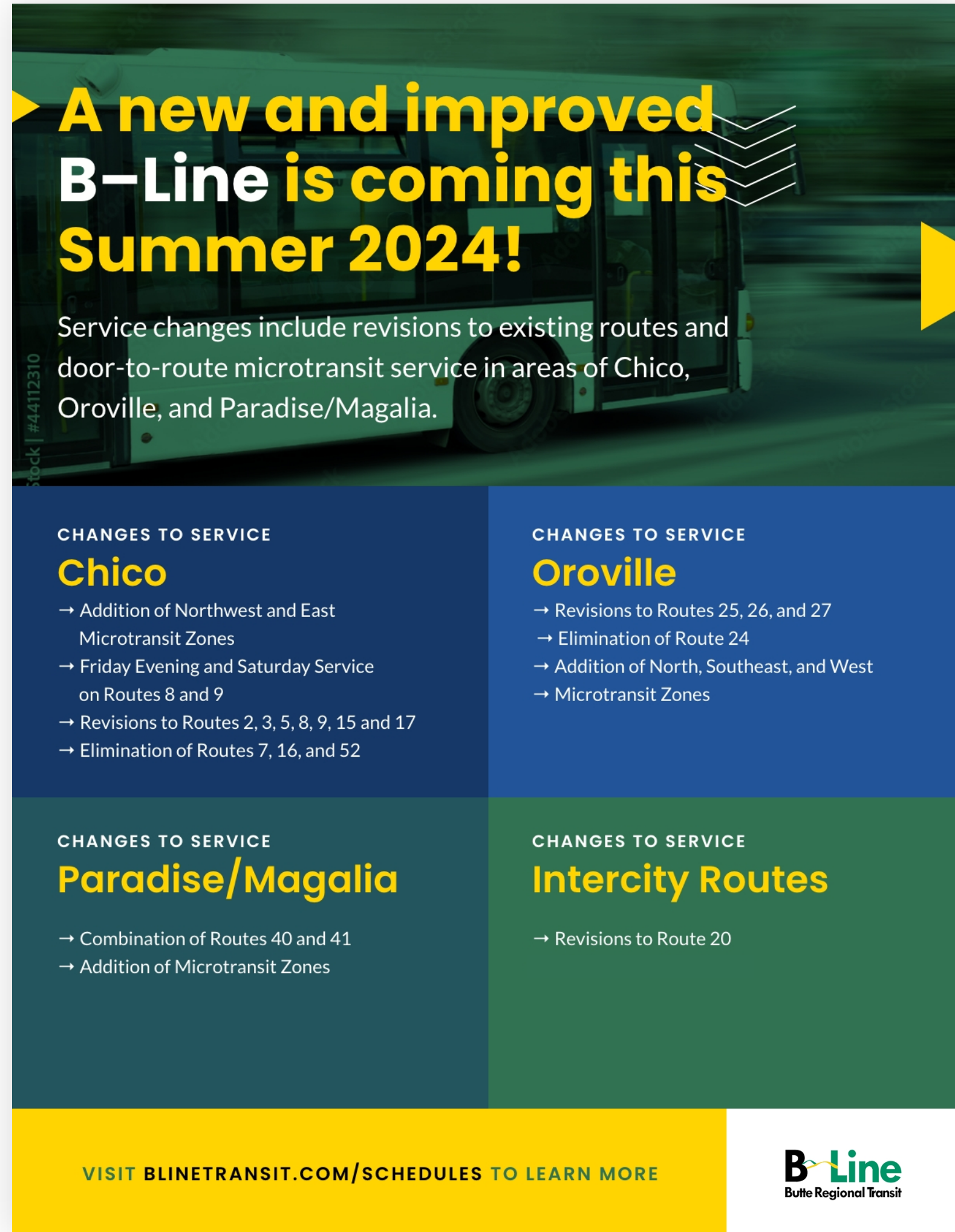
B-Line

New Routes Summer 2024

Campaign Design Concepts

6/12/23

Concept 1



FLYER

DISPLAY BANNER



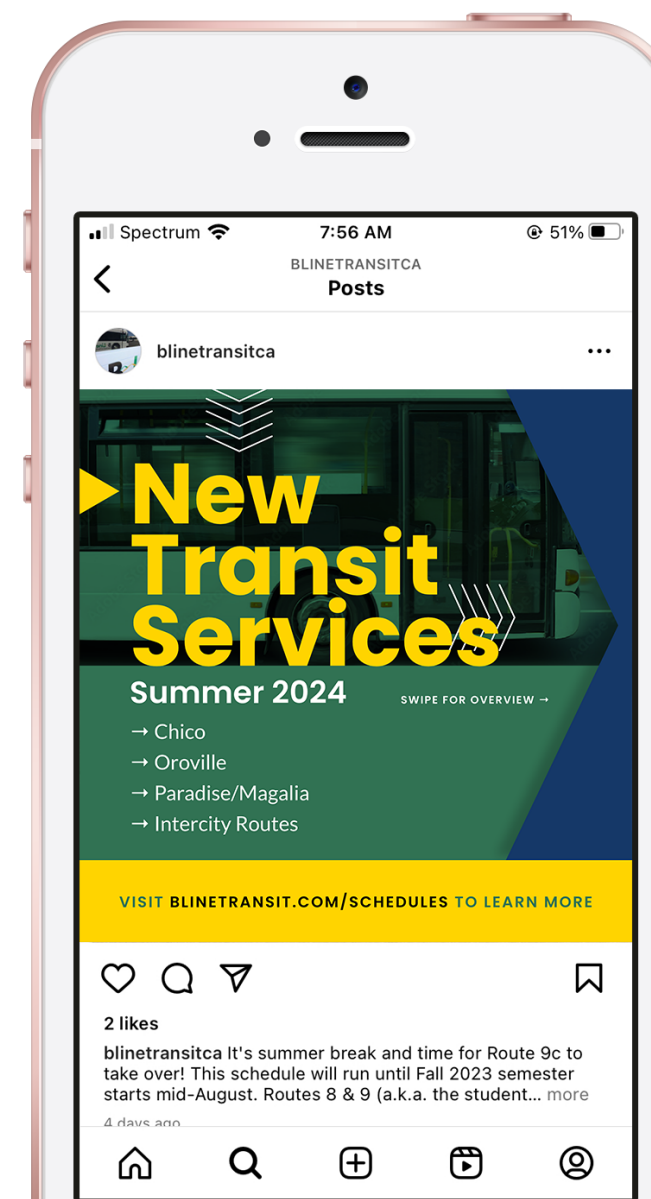
DISPLAY BANNER



BUS BOARD



INSTAGRAM



2/5

3/5

4/5

5/5

Concept 2





The B-Line gets an upgrade.

Service changes include revisions to existing routes and door-to-route microtransit service in areas of Chico, Oroville, and Paradise/Magalia.



CHANGES TO SERVICE

Chico

→ Addition of Northwest and East Microtransit Zones

→ Friday Evening and Saturday Service on Routes 8 and 9

→ Revisions to Routes 2, 3, 5, 8, 9, 15 and 17

→ Elimination of Routes 7, 16, and 52

Paradise/Magalia

→ Combination of Routes 40 and 41

→ Addition of Microtransit Zones

Oroville

→ Revisions to Routes 25, 26, and 27

→ Elimination of Route 24

→ Addition of North, Southeast, and West

→ Microtransit Zones


Intercity Routes


→ Revisions to Route 20

VISIT [BLINETRANSIT.COM/SCHEDULES](https://blinetransit.com/schedules) TO LEARN MORE

FLYER

DISPLAY BANNER





The B-Line gets an upgrade.

→ Chico

→ Oroville

→ Paradise/Magalia

→ Intercity Routes

SEE DETAILS

DISPLAY BANNER





The B-Line gets an upgrade.

