

## 3 EXISTING TRANSIT SERVICES

In this chapter, existing public transportation services in Butte County are described. The first part of the chapter is devoted to B-Line, the primary transit operator of local and intercity fixed-route bus and demand-responsive paratransit service (“B-Line Paratransit”) within Butte County. Fixed routes link the cities of Chico, Gridley, Biggs, Oroville, and Paradise. Transit service is operated by Transdev (Veolia Transportation), which has operated buses in Chico for over 25 years.

Following the review of B-Line services, this chapter includes a discussion of other public and private services. This chapter includes the results of the boardings and alightings analysis conducted in September 2013.

### B-LINE FIXED ROUTE SERVICES

The following section focuses on fixed-route service; paratransit services are discussed later in this chapter.

#### Route Descriptions

B-Line operates primarily two types of services: urban (Chico area) and rural (within other Butte County cities or intercity, between other major cities and population centers of Butte County). Some routes operate Monday through Friday only, and others operate all seven days. Routes 8, 9, and 40X operate on different schedules depending on whether California State University, Chico, is in session.

B-Line does not operate on New Year’s Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. See Figures 3-1 through 3-3 for an overview of B-Line services, with each figure showing a specific type of route. Note that in some cases, service start and/or end times have been rounded slightly to make the service span easier to read at a glance.

Figure 3-1 Summary of B-Line Routes Wholly within Chico

Name	Major Stops/Timepoints	Service Span (Rounded)	Headway (Frequency)
2 Mangrove	Chico Transit Center, 5th & Mangrove, Parmac & Rio Lindo, North Valley Plaza and Ceres & Lassen	Mon-Fri 6:15am - 8:30pm Sat 8:15am - 7pm	Peak 30 min Midday 60 min Saturday 60 min
3 Nord/East	Chico Transit Center, West 8th Avenue & Nord, East & Nord, East & Esplanade and North Valley Plaza	Mon-Fri 6:20am - 9pm Sat 8:50am - 7pm	Peak 30 min Midday 60 min Saturday 60 min

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Name	Major Stops/Timepoints	Service Span (Rounded)	Headway (Frequency)
4 First/East	Chico Transit Center, Chico Junior HS, First & Longfellow, Pleasant Valley HS and North Valley Plaza	Mon-Fri 6:15am - 9pm Sat 8:50am - 7pm	Peak 30 min Midday 60 min Saturday 60 min
5 East 8th Street	Chico Transit Center, 9th Street & Pine, 8th Street and Highway 32, 8th Street and Olive and the Forest Avenue Transfer (Bank)	Mon-Fri 6:15am - 8:30pm Sat 8:15am - 7pm	Peak 30 min Midday 60 min Saturday 60 min
7 Bruce/Manzanita	Forest Avenue Transfer (Bank), Marsh Junior HS, Sierra Sunrise Village, Pleasant Valley HS and Ceres and Lassen. Note: Route 7 does NOT serve the Chico Transit Center	Mon-Fri 6:45am - 5:30pm	60 min
8 Nord	Student Shuttle through-routed with Route 9: connects CSU-Chico with student neighborhoods northwest of campus and the Chico Transit Center. Operates only when CSU-Chico is in session	Mon-Thu 7:30am - 9:30pm Fri 7:30am - 4pm	30 min
9 Warner/Oak	Student Shuttle through-routed with Route 8: connects CSU-Chico with student neighborhoods north and south of the campus and the Chico Transit Center. Operates only when CSU-Chico is in session	Mon-Thu 7:30am - 10pm Fri 7:30am - 4pm	30 min
9C Cedar Loop	Limited service; only operates when Route 9 is not running	Fri (while school is in session) 5:10pm - 8:30pm Mon-Fri (CSU breaks) 7:50am - 8:30pm Sat (year-round) 8:30am - 6:30pm	Friday PM 60-120 min Mon-Fri (CSU breaks) 80 min Saturday 120 min
15 Esplanade/ Park/Forest	Route 15 is split into the 15N serving Esplanade/Lassen to the Chico Transit Center and the 15S serving the Chico Transit Center to Park Avenue/MLK/Forest Avenue	Mon-Fri (15N) 6:15am - 9:30pm Sat (15N) 7:50am - 6:30pm Mon-Fri (15S) 6:20am - 9:40pm Sat (15S) 7:50am - 7pm	Peak 20 min Midday 30 min Evening 60 min Saturday 60 min
16 Esplanade/SR 99	Chico Transit Center, Esplanade & 5th, Rio Lindo & Parmac, East & Esplanade and Esplanade and SR 99	Mon-Fri 7am - 7pm Sat 8am - 6pm	60 min

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Figure 3-2 Summary of B-Line Routes Wholly within Other Butte County Cities

Name	Major Stops/Timepoints	Service Span (Rounded)	Headway (Frequency)
Oroville			
24 Thermalito	Oroville Transit Center (Mitchell & Spencer), 14th & Grand and Public Works/Administration. Through-routed with Route 27	Mon-Fri 6:30am - 7:30pm	60 min
25 Oro Dam	Oroville Transit Center (Mitchell & Spencer) and Feather River Cinemas. Through-routed with Route 26	Mon-Fri 6:10am - 6:50pm	60 min
26 Olive Hwy/Kelly Ridge	Oroville Transit Center (Mitchell & Spencer), D Street & Meyers, Gold Country Casino, Kelly Ridge & Royal Oaks, Oroville Hospital and Orange & Acacia. Through-routed with Route 25	Mon-Fri 6:30am - 6:20pm	60 min
27 South Oroville	Oroville Transit Center (Mitchell & Spencer), Las Plumas High School and Meyers & D Street. Through-routed with Route 24	Mon-Fri 7:10am - 6:50pm	60 min
Paradise			
46 Feather River Hospital	Paradise Transit Center (Almond & Birch) and Feather River Hospital. Operation coordinated through B-Line Paratransit	3 trips daily	Approx. 4 hrs

Figure 3-3 Summary of Intercity B-Line Routes

Name	Major Stops/Timepoints	Service Span (Rounded)	Headway (Frequency)
20 Chico - Oroville	Chico Transit Center, Fir Street Park and Ride, Forest Avenue Transfer (WalMart & Bank), Butte County Administration and Oroville Transit Center (Mitchell & Spencer)	Mon-Fri 5:50am - 8pm Sat-Sun 7:50am - 6pm	Peak 60 min Midday 120 min Weekend 120 min
30 Oroville - Biggs	Oroville Transit Center (Mitchell & Spencer), Lincoln & Palermo (Palermo), Heritage Oaks Mall (Gridley) and 6th and B Streets in Biggs	Mon-Fri 7:45am - 5pm Sat 8:45am - 5pm	Weekday 240 min Saturday 120 min

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Name	Major Stops/Timepoints	Service Span (Rounded)	Headway (Frequency)
31 Paradise - Oroville	Almond & Birch (Paradise), Clark & Wagstaff (Paradise), Clark & Pearson (Paradise), County Public Works (Oroville) and the Oroville Transit Center (Mitchell & Spencer)	Mon-Fri 6:45am - 7:30am (Paradise-Oroville); 5pm - 6pm (Oroville-Paradise)	1 morning/ 1 evening trip
32 Gridley - Chico	City Hall - 6th & C Street (Biggs), Spruce & SR 99 (Gridley), Midway & Durham Dayton Hwy (Durham), and the Chico Transit Center.	Mon-Fri 6:40am - 7:40am (Gridley-Chico); 5:20pm - 6:20pm (Chico-Gridley)	1 morning/ 1 evening trip
40 Paradise - Chico	Chico Transit Center, Forest Avenue Transfer @ WalMart (Chico), Almond & Birch (Paradise) and Skyway & Wagstaff (Paradise)	Mon-Fri 6am - 7:30pm Sat 7:50am - 6pm Sun 9:50am - 6pm	Weekday 60/120 min Weekend 120 min
41 Magalia - Chico	Skyway & Colter (Paradise Pines), Lakeridge @ Holiday Market (now a SavMor) (Magalia), Skyway & Wagstaff (Paradise), Almond & Birch (Paradise), Forest Avenue Transfer (WalMart & Bank) (Chico) and the Chico Transit Center	Mon-Fri 5:30am - 6:45pm	120 min
	Saturday service operates between Skyway & Wagstaff, Skyway & Colter, and back, offering transfers to/from Route 40	Sat 9:45am – 6pm	Three round trip routes in AM, midday, and PM

## Fixed Route Fleet & Facilities

### Transit Centers & Transfer Points

B-Line operates and serves three transit centers that offer timed transfer points. The Chico Transit Center is located on West 2<sup>nd</sup> Street between Salem Street and Normal Avenue in downtown Chico, and bus boarding areas are located on all three blocks. The facility, which opened in 2008, features shelters, restrooms, and a staffed ticket office. Chico Transit Center is served by most local and intercity B-Line routes, including Routes 2, 3, 4, 5, 8, 9/9C, 15N/S, 16, 20, 32, 40, and 41.

An additional timed transfer point in Chico, referred to as the Forest Avenue Transfer Point or “Forest Avenue Xfer,” is located on both sides of Forest Avenue at Baney and Parkway Village. Buses on Routes 5, 7, 15, 20, 40, and 41 all serve the Forest Avenue Transfer Point.

In 2011, the Oroville Transit Center opened for service, and includes sawtooth bus turn-outs, a permanent shelter with restrooms, several benches, and wide sidewalks. Located on Spencer Avenue just north of Oro Dam Boulevard, the Oroville Transit Center is served by Routes 20, 24, 25, 26, 27, 30, and 31.

The Paradise Transit Center is located at Almond and Cedar Streets in Paradise, and is served by Routes 40, 41, and 46. The Paradise transit center is a bus shelter only.

**Fleet & Facilities**

B-Line’s fleet consists of 35 standard buses, with 19 of these vehicles powered by Compressed Natural Gas (CNG). 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. See Figure 3-4.

Figure 3-4 B-Line Fixed Route Fleet

Make	Model	Vehicle Year	Fuel Type	Capacity	Age (Years)	Count
Freightliner	MB55	2006	CNG	32	6.00	4
Gillig	Phantom	1992	Diesel	45	20.00	1
Gillig	Phantom	2001	Diesel	35	11.00	3
Gillig	Phantom	2003	Diesel	35	9.00	6
Gillig	Low Floor	2011	Diesel	44	1.00	6
Orion	Orion V	2000	CNG	43	12.00	7
Orion	Orion VII N.G.	2008	CNG	43	4.00	8
Total						35

Dispatching duties are performed and vehicles are stored and maintained at the B-Line (Veolia Transportation) bus base, located at 326 Huss Lane in Chico.

**Fares**

B-Line has different fixed route fares based on the type of service; with local routes priced slightly less than regional routes. The current fare structure was established in May 2014, with the last fare change occurring in 2009.

As of May 25, 2014, one-way local fares are \$1.50 with a half-price discount (\$0.75) available to seniors (age 65+), those with disabilities, and those with a valid Medicare card. Students (ages 6 to 18) ride for \$1.00, a discount fare priced at roughly two-thirds of the regular fare. Regional one-way fares are set at \$2.00 with discounts available at \$1.00 and \$1.50 for students. Up to two (2) children under the age of six (6) may ride for free with each paying adult.

B-Line currently has a transfer policy which ensures that riders who need more than one bus to reach their destination may complete a continuous one-way trip without paying an additional fare. Local transfers are valid for one hour from the time issued, and regional transfers are valid for two hours.

Riders may purchase several types of passes, including 2-ride, 10-ride, and 30-day passes. Additionally, riders have the option of purchasing an All Day Pass from their bus driver for \$4.00, allowing unlimited access to the entire system for the day. Upgrades from local tickets, passes, or transfers may be purchased by simply paying the difference between the local and regional fare.

Figure 3-5 B-Line Fixed Route Fare Structure (per May 24, 2014 fare increase)

Fare Type	Local Service	Regional Service
<b>CASH</b>		
Regular	\$1.50	\$2.00
Discount*	\$0.75	\$1.00
Student (6-18)	\$1.00	\$1.50
Child (under 6)	2 free	2 free
<b>2-RIDE PASS</b>		
Regular	\$3.00	\$4.00
Discount*	\$1.50	\$2.00
Student (6-18)	\$2.00	\$3.00
<b>10-RIDE PASS</b>		
Regular	\$13.50	\$18.00
Discount*	\$6.75	\$9.00
Student (6-18)	\$9.00	\$13.00
<b>30-DAY PASS</b>		
Regular	\$37.50	\$48.00
Discount*	\$19.00	\$25.00
Student (6-18)	\$25.00	\$34.00

B-Line has special fare agreements with Chico State University, Butte College, and the City of Chico for City employees. Chico State students, faculty, and staff ride B-Line for free as part of a program funded by the Associated Students and the University. Additionally, Butte College students are allowed to purchase 30-Day Passes at the student pass price (usually reserved for students in elementary, middle, and high schools). Finally, City of Chico and downtown business employees are eligible for an employee transit pass, which allows for free bus trips to and from the downtown Chico area through a program funded by the City of Chico.

Standard tickets and passes may be purchased at a few locations in Butte County, including the Chico Transit Center, the City of Chico Finance Office, the Butte County Public Works Department in Oroville, and the Town of Paradise Finance Office. Bulk ticket sales may be made at the B-Line office or by mail.

**Fare Payment by Passenger**

Figures 3-6 and 3-7 present an overview of the most prevalent forms of cash payments aboard B-Line local and regional/intercity routes for the month of September 2011. September data were chosen from the available Fiscal Year 2011/12 dataset in large part as it serves as the best available proxy for September 2013, the month in which the boarding and alighting data examined in more detail below were collected.

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For both the local and regional routes, the most prevalent cash fare was the regular base fare. Ignoring the unclassified revenues, the second-highest cash fare usage on the local routes (26.1% of transactions) was a student fare. This finding is not surprising given the presence of middle and high schools along several local B-Line routes. Regionally, the second-highest classifiable cash fare transaction type was a discount fare (11.5%). Discount fares also accounted for 17.5% of local B-Line transactions as well.

**Figure 3-6 Cash Fare Usage Summary, Local Routes – September 2011**

Cash Fare Description	Transaction Count	Use Percentage
Base Regular Fare	6,341	29.5%
Unclassified ("Dump")*	5,616	26.1%
RA2 Student Fare	4,248	19.7%
RA1 Discount Fare	3,762	17.5%
LA4 Regional Disabled Upgrade	536	2.5%
LA3 Regional Upgrade	437	2.0%
Short Fare Paid	370	1.7%
Issue Day Pass	170	0.8%
RA4 Additional Fare	31	0.1%
<b>Total</b>	<b>21,511</b>	<b>100.0%</b>

Source: BCAG

\*Note: a "dump" occurs when fare payments temporarily become jammed in the fare collection equipment. Operators press a "dump key" that dumps all cash and coins into the holding box without giving the system a chance to classify the revenue.

**Figure 3-7 Cash Fare Usage Summary, Regional Routes – September 2011**

Cash Fare Description	Transaction Count	Use Percentage
Base Regular Fare	3,793	33.1%
Unclassified ("Dump")*	3,340	29.2%
RA1 Discount Fare	1,321	11.5%
RA2 Student Fare	850	7.4%
LA4 Regional Disabled Upgrade	492	4.3%
Local Fare - Discount	373	3.3%
Local Fare	327	2.9%
Short Fare Paid	327	2.9%
LA3 Regional Upgrade	232	2.0%
Local Fare - Student	172	1.5%
Issue Day Pass	157	1.4%
Pass - Student	38	0.3%
RA4 Additional Fare	25	0.2%
<b>Total</b>	<b>11,447</b>	<b>100.0%</b>

Source: BCAG

\*Note: a "dump" occurs when fare payments temporarily become jammed in the fare collection equipment. Operators press a "dump key" that dumps all cash and coins into the holding box without giving the system a chance to classify the revenue.

As seen in Figure 3-8 below, in FY 2011/12, the most common pass type used in B-Line payment transactions was the University Card, which accounted for nearly 34% of all transactions. The next most used pass types were the Social Service pass, which was used in 14.1% of payment transactions, and the 30 Day Local Discount pass, used in 12.4% of transactions.

**Figure 3-8 B-Line Transaction Pass Usage, FY 2011/12**

Pass Type	Pass Type - Detail	Total Number of Pass Transactions	Pass Usage %
Special Card	University Card	308,981	33.7%
Period Pass	365 Day Soc. Service	128,945	14.1%
Period Pass	30 Day Local Discount	113,552	12.4%
Period Pass	30 Day Regional Discount	58,813	6.4%
Period Pass	30 Day Local Regular	48,843	5.3%
Period Pass	30 Day Regional Regular	48,806	5.3%
Period Pass	365 Day Employee	34,977	3.8%
Period Pass	30 Day Local Student	31,072	3.4%
Stored Ride	10 Ride Regional Regular	27,673	3.0%
Stored Ride	10 Ride Local Regular	26,649	2.9%
Period Pass	30 Day Regional Student	15,182	1.7%
Stored Ride	10 Ride Local Discount	14,321	1.6%
Period Pass	Day Pass	13,567	1.5%
All Other Stored Ride/Value and Period Passes		46,276	5.0%
<b>Total</b>		<b>917,657</b>	<b>100%</b>

Source: BCAG

## Special School Holiday Service

Like many other transit agencies that provide service to areas with a large university or college, B-Line adjusts its fixed route operating schedule when CSU is not in service. In particular, Routes 8 (Nord) and 9 (Warner/Oak) operate only during the CSU school year when Spring and Fall semester classes are in session; these routes do not run when there are no classes, such as during Spring Break, Thanksgiving Week, and other campus holidays like Labor Day, Veterans Day, and Cesar Chavez Day. To provide service in the general vicinity of CSU when school is not in session, however, Route 9C (Cedar Loop) – which normally provides limited service on Saturdays and Friday evenings – operates throughout the day. Additionally, the Route 40X express service, which provides direct service from Paradise Transit Center to the Fir Street Park-and-Ride and the Chico Transit Center on weekdays at 6:44am, does not operate during the summer or winter CSU breaks. Route 40X is intended to provide relief for the 7am westbound Route 41 trip, which is often very crowded. Nevertheless, there is an opportunity to explore expanding flexible scheduling in the vicinity of CSU and other local schools.



There are numerous precedents for flexible scheduling due to school schedules and numerous transit systems across the county that serve major college campuses also alter their services to account for the rise and fall of ridership depending on the school calendar. In a major metropolitan area like Seattle, King County Metro has a separate “When No University of Washington (UW)” schedule. When UW is not in session, designated trips on 13 bus routes that serve the vicinity of the campus are not run (canceled). More akin to B-Line, in Eugene, Oregon, several Lane Transit District (LTD) bus routes experience schedule or routing changes when area schools are out on holiday or on seasonal breaks. In contrast to B-Line, LTD service accounts for breaks not only at the University of Oregon and Lane Community College, but also at local high schools. Other universities, including the University of California Santa Cruz, University of North Texas, and Purdue also significantly modify their schedules when school is not in session.

## **B-LINE PARATRANSIT**

B-Line Paratransit is a door-to-door service for qualified individuals traveling within the greater Butte County B-Line service area in Chico, Oroville, and Paradise. (Paratransit service in Gridley is provided by the Gridley Golden Feather Flyer service.) It provides two types of paratransit services, including:

1. ADA service for individuals who cannot use the fixed route system and hold Americans with Disabilities Act (ADA) certification.
2. Dial-a-Ride service for use by individuals with disabilities who are not eligible for ADA service and seniors 65 years of age or older. Dial-a-Ride trips are not given priority status if individuals with ADA certification need the service, and users may be charged premium fares. B-Line is considering modifying this to disallow non-ADA use for people who are not seniors, and raising the age for a senior to 70.

Service is offered between 5:50am and 10pm on weekdays, 7am and 10pm on Saturdays, and from 7:50am to 6pm on Sundays. While B-Line Paratransit service is available to all destinations within a  $\frac{3}{4}$  mile buffer of any B-Line fixed route, supplemental service to areas of up to three miles outside the ADA boundaries is available at an additional cost; however, in order for service to be provided to supplemental areas there must be a direct, easily accessible route from the core service area to the proposed destination. Trips provided outside the core service area are non-ADA and are provided when there is sufficient time and space available.

Reservations may be made from one to seven days in advance, and are taken from 7AM to 5PM seven days a week, excluding holidays. Nevertheless, B-Line Paratransit accommodates a limited number of same-day requests based on available capacity.

## **Eligibility**

New Paratransit riders need to be registered and certified as eligible by B-Line before using the service. Applications may be downloaded online or prospective riders may ask for applications to be sent to them directly.

The ADA Paratransit application (and the Dial-A-Ride application, if the prospective rider requests service based on disability) requires healthcare verification. The ADA Paratransit application in particular asks very detailed questions about a rider’s disability and/or health status, including the nature of their disability, what needs they may have in terms of mobility equipment, and how close they are to fixed route transit.

All eligible riders are only certified to use B-Line Paratransit or Dial-A-Ride for a certain period of time after which point riders must renew their eligibility status.

## **Fleet & Facilities**

The current B-Line Paratransit fleet consists of 14 vehicles. Full fleet information is shown in Figure 3-9 below.

Figure 3-9 B-Line Paratransit Fleet

Make	Model	Vehicle Year	Fuel Type	Capacity	Age in Years	Count
Ford	E450	2008	Unleaded	18	4.00	8
Ford	E450	2010	Unleaded	18	2.00	6

As with the fixed route fleet, B-Line Paratransit vehicles are stored and maintained at the B-Line bus base in Chico.

## **Fares**

Currently, one-way fares for all passengers are \$2.50, with ten-ride passes and \$25 and \$50 value cards also available for purchase. Supplemental fares are as follows:

- Zone 1 (up to 1 mile outside the ADA service area): \$6.25 per ride
- Zone 2 (1-2 miles outside the ADA service area): \$8.25 per ride
- Zone 3 (2-3 miles outside the ADA service area): \$10.25 per ride

Children under the age of 6 and personal care attendants are allowed to ride for free.

## **Fare Payment by Passenger**

As discussed above, expanded B-Line Paratransit service was introduced in FY 2011/12, covering areas up to three miles outside of the ADA-required core service area. As seen in Figure 3-10 below, only one transaction in FY 2011/12 was made for a Zone 3 trip; 125 rides to Zone 2 and 23 to Zone 1 were recorded. By far the most common transaction in FY 2011/12 was for the regular Paratransit fare.

Figure 3-10 Cash Fare Usage Summary, B-Line Paratransit – FY 2011/12

Fare Type	Transactions, FY 2011/12	% of Total
Regular Paratransit Fare	50,019	94.5%
Unclassified ("Dump")*	2,611	4.9%
Zone 2	125	0.2%
RA4 Additional Fare	83	0.2%
Short Fare Paid	47	0.1%
Zone 1	23	0.0%
Zone 3	1	0.0%
<b>Total</b>	<b>52,909</b>	<b>100.0%</b>

Source: BCAG

\*Note: a "dump" occurs when fare payments temporarily become jammed in the fare collection equipment. Operators press a "dump key" that dumps all cash and coins into the holding box without giving the system a chance to classify the revenue.

## SYSTEMWIDE PERFORMANCE

This section talks about five-year performance trends for B-Line's fixed route services.

### Fixed Route Five-Year Performance Data/Indicators

Below is a summary of key findings related to B-Line fixed route service ridership, productivity, and performance over the past five fiscal years using various service and cost performance indicators. Figure 3-11 displays five performance metrics for all, urban, and rural B-Line services from FY 2008/09 through FY 2012/13. Note that, in practice, the "rural" designation is applied to all routes that operate outside of Chico, but some of these routes also operate within Chico (e.g., Route 20).

Figure 3-11 B-Line Performance Metrics, FY 2008/09 – FY 2012/13

	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	% Chg FY 09-FY13
<b>OPERATING COST</b>						
Total	\$4,489,866	\$4,601,620	\$5,025,326	\$5,214,821	\$5,464,353	21.7%
Urban	\$2,962,418	\$3,028,679	\$3,066,826	\$3,227,788	\$3,313,163	11.8%
Rural	\$1,527,448	\$1,572,941	\$1,958,500	\$1,987,033	\$2,151,190	40.8%
<b>FARE REVENUE</b>						
Total	\$947,583	\$1,125,317	\$1,197,642	\$1,246,467	\$1,300,616	37.3%
Urban	\$674,966	\$743,671	\$767,597	\$757,691	\$757,424	12.2%
Rural	\$272,617	\$381,646	\$430,045	\$488,776	\$543,192	99.3%
<b>VEHICLE SERVICE HOURS</b>						
Total	67,006	67,297	67,383	70,817	70,901	5.8%
Urban	46,307	46,383	43,717	46,161	45,756	-1.2%

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	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	% Chg FY 09-FY13
Rural	20,699	20,914	23,667	24,776	25,144	21.5%
<b>VEHICLE SERVICE MILES</b>						
Total	1,053,539	1,058,065	1,084,201	1,086,583	1,134,226	7.7%
Urban	551,836	536,018	521,829	509,964	552,249	0.1%
Rural	501,703	522,046	562,373	576,618	581,977	16.0%
<b>PASSENGERS</b>						
Total	1,284,761	1,237,284	1,178,509	1,306,431	1,361,955	6.0%
Urban	977,561	932,307	839,387	892,116	938,859	-4.0%
Rural	307,200	304,977	339,122	414,315	423,096	37.7%

Sources/Notes:

FY 2007 - FY 2009 from previous performance audit - previous audit had an apparent calculation error for "total fixed route" in FY 2007-08

FY 2010 - FY 2013 VSH, VSM, Passengers from "FY X-X Summary" documents, supplied by B-Line staff

FY 2010 - FY 2012 FTEs from SCO reports

FY 2010 - FY 2012 revenues and operating expenses from BCAG Basic Financial Statements

FY 2013 revenues and operating expenses from "BCAG Notes to FS 6/30/13" document

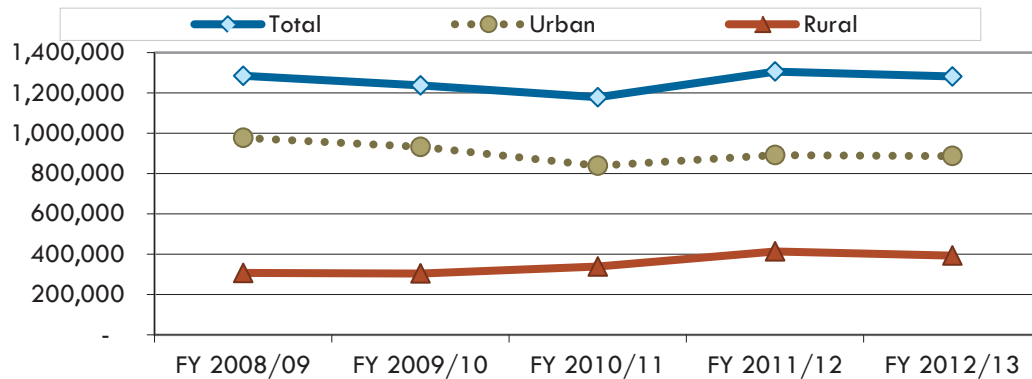
### Effect of Service Changes in FY 2010/11

Due to the implementation of the recommendations outlined in the Market Based Study on November 1, 2010 (and subsequent service revisions in April 2011), a number of performance metrics changed significantly in FY 2010/11. For example, operating costs for rural services increased 24.5% that year, partly as a result of the addition of Route 32 (Gridley – Chico). Additionally, the number of passengers on B-Line decreased by nearly 5% as a result of route restructuring within Chico.

### Ridership

Overall, B-Line ridership has remained relatively steady over the past five years.

Figure 3-12 B-Line Ridership, FY 2008/09 – FY 2012/13



Despite the steadiness in overall passengers, the share of passengers per service type shifted noticeably between FY 2008/09 and FY 2012/13. Driven by ridership losses of 4.6% in FY

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2009/10 and 10% in FY 2010/11, B-Line's urban ridership fell 9.2% over the five year review period. By contrast, ridership on the rural routes grew by 28.2% over this same period. Given that ridership stayed relatively constant overall, it is possible that some former local route riders may have switched to regional routes within Chico in recent years. These fluctuations in ridership are largely due to the route restructurings and additional services that were implemented in November 2010 and April 2011.

**B-Line Performance Indicators**

Several indicators are used to evaluate a transit system's productivity and efficiency. A summary of seven indicators over the five-year review period are presented in Figure 3-13.

Figure 3-13 B-Line Performance Indicators, FY 2008/09 – FY 2012/13

	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	% Chg FY09 – FY13
<b>OPERATING COST PER HOUR</b>						
Total	\$67.01	\$68.38	\$74.58	\$73.64	\$77.07	15.0%
Urban	\$63.97	\$65.30	\$70.15	\$69.92	\$72.41	13.2%
Rural	\$73.79	\$75.21	\$82.75	\$80.20	\$85.55	15.9%
<b>OPERATING COST PER PASSENGER</b>						
Total	\$3.49	\$3.72	\$4.26	\$3.99	\$4.01	14.8%
Urban	\$3.03	\$3.25	\$3.65	\$3.62	\$3.53	16.5%
Rural	\$4.97	\$5.16	\$5.78	\$4.80	\$5.08	2.3%
<b>OPERATING COST PER MILE</b>						
Total	\$4.26	\$4.35	\$4.64	\$4.80	\$4.82	13.0%
Urban	\$5.37	\$5.65	\$5.88	\$6.33	\$6.00	11.8%
Rural	\$3.04	\$3.01	\$3.48	\$3.45	\$3.70	21.4%
<b>PASSENGERS PER HOUR</b>						
Total	19.2	18.4	17.5	18.4	19.2	0.2%
Urban	21.1	20.1	19.2	19.3	20.5	-2.8%
Rural	14.8	14.6	14.3	16.7	16.8	13.4%
<b>PASSENGERS PER MILE</b>						
Total	1.2	1.2	1.1	1.2	1.2	-1.5%
Urban	1.8	1.7	1.6	1.7	1.7	-4.0%
Rural	0.6	0.6	0.6	0.7	0.7	18.7%
<b>AVERAGE FARE PER PASSENGER</b>						
Total	\$0.74	\$0.91	\$1.02	\$0.95	\$0.95	29.5%
Urban	\$0.69	\$0.80	\$0.91	\$0.85	\$0.81	16.8%
Rural	\$0.89	\$1.25	\$1.27	\$1.18	\$1.28	44.7%

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	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	% Chg FY09 – FY13
<b>FAREBOX RECOVERY RATIO</b>						
Total	21.1%	24.5%	23.8%	23.9%	23.8%	12.8%
Urban	22.8%	24.6%	25.0%	23.5%	22.9%	0.3%
Rural	17.8%	24.3%	22.0%	24.6%	25.3%	41.5%

Sources/Notes:

FY 2007 - FY 2009 from previous performance audit - previous audit had an apparent calculation error for "total fixed route" in FY 2007-08

FY 2010 - FY 2013 VSH, VSM, Passengers from "FY X-X Summary" documents, supplied by B-Line staff

FY 2010 - FY 2012 FTEs from SCO reports

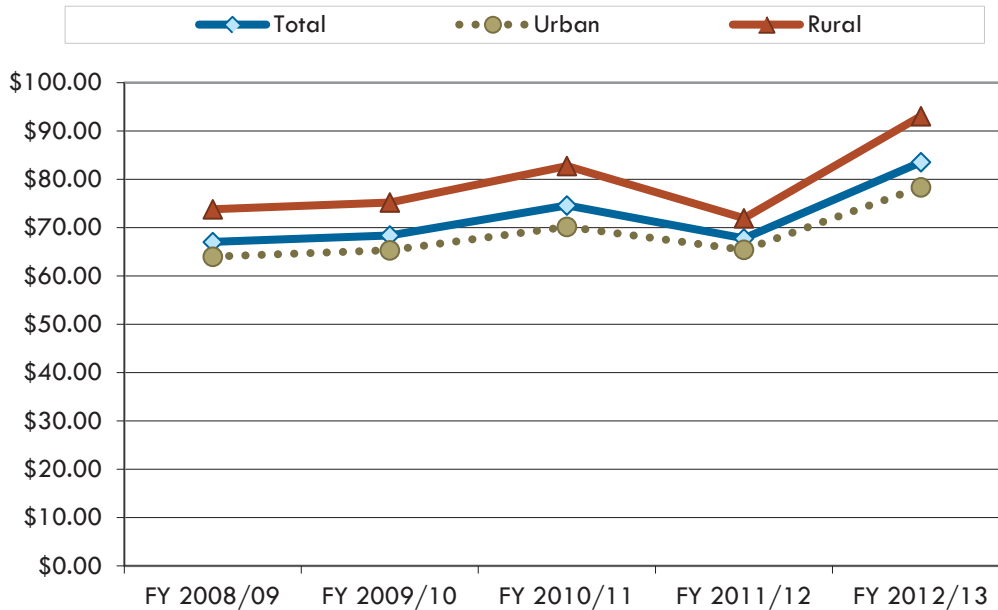
FY 2010 - FY 2012 revenues and operating expenses from BCAG Basic Financial Statements

FY 2013 revenues and operating expenses from "BCAG Notes to FS 6/30/13" document

**Operating Cost per Hour**

Overall, hourly costs for all fixed route services increased 15% over the five year period (from \$67.01 in FY 2008/09 to \$77.07 in FY 2012/13). Over the first three years of the review period, hourly costs for both urban and rural routes rose gradually, only to fall slightly in FY 2011/12 as increases in vehicle service hours outpaced operating cost increases in that year. Hourly costs rose again in FY 2012/13 (see Figure 3-14).