→ Chico

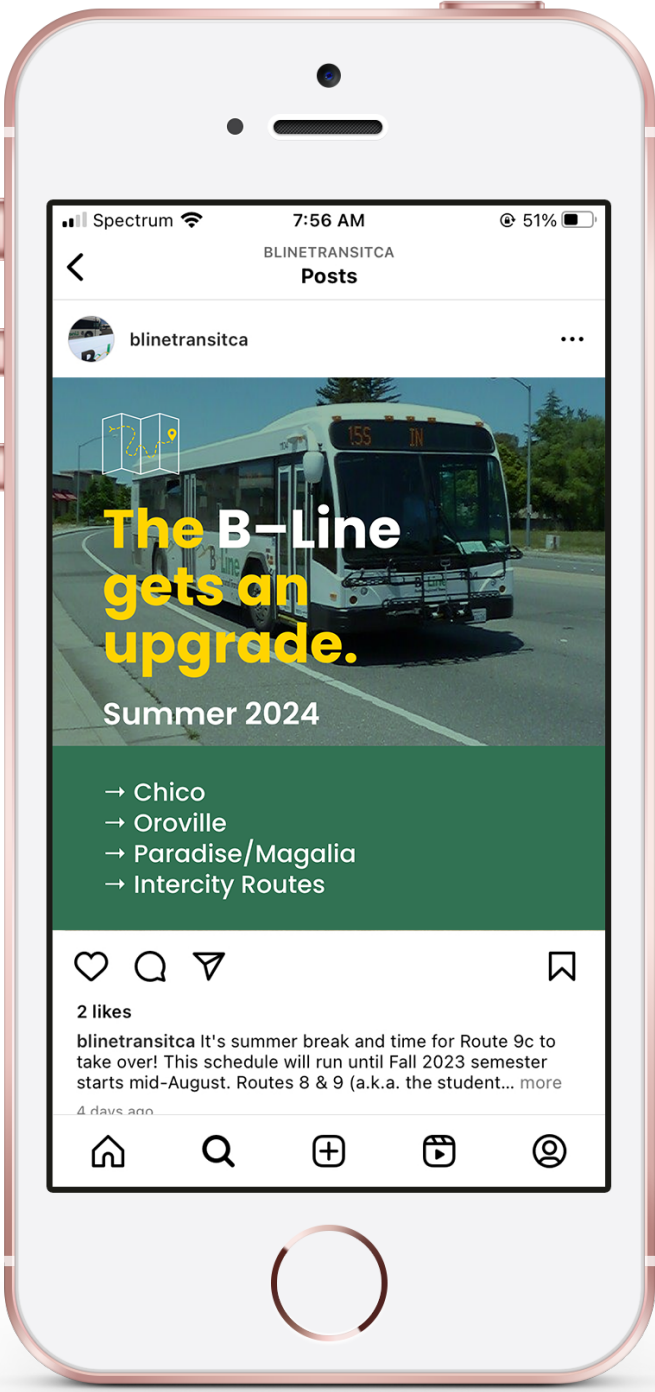
→ Oroville

→ Paradise/Magalia

→ Intercity Routes

SEE DETAILS

BUS BOARD



INSTAGRAM

BUS BOARD



Concept 3

A new and improved B-Line is coming this Summer 2024!

Service changes include revisions to existing routes and door-to-route microtransit service in areas of Chico, Oroville, and Paradise/Magalia.



CHANGES TO SERVICE

Chico

- Addition of Northwest and East Microtransit Zones
- Friday Evening and Saturday Service on Routes 8 and 9
- Revisions to Routes 2, 3, 5, 8, 9, 15 and 17
- Elimination of Routes 7, 16, and 52

Paradise/Magalia

- Combination of Routes 40 and 41
- Addition of Microtransit Zones

Oroville

- Revisions to Routes 25, 26, and 27
- Elimination of Route 24
- Addition of North, Southeast, and West
- Microtransit Zones

Intercity Routes

- Revisions to Route 20

VISIT [BLINETRANSIT.COM/SCHEDULES](https://blinetransit.com/schedules) TO LEARN MORE



FLYER

New and improved B-Line coming Summer 2024!





- Chico
- Oroville
- Paradise/Magalia
- Intercity Routes

[SEE DETAILS](#)

DISPLAY BANNER

New and improved B-Line coming Summer 2024!