Figure 3-14 Operating Cost per Hour

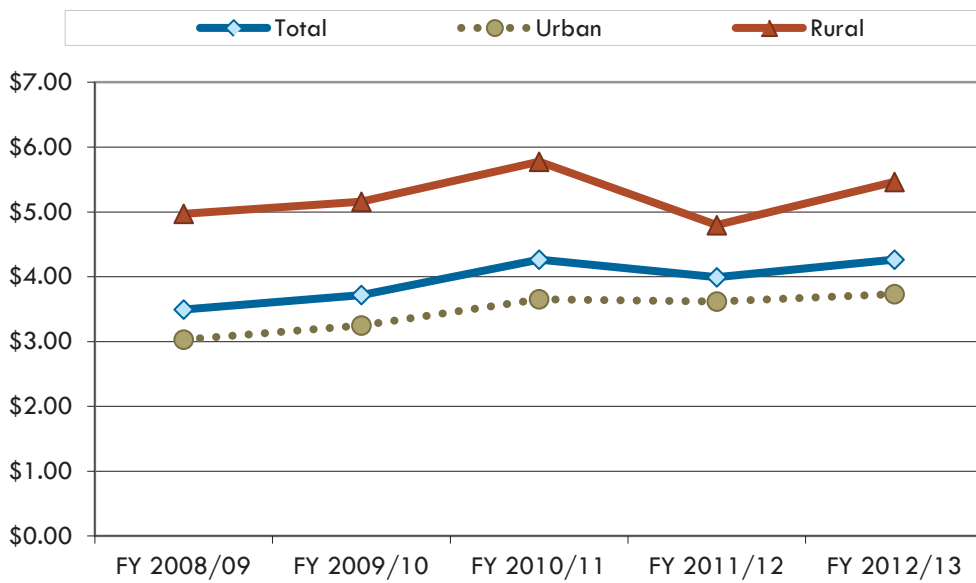


### Operating Cost per Passenger

Because B-Line rural services attract fewer passengers than the urban routes, rural costs per passenger are higher overall. Nevertheless, due to the 22% increase in ridership on rural routes in FY 2011/12, operating costs per passenger dropped 17% for rural routes, which resulted in an overall drop of this metric of 6.4% for all fixed route services combined in that year.

Nevertheless, over the five-year review period, operating cost per passenger for all fixed route services increased 14.8%, due in large part to the effects of the route restructuring in FY 2010/11, when operating costs jumped while ridership fell (see Figure 3-15).

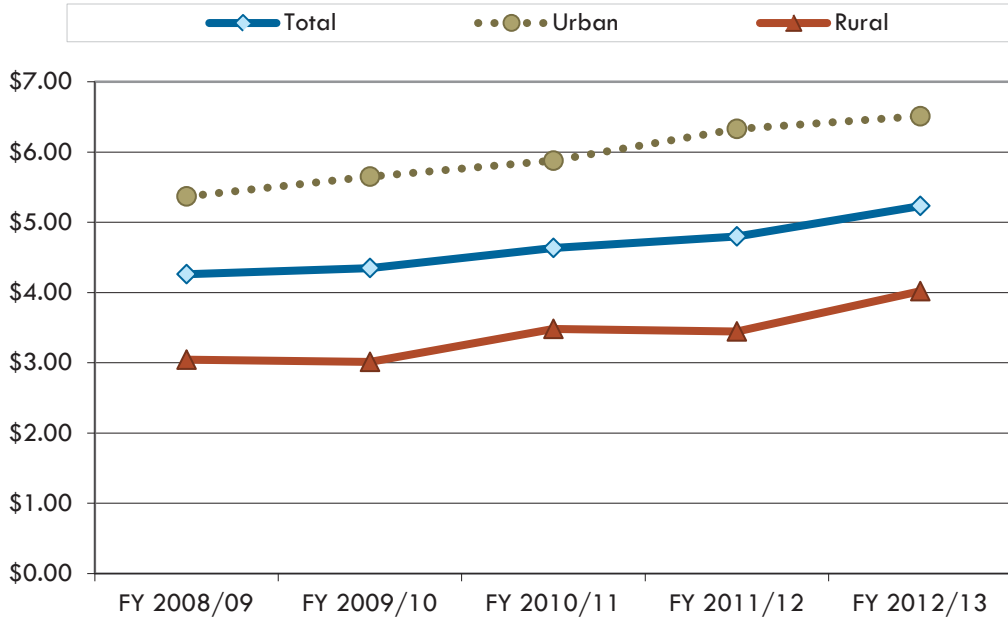
Figure 3-15 Operating Cost per Passenger



### Operating Cost per Mile

Operating cost per mile for all services increased gradually over the five-year review period, despite a slight decrease (5.2%) in the cost per mile for urban routes in FY 2012/13. From FY 2008/09 to FY 2012/13, the operating cost per mile for B-Line fixed route services increased 13% from \$4.26 in FY 2008/09 to \$4.82 in the most recent fiscal year (see Figure 3-16).

Figure 3-16 Operating Cost per Mile

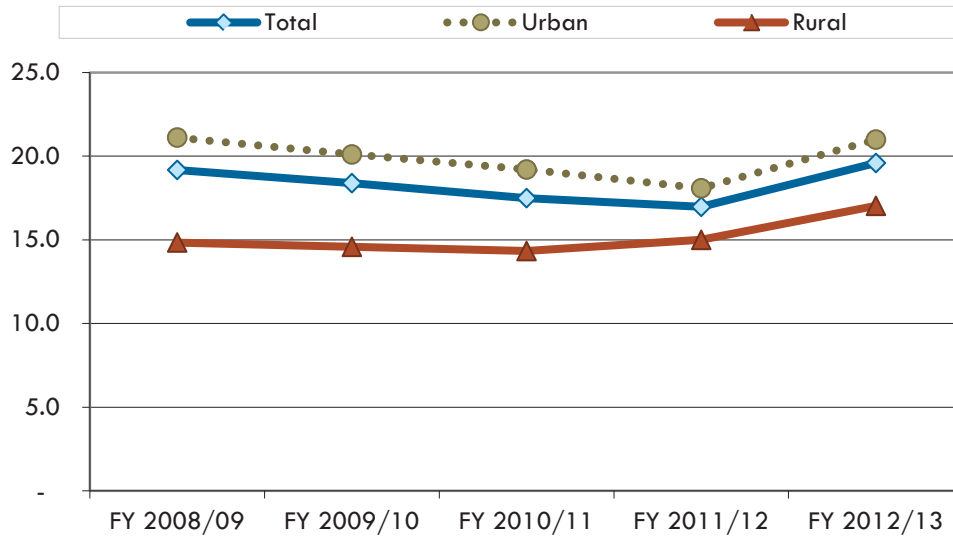




### Passengers per Hour

Despite year-to-year fluctuations, B-Line productivity has remained remarkably consistent between FY 2008/09 and FY 2012/13, at 19.2 passengers per hour. This consistency masks the longer term positive effects of the last route restructuring: even though the initial changes resulted in short-term ridership loss, the changes reversed a three-year trend of falling service productivity; in FYs 2011/12 and 2012/13, the years following the changes, passengers per hour consistently improved (see Figure 3-17).

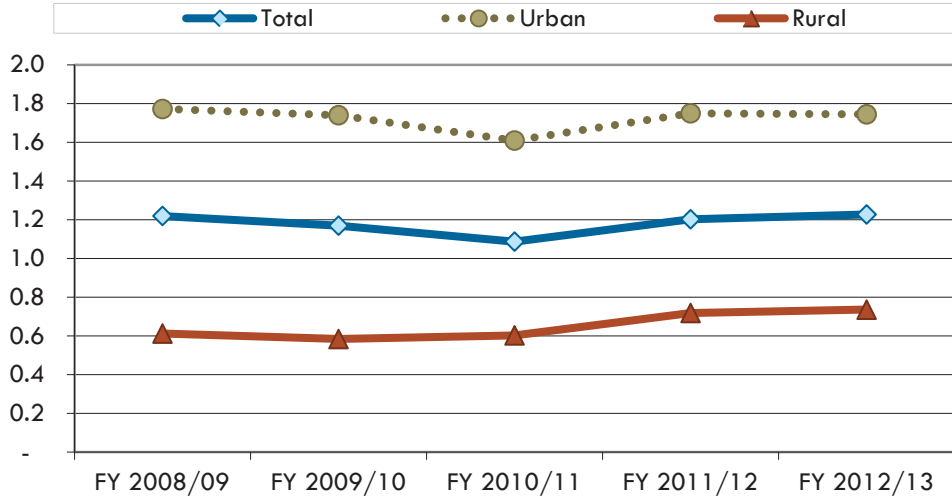
Figure 3-17 Passengers per Hour



### Passengers per Mile

Over the course of the five-year review period, the number of passengers per revenue mile fluctuated but remained relatively consistent overall, falling slightly by 1.5% between FY 2008/09 and FY 2012/13. The number of passengers per mile hit a five-year low of 1.1 in FY 2010/11 when urban ridership and revenue miles both fell as a result of service changes implemented that year (see Figure 3-18).

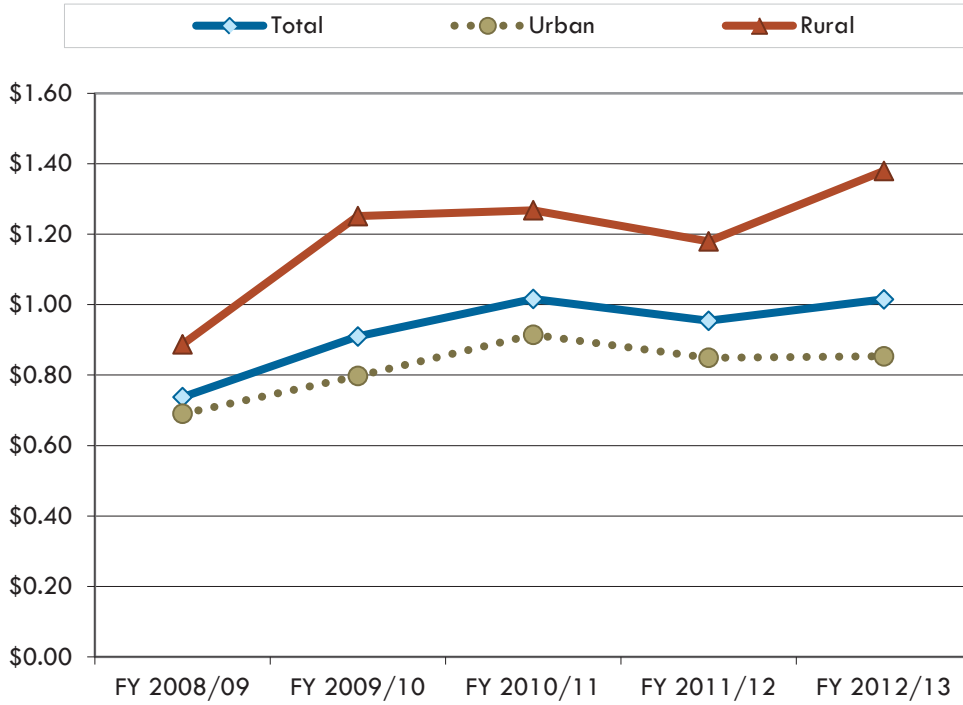
Figure 3-18 Passengers per Mile



### Average Fare per Passenger

Average fare revenue per passenger for B-Line fixed route services has remained relatively consistent since fares were raised in July 2009, which resulted in an 18.8% increase in fare revenue and a 23.3% increase in the average fare per passenger in FY 2009/10. Over the five-year review period, the average fare per passenger increased nearly 30%, reflecting not only the fare increase but also ridership and revenue gains over the past two fiscal years (see Figure 3-19).

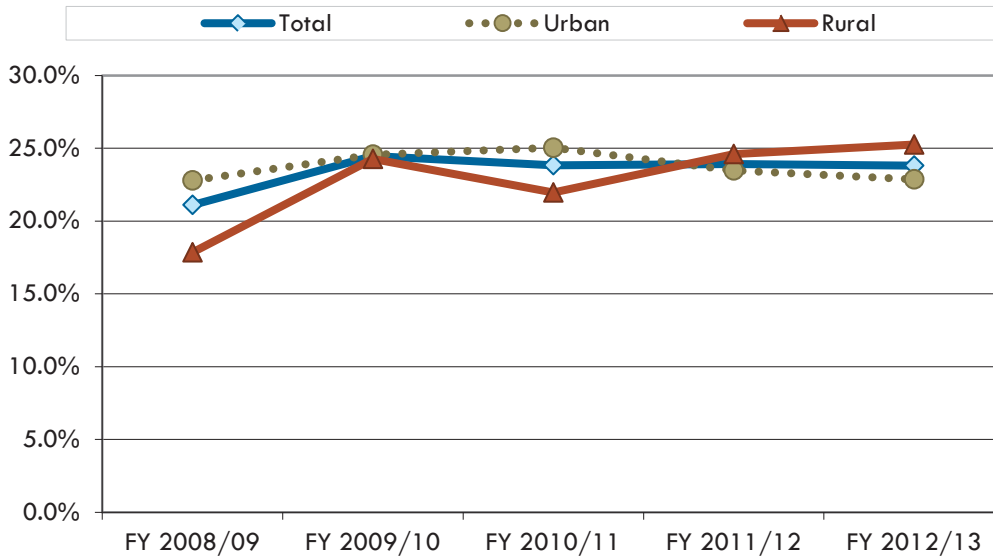
Figure 3-19 Average Fare per Passenger



### Farebox Recovery Ratio

B-Line's farebox recovery ratio has consistently been strong, exceeding the 20% urban and 10% rural TDA requirements each year of the five-year review period. In fact, the farebox recovery ratio for all services increased 12.8% between FY 2008/09 and FY 2012/13, reflecting the fact that fare revenue increases outpaced operating costs in three of the five years (see Figure 3-20).

Figure 3-20 Farebox Recovery Ratio



## **ROUTE PROFILES**

Ridership data provides information that can be used to measure system or route performance and to identify opportunities to improve current route alignments. For this planning effort, we primarily analyzed boarding and alighting activity (by stop and by trip) and on-time performance. This approach provides a high level of granularity into the performance of existing B-Line routes; stop-level data helps B-Line staff understand where demand may fall short of service levels, and boarding activity by time of trip can reveal “peaks and valleys” or active/less active periods over the entire service day which can aid in optimizing trip schedules and frequencies. On-time performance data for Wednesday, September 25<sup>th</sup> have been provided by B-Line staff and are evaluated per route in the summaries below.

In order to capture an understanding of B-Line ridership by route, a boarding and alighting study was conducted in September 2013 covering 100% of the trips for one representative weekday (using data collected on a successive Monday, Tuesday, and Wednesday), Saturday, and Sunday. The boarding and alighting survey was conducted using onboard surveyors who were instructed to tabulate passengers getting on and off the bus at each stop. A total of 5,900 passenger boardings were recorded on the surveyed weekday, with 4,261 boardings occurring on local Chico routes, 345 on local Oroville routes, and 1,294 on intercity/regional routes.

The results in this section present findings from the composite weekday only; unfortunately, the Saturday count date (September 21, 2013) was an uncharacteristically rainy day in the region which had a negative impact on ridership. Drivers on that day also informally remarked that ridership levels on some of the intercity routes, particularly Route 20, neared historically low Saturday levels. Regardless, for planning purposes, weekday ridership will provide the foundation for future route analysis. Weekend stop-level and boarding and alighting information from Saturday may be used to inform planning purposes but due to reduced ridership levels should not be used as the basis for future planning. Due to the relative importance of weekday data, we are including both Saturday and Sunday data in an appendix to this report, Appendix A.

Finally, note that even though the service start and/or end times have been rounded slightly to make service spans easier to understand at a glance, the calculations of revenue hours are based on the exact schedule.

### **Local Routes - Chico**

The following route profiles examine the local fixed route services, serving points in and around the cities of Chico, Oroville, and Paradise.

Note that data from Route 90, which provides rides to homeless people between the Chico Transit Center and the Jesus Center, were not collected during this survey effort.

Figure 3-21 Route 2 Mangrove

At a Glance		
Weekday Boardings		376
Weekday Revenue Hours		11.7
Boardings per Hour		32.3
Boardings per Trip		12.1
Frequency (minutes)	Mon-Fri Peak/Mid-day	30/60
	Saturday	60
Span	Mon-Fri	6:15am - 8:30pm
	Saturday	8:15am - 7pm

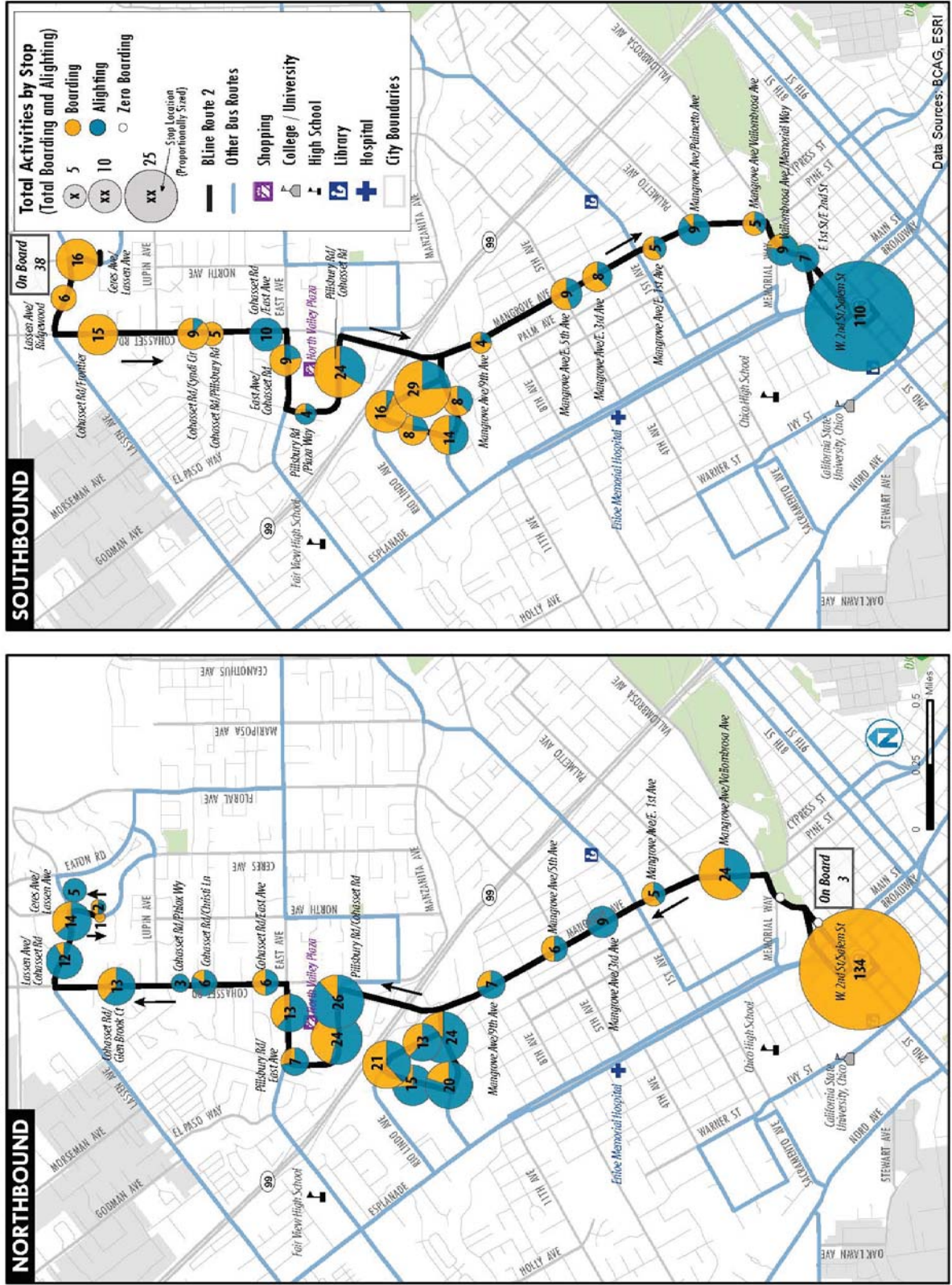
**Description**

Route 2 operates between the Chico Transit Center and Ceres & Lassen via Mangrove and Cohasset, serving a spate of medical offices and the DMV on a loop in the vicinity of Parmac Road and Rio Lindo Avenue, as well as North Valley Plaza. Major stops and timepoints along Route 2 include the Chico Transit Center, 5<sup>th</sup> Avenue and Mangrove Avenue, Parmac Road & Rio Lindo Avenue, North Valley Plaza, and Ceres and Lassen Avenues. The route has a total round trip time of approximately 45 minutes. During peak hours, Route 2 is through-routed with Route 7 (meaning the bus operates as Route 7 from the northern terminus).

**Route 2 Weekday Service**

Figure 3-22 shows the Route 2 boarding and alighting activity for the northbound and southbound directions.

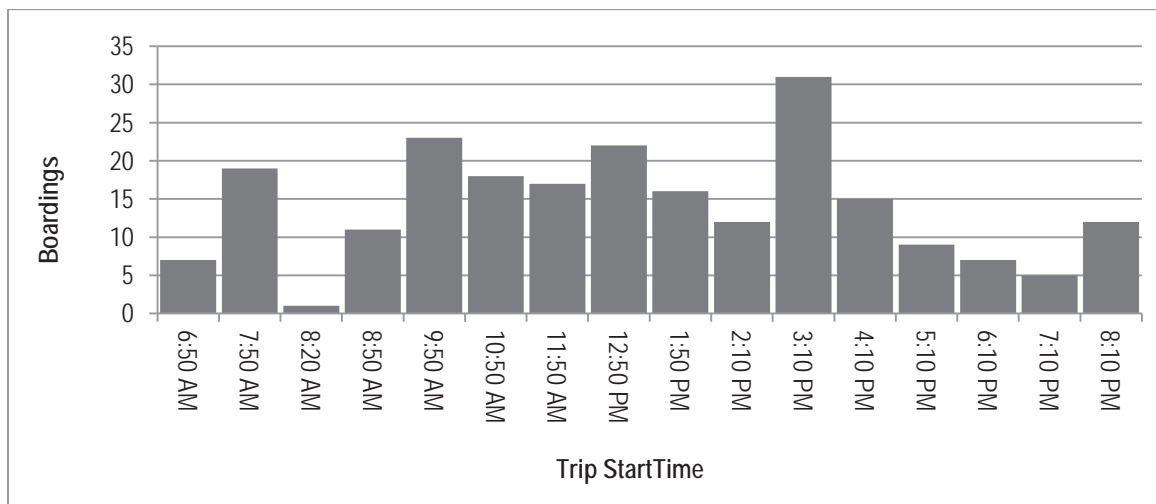
Figure 3-22 Route 2 Weekly Boardings and Alightings by Stop



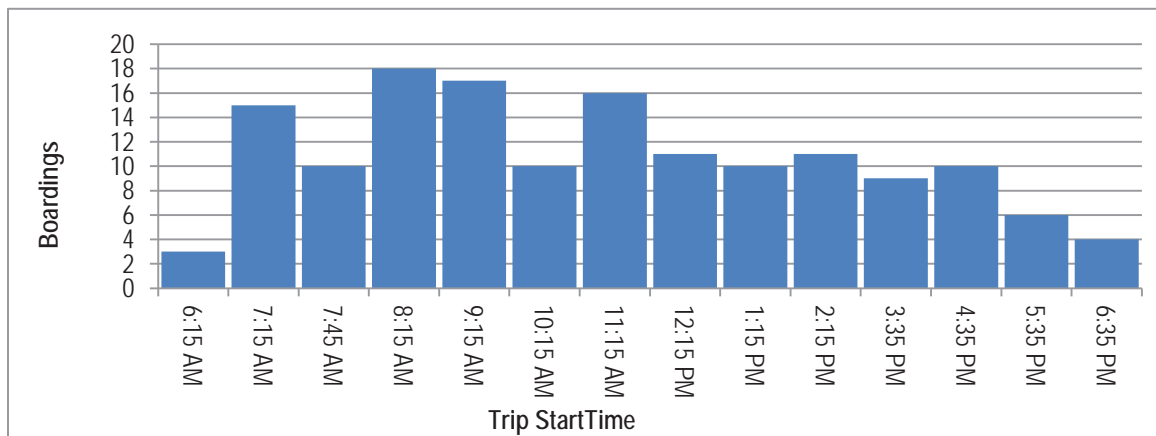
On the northbound trips, the majority of boardings occur at the Chico Transit Center (2<sup>nd</sup> and Salem Streets) with alightings spread throughout the trip. The highest concentration of alightings occurs in the vicinity of the Rio Lindo Avenue and Parmac Road loop, which serves the DMV and several medical facilities, and North Valley Plaza. A similar pattern occurs in the southbound direction, with spikes in boardings at North Valley Plaza and Rio Lindo Avenue at Cohasset Road, with by far the greatest number of alightings at the Chico Transit Center. A total of 38 passengers rode through from interlined Route 7 buses at Ceres and Lassen Avenues. Figure 3-23 presents boardings by trip start time for Route 2. In the northbound direction, boardings varied over the course of the day, with relatively steady boardings throughout the midday and evening, and short peak in the mid-afternoon. In the southbound direction, however, boardings roughly followed a bell-curve pattern, peaking in the late morning and midday time periods.