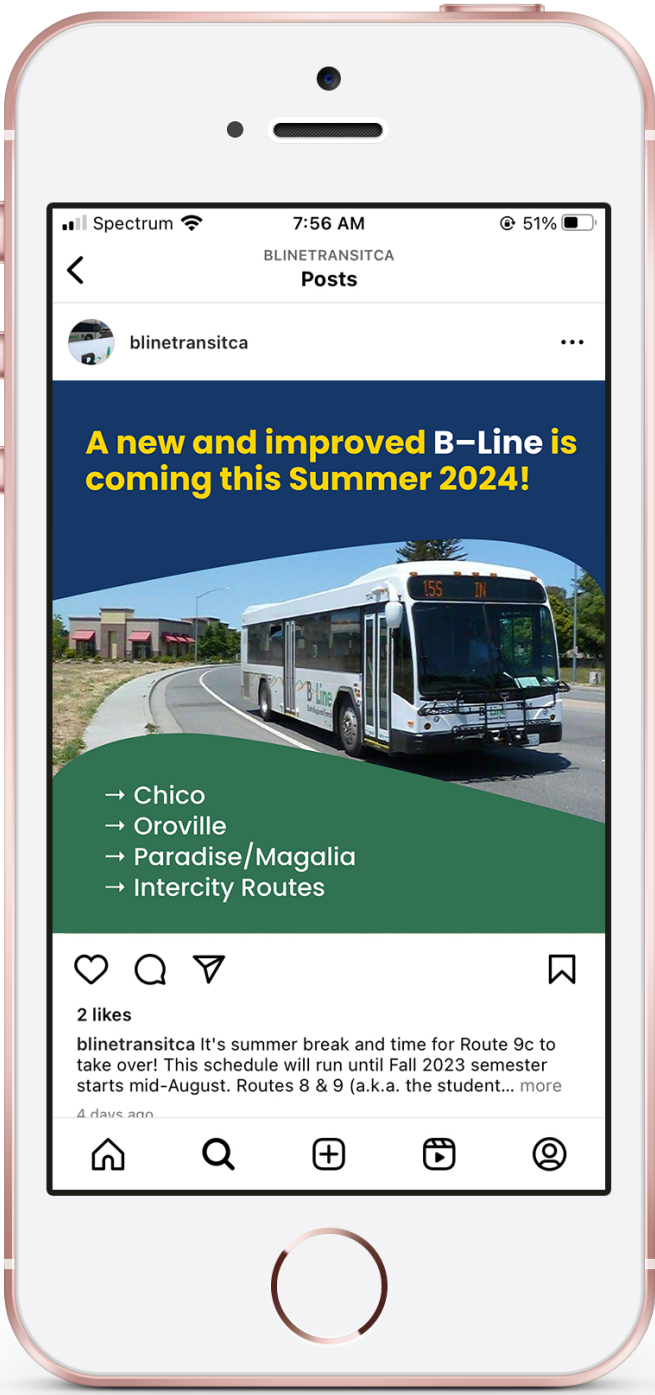




- Paradise/Magalia
- Intercity Routes
- Oroville
- Chico

[SEE DETAILS](#)

DISPLAY BANNER



INSTAGRAM

New and improved B-Line coming Summer 2024!





CHANGES TO SERVICE

Chico

- Addition of Northwest and East Microtransit Zones
- Friday Evening and Saturday Service on Routes 8 and 9
- Revisions to Routes 2, 3, 5, 8, 9, 15 and 17
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Paradise/Magalia

- Combination of Routes 40 and 41
- Addition of Microtransit Zones

Oroville

- Revisions to Routes 25, 26, and 27
- Elimination of Route 24
- Addition of North, Southeast, and West
- Microtransit Zones

Intercity Routes

- Revisions to Route 20

VISIT [BLINETRANSIT.COM/SCHEDULES](https://blinetransit.com/schedules) TO LEARN MORE

BUS BOARD

Appendix I

MARKETING PLAN CONTACT LIST

Contact	Company/Organization	Position	Email	Phone
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Tim Williams	Ability First Sports		eric@abilityfirstsports.org / chuck@abilitysports.org	521-8509
Bobby Jones	Adventist Health	Operations Executive	williate01@ah.org	269-845-5558
	African American Family and Cultural Center		aafcc@aafcc-oroville.org	(530) 532-1205
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Lindsey Theobald	Alliance for Workforce Development--Chico		ltheobald@ncen.org	530-927-9568
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	American Red Cross, Northen Calif Chapter		rdavalle13@yahoo.com	530-673-1460
Lisa Williams	Ampla Health - Dental	Site Administrator		530-342-6065/ 530-674-4261 ext: 1161 (corporate)
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Cheryl Williams	Berry Creek Rancheria		msakuma@bcoe.org	530-532-5650
	Bidwell Park Apartments		cav@williamscochrane.com	619-793-4809
	Bike Around the Buttes		bidwellpark@cresapts.com / chicocourtyards@cresapps.com	530-345-0200
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Amy Alvarez	Build.com		devin@build.com	(800) 375-3403
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Jim Wagoner	Butte County Air Quality Mgmt District		SErtle@bcaqmd.org	855-332-9400 x113
Jon Clark	Butte County Assn. of Governments		jwagoner@bcaqmd.org	
Scott Kennelly	Butte County Behavioral Health	Director	jonclark@bcag.org	
Scott Kennelly, Director	Butte County Behavioral Health		skennelly@buttecounty.net	530.891.2850
Wendy Brown	Butte County Child Abuse Prevention Council		skennelly@buttecounty.net	530-891-2850
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Briana Butterfield	Butte County COC		sparisi@buttecounty.net	
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	Butte County Historical Society		CTE@bcoe.org	530-879-7462
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Seng Yang	Butte County Hmong Association		info@hmongculturalcenter.net / ssyang@hmongculturalcenter.net	530-534-7474
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	Butte County Local Food Network		swaters@buttecounty.net	530-552-3552
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Dominic Manfredi	Butte County Office of Education	Vice Principal	jdelgado@bcoe.org	
Jaqueline Dillard	Butte County Office of Education	Communications Officer	dmanfredi@bcoe.org	530.532.5740 x1022
Tracey Allen	Butte County Office of Education		jdillard@bcoe.org	530.532.5650
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