**Figure 3-23 Route 2 Weekday Boardings by Run – Northbound and Southbound**

Northbound



Southbound

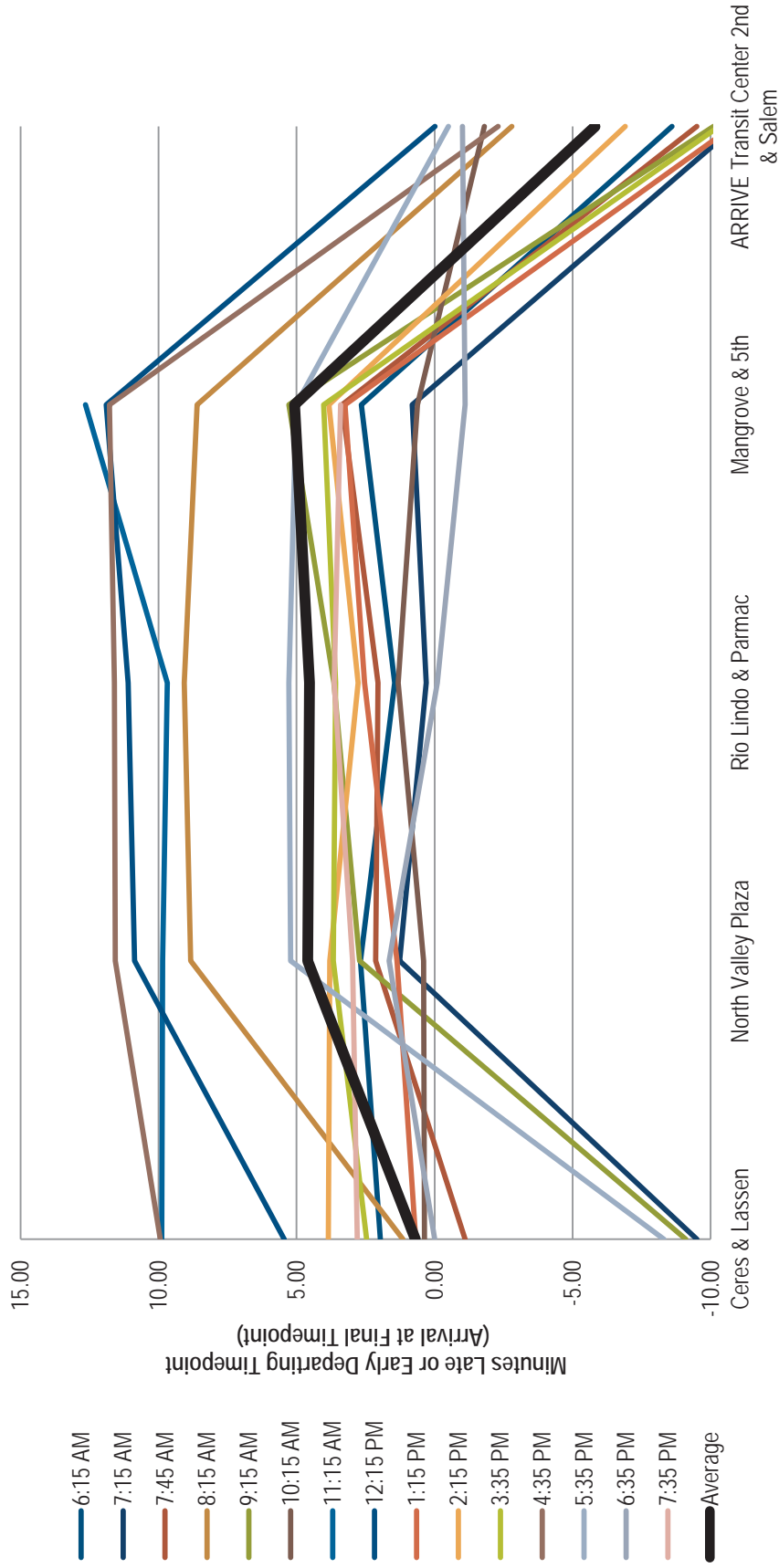




### **Route 2 On-Time Performance**

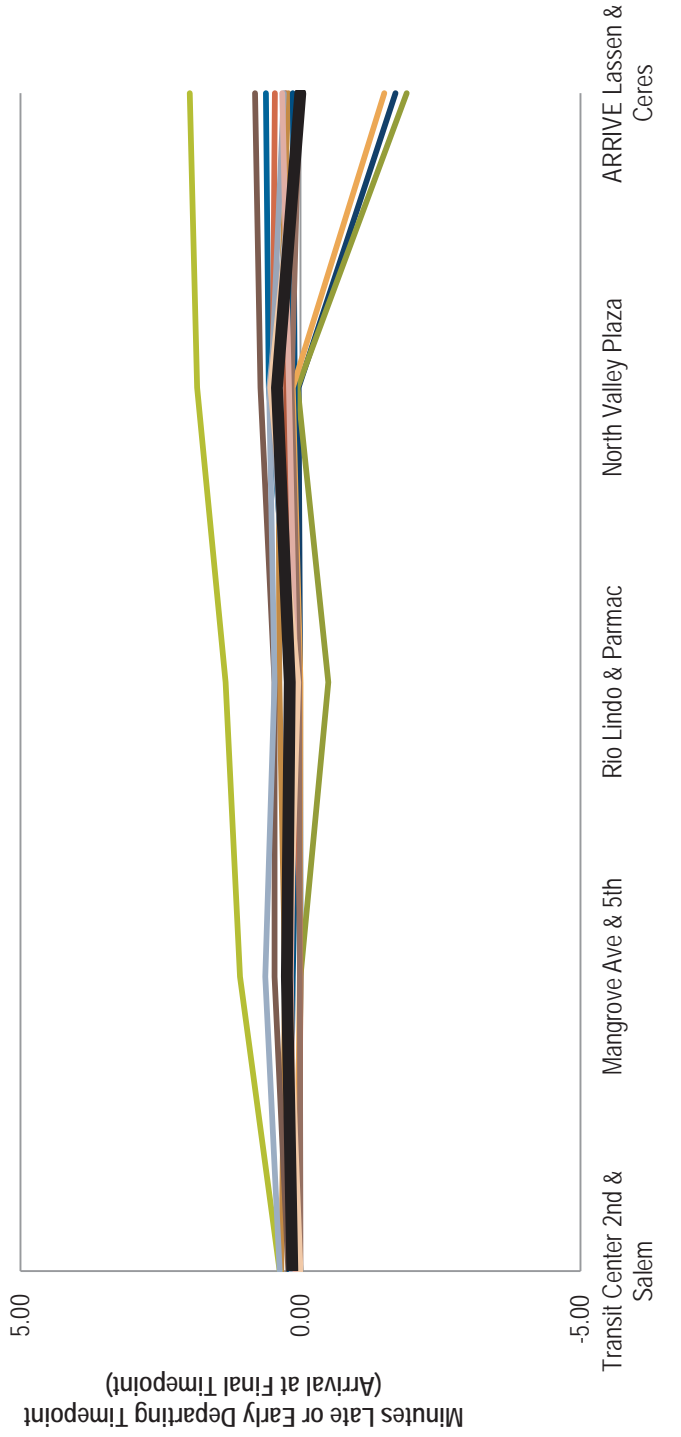
Route 2 has some of the best on-time performance in the B-Line system. All sampled outbound trips (100%) ran on time (defined as departing within five minutes of the scheduled time from major timepoints and with no departures more than one minute early from any timepoint). One-third (33%) of sampled inbound trips had buses that departed timepoints more than five minutes late (see Figure 3-24). The data suggests some additional time is available inbound between the stop at 5<sup>th</sup> Avenue and Mangrove Avenue and the Transit Center: all buses – even those delayed more than five minutes – were able to arrive at downtown terminus on time or ahead of schedule.

Figure 3-24 Route 2 Schedule Adherence by Route Segment  
Route 2 Inbound



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Route 2 Outbound



**Route 3 Nord/East**

At a Glance		
Weekday Boardings		433
Weekday Revenue Hours		11.9
Boardings per Hour		36.4
Boardings per Trip		13.1
Frequency (minutes)	Mon-Fri Peak/Mid-day	30/60
	Saturday	60
Span	Mon-Fri	6:20am - 9pm
	Saturday	8:50am - 7pm

**Description**

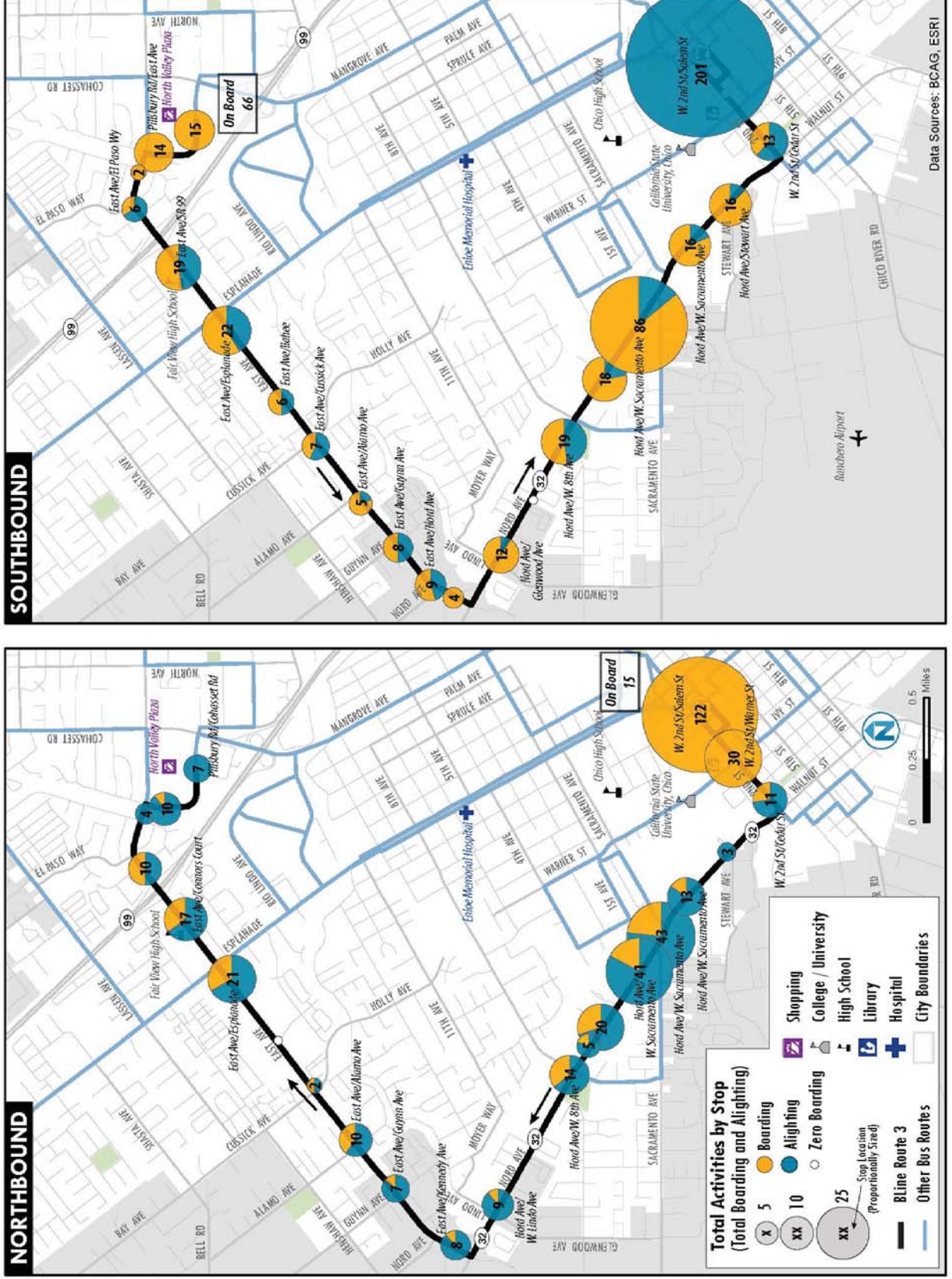
Route 3 operates between the Chico Transit Center and North Valley Plaza via Nord and East Avenues. Major destinations served along the route include CSU, residential neighborhoods along East Avenue, Enloe Rehabilitation Center, and Fairview High School; major stops and timepoints on Route 3 are Chico Transit Center, West 8<sup>th</sup> Avenue & Nord, East & Nord, East & Esplanade, and North Valley Plaza. Route 3 is through-routed with Route 4 at North Valley Plaza.

The route has a total round trip time of approximately 49 minutes with layover time at the Chico Transit Center.

**Route 3 Weekday Service**

Figure 3-25 shows the Route 3 boarding and alighting activity for the northbound and southbound directions.

Figure 3-25 Route 3 Weekday Boardings and Alightings by Stop



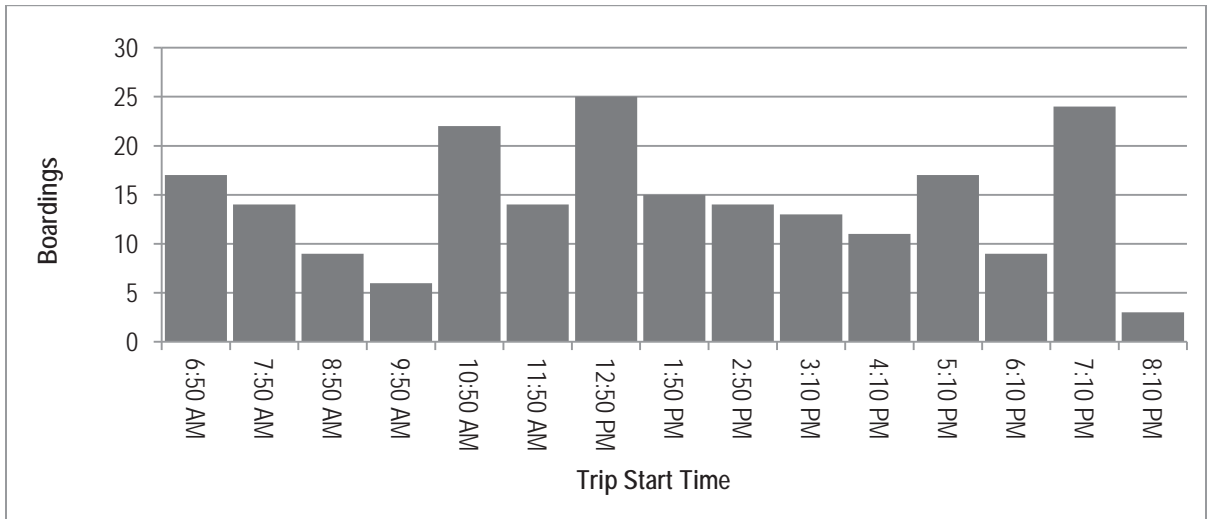
On the northbound trips, the majority of trip boardings occur at the Chico Transit Center (2<sup>nd</sup> and Salem Streets) with the highest amount of alightings around CSU, especially around Nord and Sacramento Avenues. The greatest amount of boarding and alighting activity was concentrated just to the north of CSU and around the intersection of East Ave and the Esplanade, where there is a high concentration of commercial activity. For the surveyed weekday there was no observed activity at the stop at East Avenue and the Enloe Rehabilitation Center in the northbound direction.

In the southbound direction, a total of 66 passengers rode through to Route 3 at North Valley Plaza on interlined Route 4 buses. The greatest amount of activity occurred at Nord Avenue and West Sacramento Avenue, where a total of 74 passengers boarded primarily in the morning and midday. As in the northbound direction, a smaller concentration of activity occurred in the vicinity of East Avenue and the Esplanade.

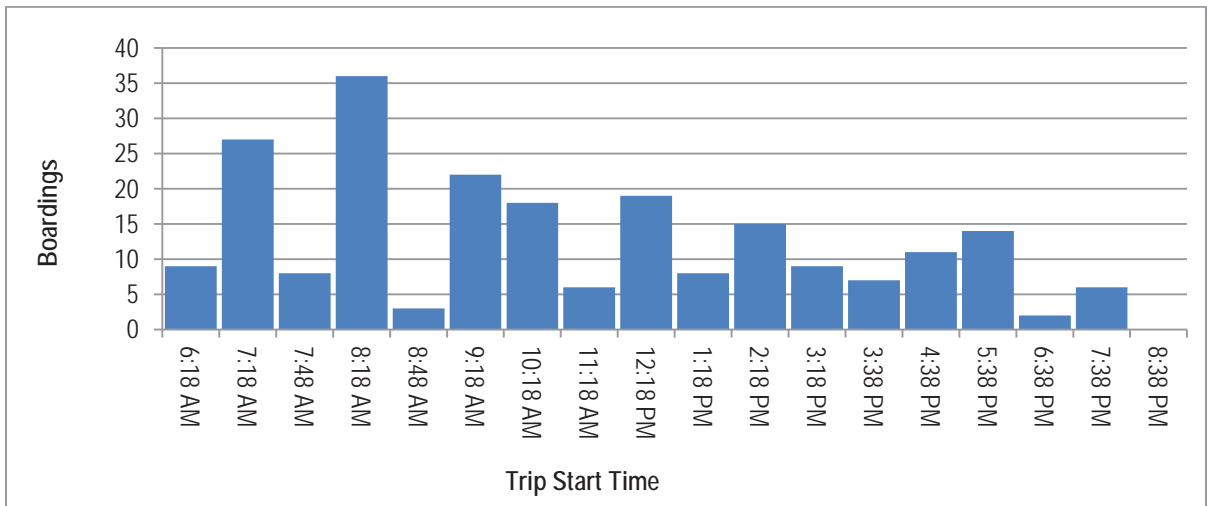
Figure 3-26 presents boardings by trip start time for Route 3. In the northbound direction, boardings varied over the course of the day, with the highest concentrations of boardings in the late morning and into midday. A spike in boardings occurred on the 7:10 PM run, largely from passengers traveling from downtown Chico to stops around CSU. In the southbound direction, however, boardings peaked during the morning and remained relatively steady throughout the rest of the day.

**Figure 3-26** Route 3 Weekday Boardings by Run – Northbound & Southbound

Northbound



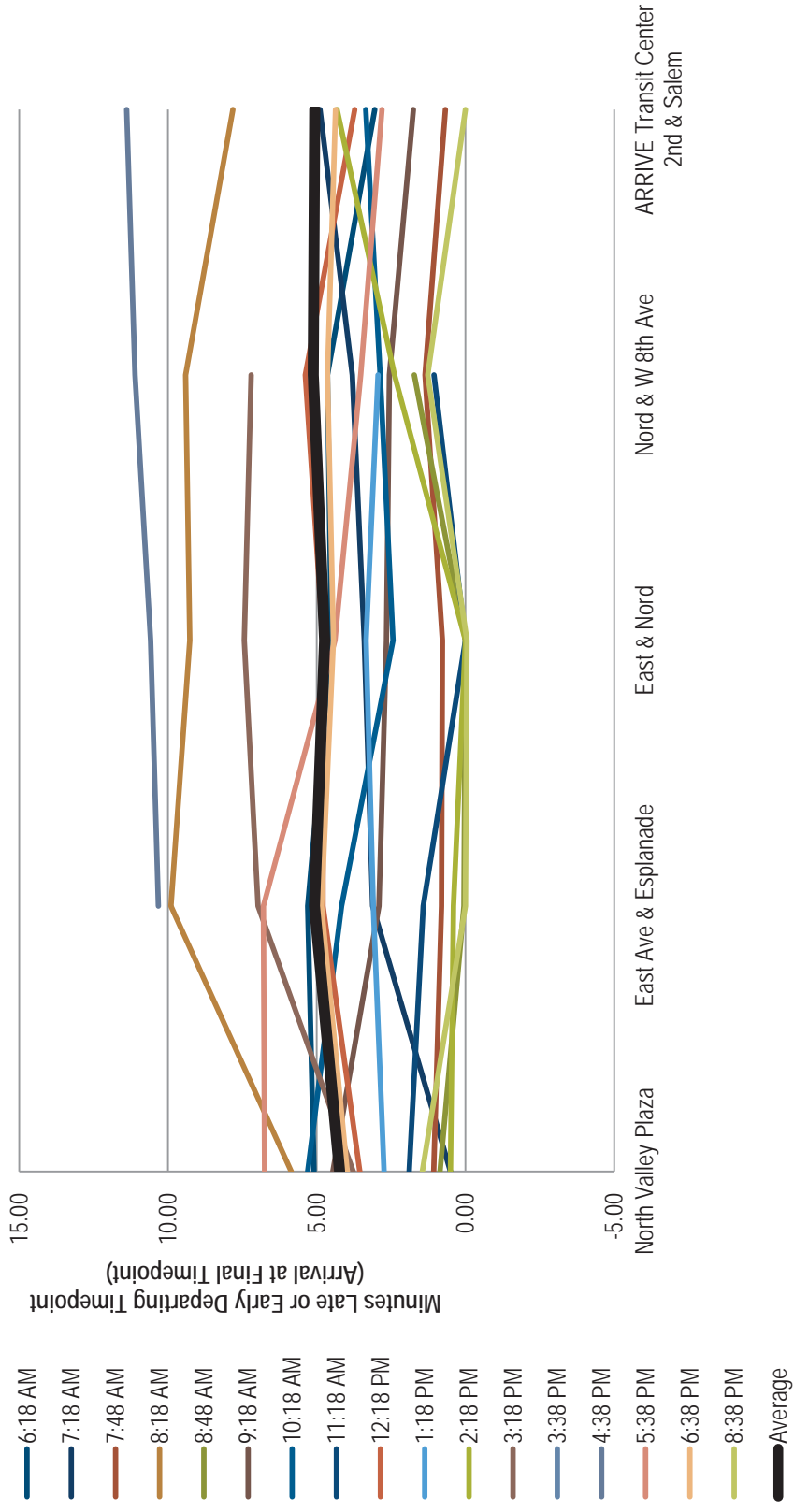
Southbound



**Route 3 On-Time Performance**

Route 3 also has strong on-time performance results (see Figure 3-27). The majority of sampled inbound trips departed North Valley Plaza within five minutes of the scheduled time, and maintained this condition throughout the rest of the route. On average, buses arrived at Chico Transit Center slightly over five minutes behind schedule. In the outbound direction, however, while most runs departed Chico Transit Center on time, over half of the runs fell more than five minutes behind schedule starting at the first timepoint. Overall, over half of outbound Route 3 runs were more than five minutes late. The data suggests that the outbound schedule is tight.

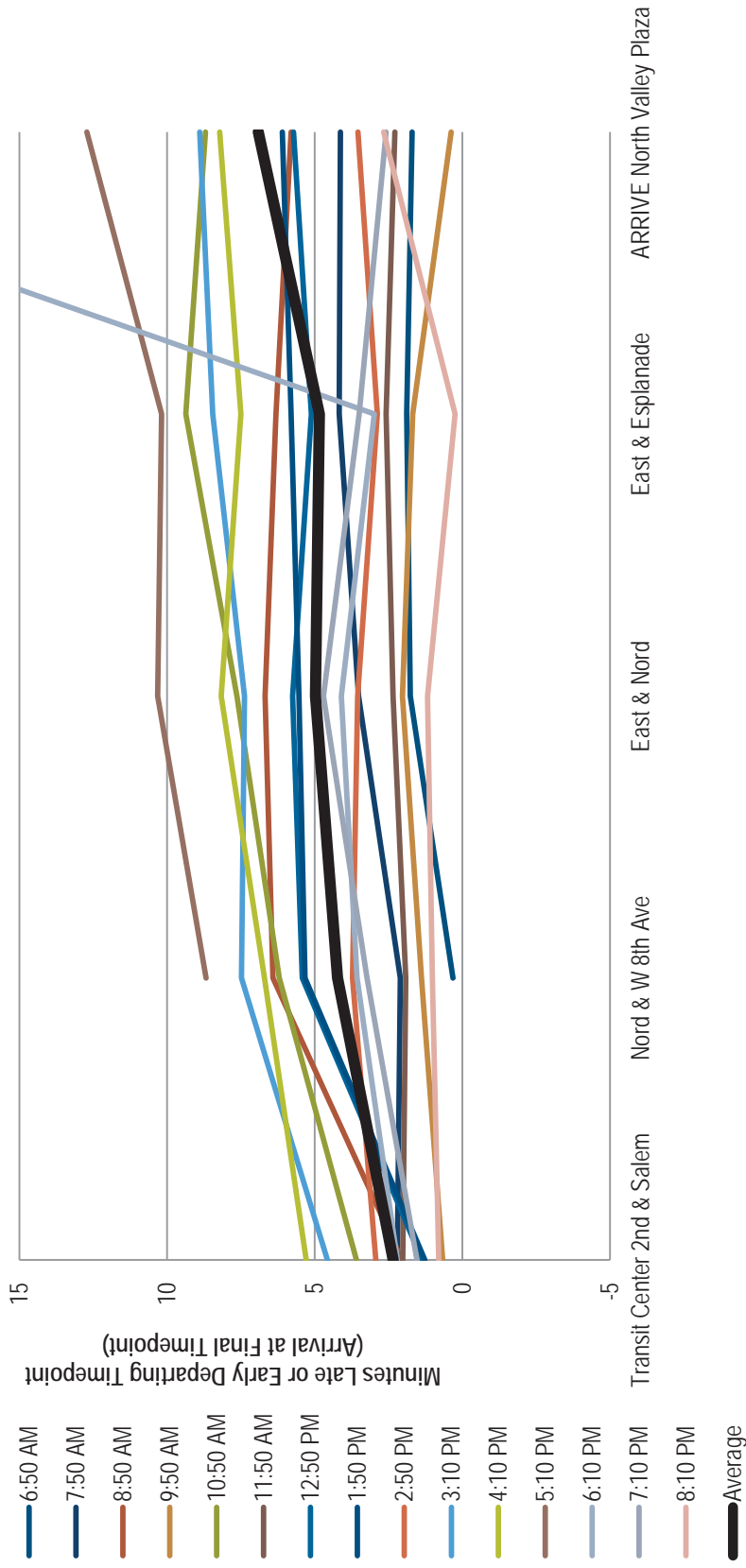
Figure 3-27 Route 3 Schedule Adherence by Route Segment  
Route 3 Inbound





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Route 3 Outbound



**Route 4 First/East**

At a Glance		
Weekday Boardings		389
Weekday Revenue Hours		13.9
Boardings per Hour		28.0
Boardings per Trip		11.4
Frequency (minutes)	Mon-Fri Peak/Mid-day	30/60
	Saturday	60
Span	Mon-Fri	6:15am - 9pm
	Saturday	8:50am - 7pm

**Description**

Route 4 operates between the Chico Transit Center and North Valley Plaza via East First Avenue, Manzanita Avenue, and East Avenue, and is through-routed with Route 3 at North Valley Plaza. The route passes through several residential neighborhoods to the northeast of downtown Chico, serving the Chico Courthouse, Chico Junior High School, Chico Public Library, and Pleasant Valley High School. Major stops and timepoints on Route 4 are Chico Transit Center, Chico Junior High School, First Avenue at Longfellow Avenue, Pleasant Valley High School, and North Valley Plaza. The route has a total round trip time of approximately 49 minutes with layovers at Chico Transit Center and North Valley Plaza.

**Route 4 Weekday Service**

Figure 3-28 shows the Route 4 boarding and alighting activity for the northbound and southbound directions.



On the northbound trips, there is a consistent level of activity along East Avenue, particularly around Pleasant Valley High School and at East Avenue at Mariposa Avenue, near the Safeway shopping center. Outside of Chico Transit Center, boardings are highest at Chico Junior High School (Oleander Avenue and Francis Willard) and around Pleasant Valley High School. The highest concentrations of alightings occur at North Valley Plaza, followed by Marigold Avenue and Manzanita Avenue (at Pleasant Valley High School), and at North Avenue and East Avenue, near Bidwell Junior High School. Activity at East 1<sup>st</sup> Avenue and Sherman Avenue seems to correlate to library traffic.

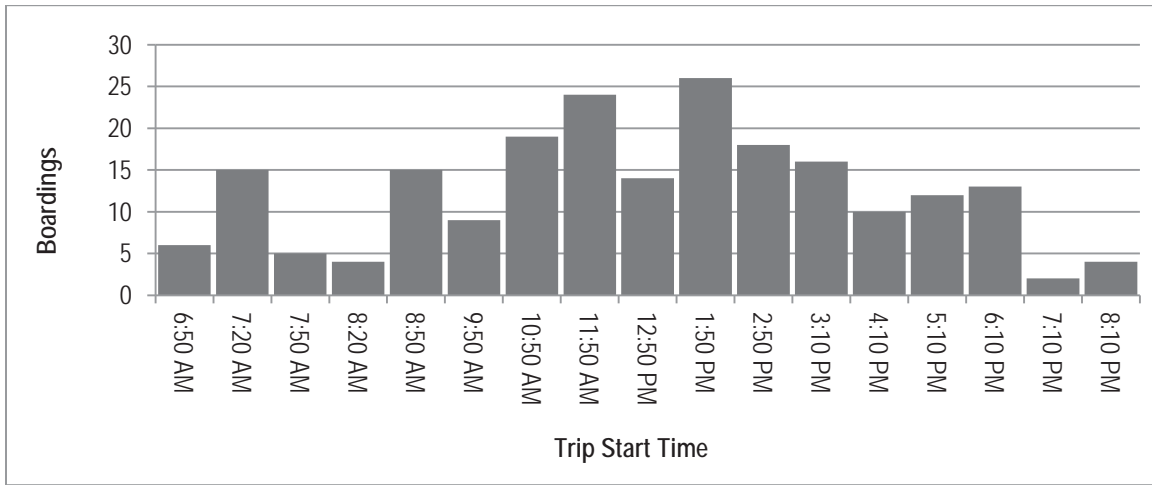
On southbound trips, a total of 34 passengers rode through to Route 4 at North Valley Plaza from interlined Route 3 buses. While total activity by stop for the most part mirrored the northbound direction (especially at North Avenue and East Avenue, the general vicinity of Pleasant Valley High School, and E. 1<sup>st</sup> Avenue and Sherman Avenue), there were a few stops that saw significantly more traffic in the southern direction, such as East 1<sup>st</sup> Avenue and Neal Dow Avenue.

Overall, there were several stops along Route 4 that saw relatively little activity in both directions. The locations of these stops included the route jog along Ellene and North Avenues near North Valley Plaza, and on East 1<sup>st</sup> Avenue between Oleander Avenue and Sherman Avenue.

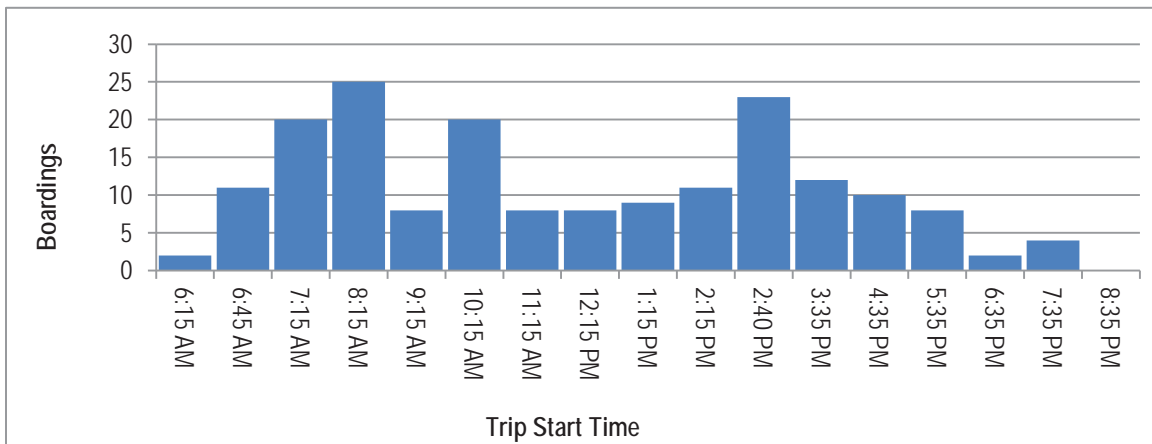
Figure 3-29 presents boardings by trip start time for Route 4. In the northbound direction, boardings roughly followed a bell-curve pattern, peaking immediately before and after the noon hour. In the southbound direction, however, boardings peaked in the morning and mid-afternoon, correlating with school bell times.

Figure 3-29 Route 4 Weekday Boardings by Run – Northbound & Southbound

Northbound



Southbound

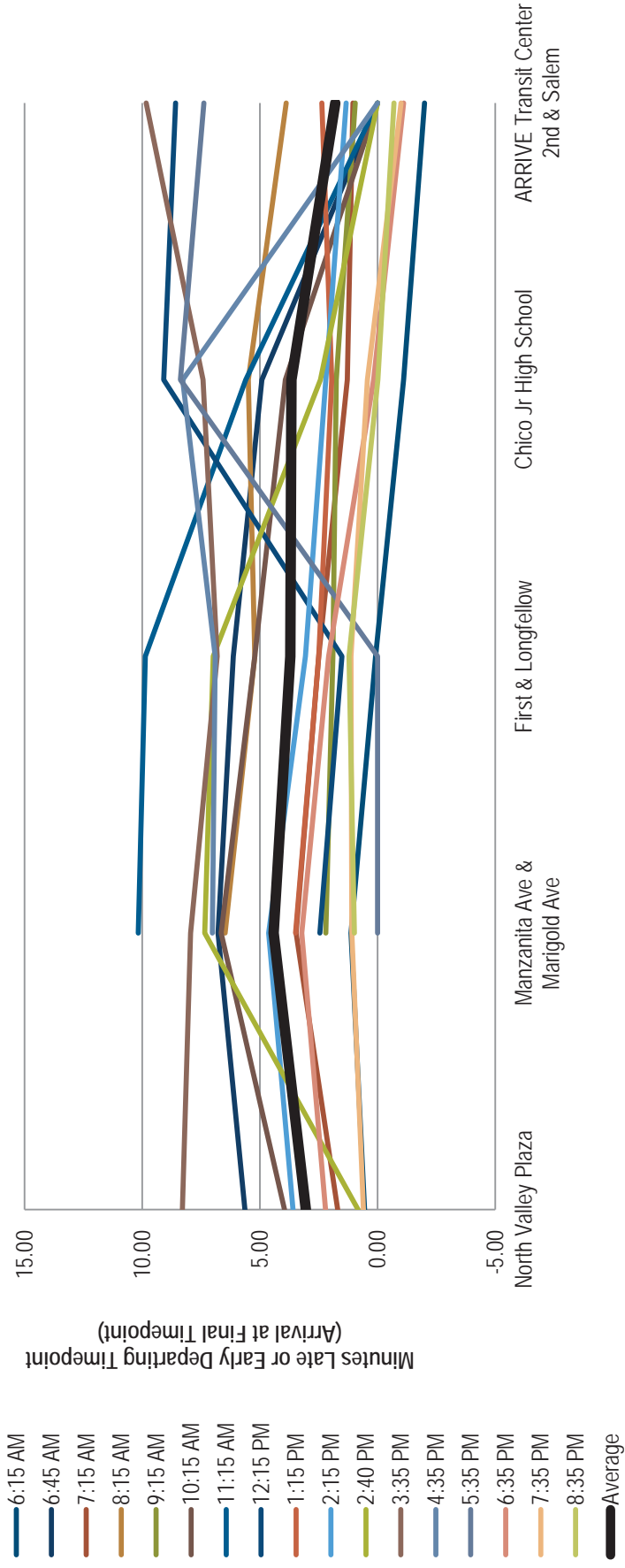


**Route 4 On-Time Performance**

Inbound trips generally average a delay of three to four minutes over the course of the route, and 41% of sampled runs departed timepoints at least five minutes late. Outbound trips averaged nearly five minutes of delay, mostly due to a couple of significantly delayed runs in the afternoon.

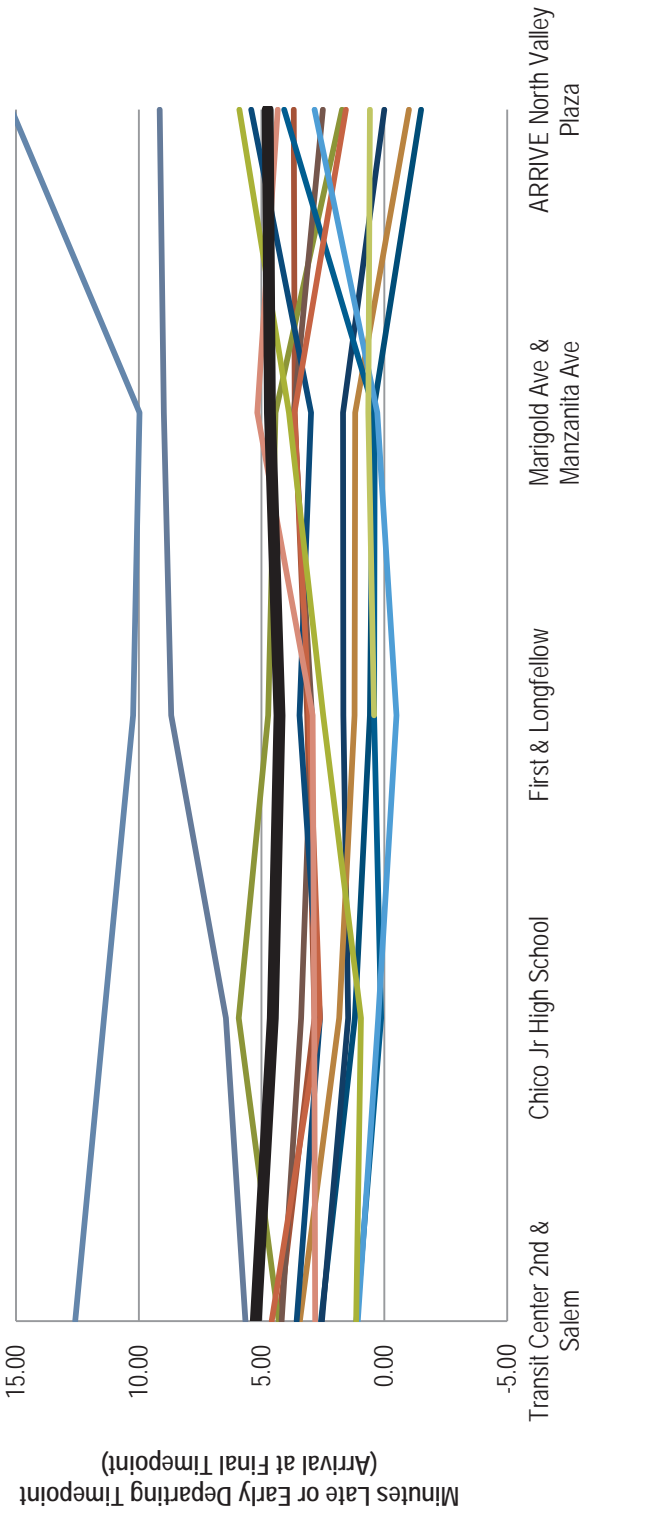
As shown in Figure 3-30, the outbound service has greater delay in the afternoon than the morning. Nearly one-quarter of all trips (24%) experienced a delay departing at least one timepoint.

Figure 3-30 Route 4 Schedule Adherence by Route Segment  
Route 4 Inbound



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Route 4 Outbound



**Route 5 East 8<sup>th</sup> Street**

At a Glance		
Weekday Boardings		254
Weekday Revenue Hours		14.8
Boardings per Hour		17.2
Boardings per Trip		6.9
Frequency (minutes)	Mon-Fri Peak/Mid-day	30/60
	Saturday	60
Span	Mon-Fri	6:15am - 8:30pm
	Saturday	8:15am - 7pm

**Description**

Route 5 provides service between the Chico Transit Center and the Forest Avenue Transfer, operating in a one-way couplet on 9<sup>th</sup> Street (Eastbound) and 8<sup>th</sup> Street (Westbound) and in the vicinity of WalMart, operates on a one-way loop along 20<sup>th</sup> Street, Notre Dame Boulevard, and Forest Avenue, serving the neighborhoods along Notre Dame Boulevard in addition to the shopping centers around the Forest Avenue Transfer. Major stops and timepoints along Route 5 include the Chico Transit Center, 9<sup>th</sup> Street & Pine, 8<sup>th</sup> Street & Highway 32, 8<sup>th</sup> Street & Olive, and the Forest Avenue Transfer. The route has a total round trip time of approximately 49 minutes with a layover at the Chico Transit Center.

**Route 5 Weekday Service**

Figure 3-31 shows the Route 5 boarding and alighting activity for the westbound and eastbound directions.





On the westbound trips (i.e., towards Chico Transit Center), boarding activity is largely clustered around Forest Avenue and Amanda Way, near several apartment complexes, as well as at Forest Avenue and East 20<sup>th</sup> Street (near the Chico Mall), and East 8<sup>th</sup> Street and Colusa Street, at the Parkview Elementary School. There is a relatively constant moderate amount of activity along East 8<sup>th</sup> Street. In the eastbound direction, there are a few predictably active stops, particularly in the vicinity of Forest Avenue and Wildflower Court, near the multifamily housing complexes, along with WalMart and the Chico Mall. A total of 35 passengers were carried through from the eastbound direction into the westbound direction at the Forest Avenue Transfer.

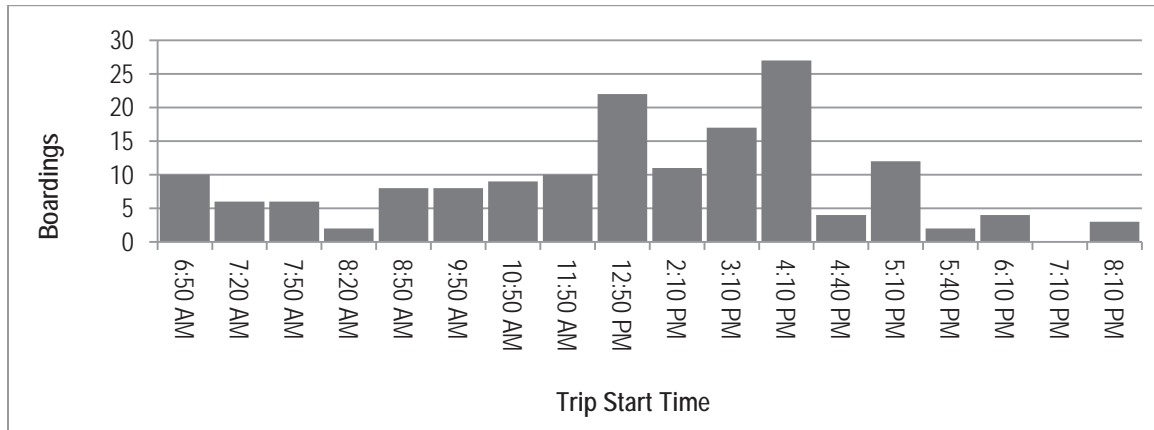
It should be noted that on Monday, September 23<sup>rd</sup>, police activity blocked access to the stops at East 8<sup>th</sup>/9<sup>th</sup> Street & SR 32 and East 8<sup>th</sup>/9<sup>th</sup> Street & Bartlett Street on the final three runs in the eastbound direction and on the final two runs in the westbound direction.

According to B-Line staff and other on-site feedback heard during the boarding and alighting survey, Parkview Elementary students (as well as students at other schools in the district) often take B-Line rather than school buses because public transit is a cheaper option. Additionally, CSU students have increasingly begun to take Route 5 to reach Wal-Mart and Chico Mall due to crowding on Route 15S. Finally, East 8<sup>th</sup> & SR32 on westbound Route 5 is, according to drivers, a rarely used stop; drivers also noted that there are problems with the bus blocking traffic at this stop.

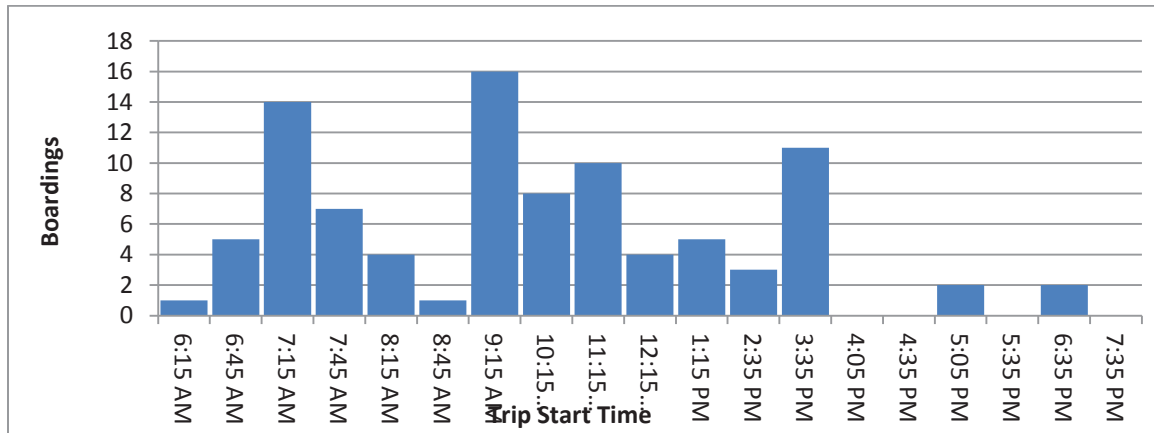
Figure 3-32 presents boardings by trip start time for Route 5. In the eastbound direction towards Chico Mall, the highest numbers of boardings occurred in the early to mid-afternoon, peaking on the 4:10pm trip. In the westbound direction towards downtown Chico, boardings skewed toward the mid- and late-morning, peaking at 9:15am. On the survey day, at least, there were several runs with very few, if no boardings, which may be an aberration from an unknown factor on the survey day. Nevertheless, these patterns in conjunction with the boarding and alighting patterns in residential neighborhoods along Route 5 suggest that this route may be used for commuting purposes in addition to trips to the shopping centers.

Figure 3-32 Route 5 Weekday Boardings by Run – Eastbound & Westbound

Eastbound



Westbound

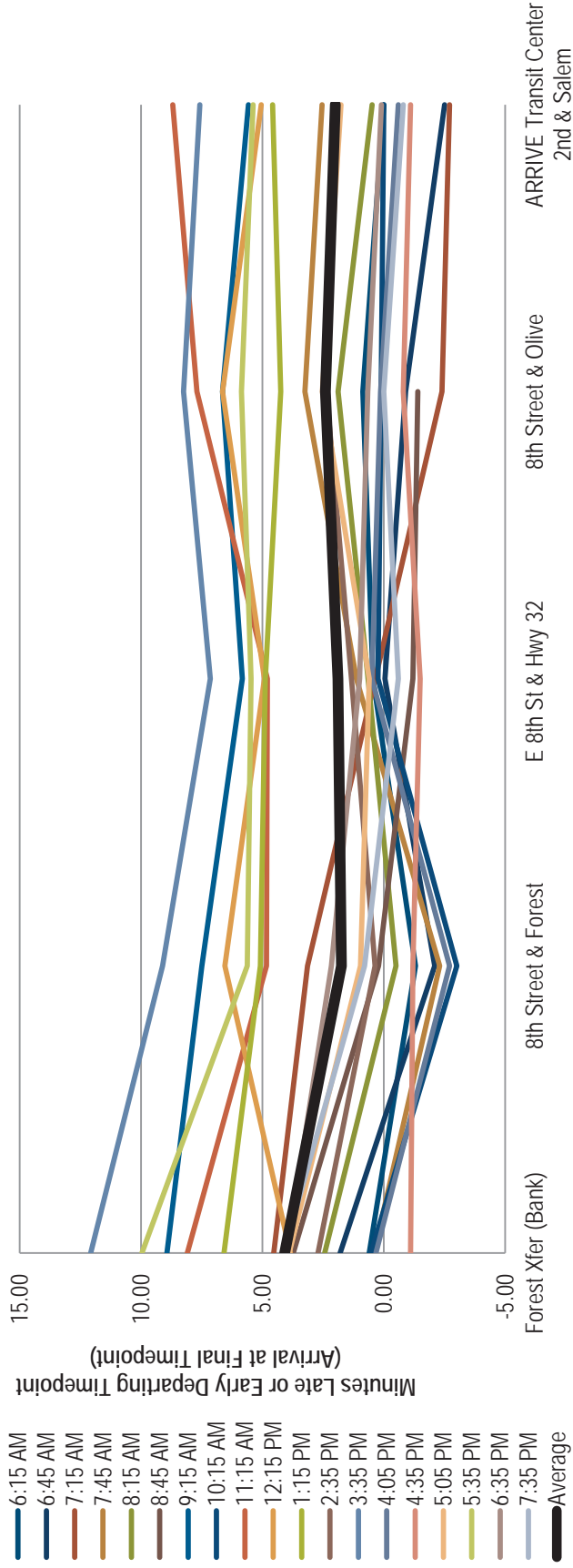


**Route 5 On-Time Performance**

In the inbound direction of Route 5 towards Chico Transit Center, 32% (6 of 19) runs were more than five minutes late from timepoints with 37% (7 of 19) departing more than one minute early from timepoints. In particular, the seven buses that departed early made up time between the Forest Avenue Transfer and 8<sup>th</sup> Street & Forest Avenue, suggesting that there is some slack in the schedule at times. A few of the late departures in the inbound direction were caused by late arrivals to the Forest Avenue Transfer in the outbound direction; these delays occurred between East 8<sup>th</sup> Street & Forest Avenue and the Forest Avenue Transfer terminus (see Figure 3-33).

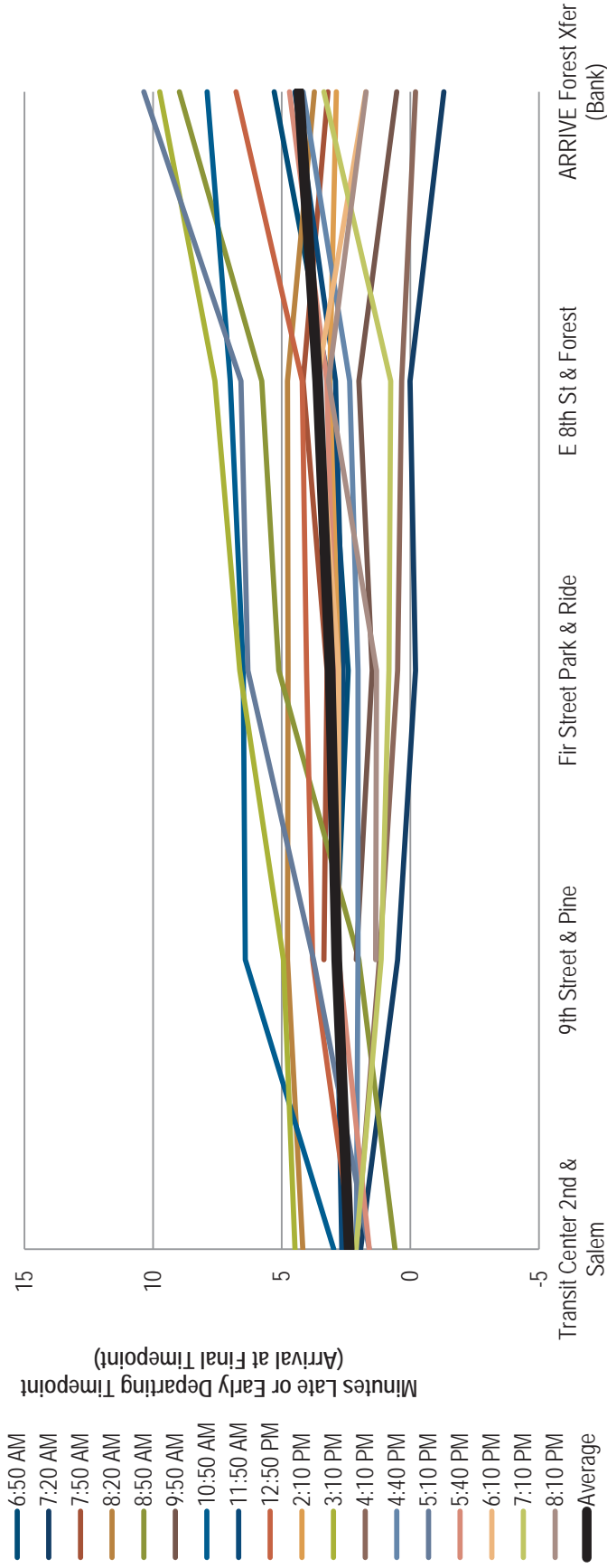
In the outbound direction, on-time performance was more consistent with only 17% (3 of 18) of trips running more than 5 minutes late at any timepoint.

Figure 3-33 Route 5 Schedule Adherence by Route Segment  
Route 5 Inbound



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Route 5 Outbound



**Route 7 Bruce/Manzanita**

At a Glance		
Weekday Boardings		108
Weekday Revenue Hours		5.1
Boardings per Hour		21.4
Boardings per Trip		8.3
Frequency (minutes)	Mon-Fri	60
Span	Mon-Fri	6:45am - 5:30pm

**Description**

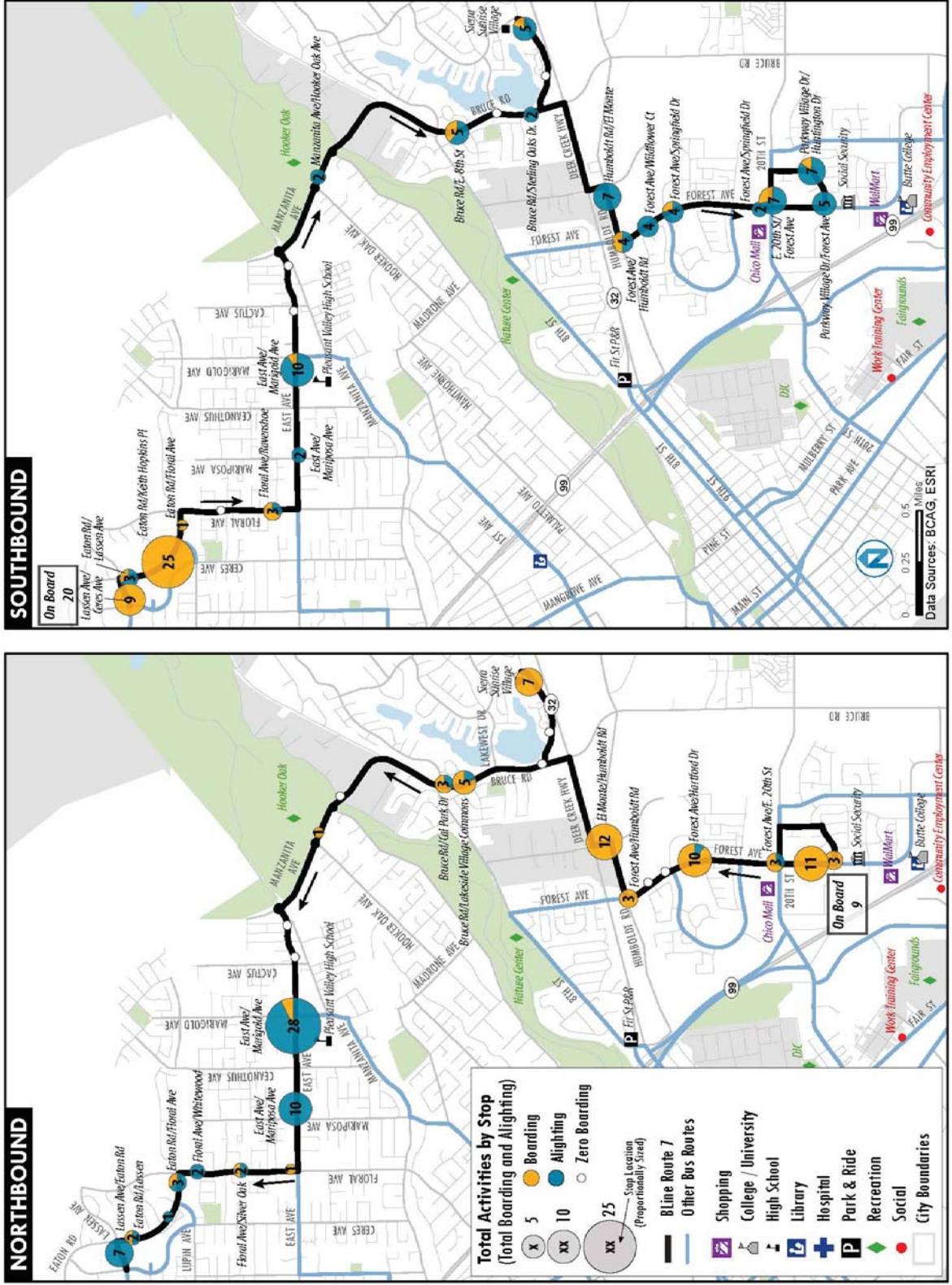
Route 7 operates between the Forest Avenue Transfer and Ceres and Lassen Avenues via Sierra Sunrise Village and Pleasant Valley High School. Route 7 is through-routed with Route 2 at Ceres and Lassen, and is the only Chico local route that does not serve Chico Transit Center. Major stops and timepoints on Route 7 include the Forest Avenue Transfer, Marsh Junior High School, Sierra Sunrise Village, Pleasant Valley High School, and Ceres and Lassen Avenues. The route has a total round trip time of approximately 51 minutes, and operates three peak AM and PM runs in the southbound direction, and in the northbound direction, four peak AM runs and three peak PM runs.

Route 7 does not operate on the weekend.

**Route 7 Weekday Service**

Figure 3-34 shows the Route 7 boarding and alighting activity for the northbound and southbound directions.

Figure 3-34 Route 7 Weekday Boardings and Alightings by Stop



Route 7 appeals to students in particular due to its proximity to Pleasant Valley High School and Marsh Junior High School and coverage in several residential neighborhoods at the eastern edge of the city. With no midday trips, it is designed primarily to serve school trips and afterschool activities; however, as an outgrowth of the 2013/14 Unmet Needs study, B-Line plans to introduce a midday run of Route 7 later in FY 2013/14. On the northbound trips, Route 7 primarily attracts passengers in the vicinity of Chico Mall and in neighborhoods to the north, including Sierra Sunrise Village. The highest number of alightings in the northbound direction occurs at Pleasant Valley High School and at East Avenue & Mariposa Avenue, near the Safeway shopping center.

In the southbound direction, a total of 20 riders continued on Route 7 from interlined Route 2 buses. The highest number of boardings occurred at Eaton Road and Keith Hopkins Place on the 2:44pm run; this may be an aberration given that the stop is located in the middle of a residential area with few destinations nearby.<sup>1</sup> In any event, total activity in the southbound direction is spread relatively evenly along the line, with expected concentrations around Chico Mall and the two public schools.

Figure 3-35 presents boardings by trip start time for Route 7. In the northbound direction, boardings were greater in the morning peak period than the evening peak, whereas in the southbound direction, boardings were generally much lighter overall (except for the 2:42pm run). Generally, northbound Route 7 appears to provide needed service for middle and high school students during the peak morning hours; its value to these students in the afternoon is not readily apparent from the available data.

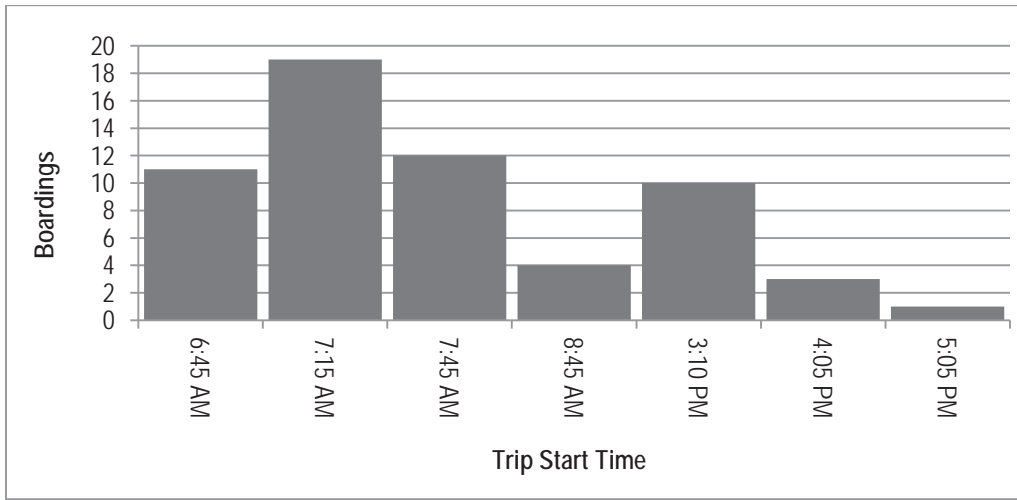
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<sup>1</sup> On this particular day (September 23, 2013), the majority of these riders proceeded to alight at a variety of stops serving residential neighborhoods south of Sierra Sunrise Village. It is a strong possibility, given the time of their boardings, that the group were affiliated with a local school that had just let out; the surveyor may have entered the count on the wrong line of the survey form. Alternatively, the large group could be related to the Sycamore Glen Retirement Community, located near the stop.

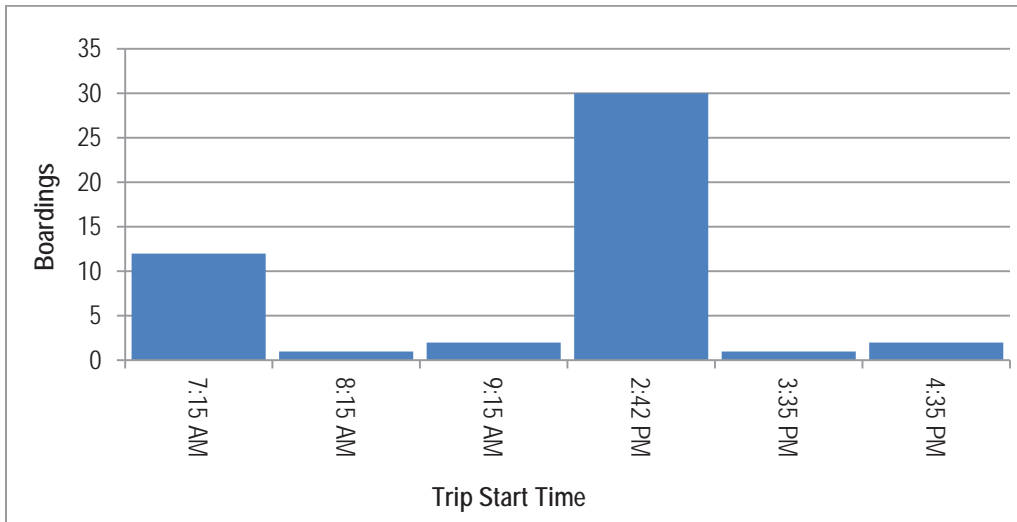


Figure 3-35 Route 7 Weekday Boardings by Run – Northbound & Southbound

Northbound



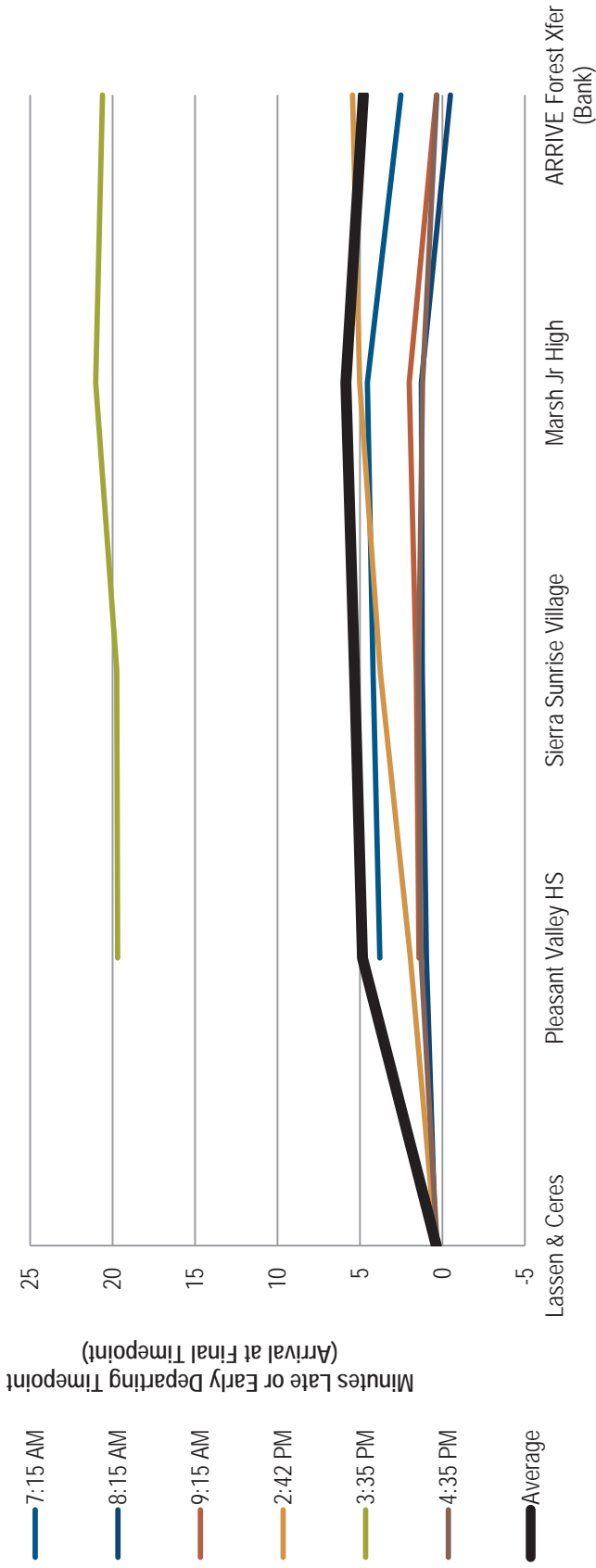
Southbound



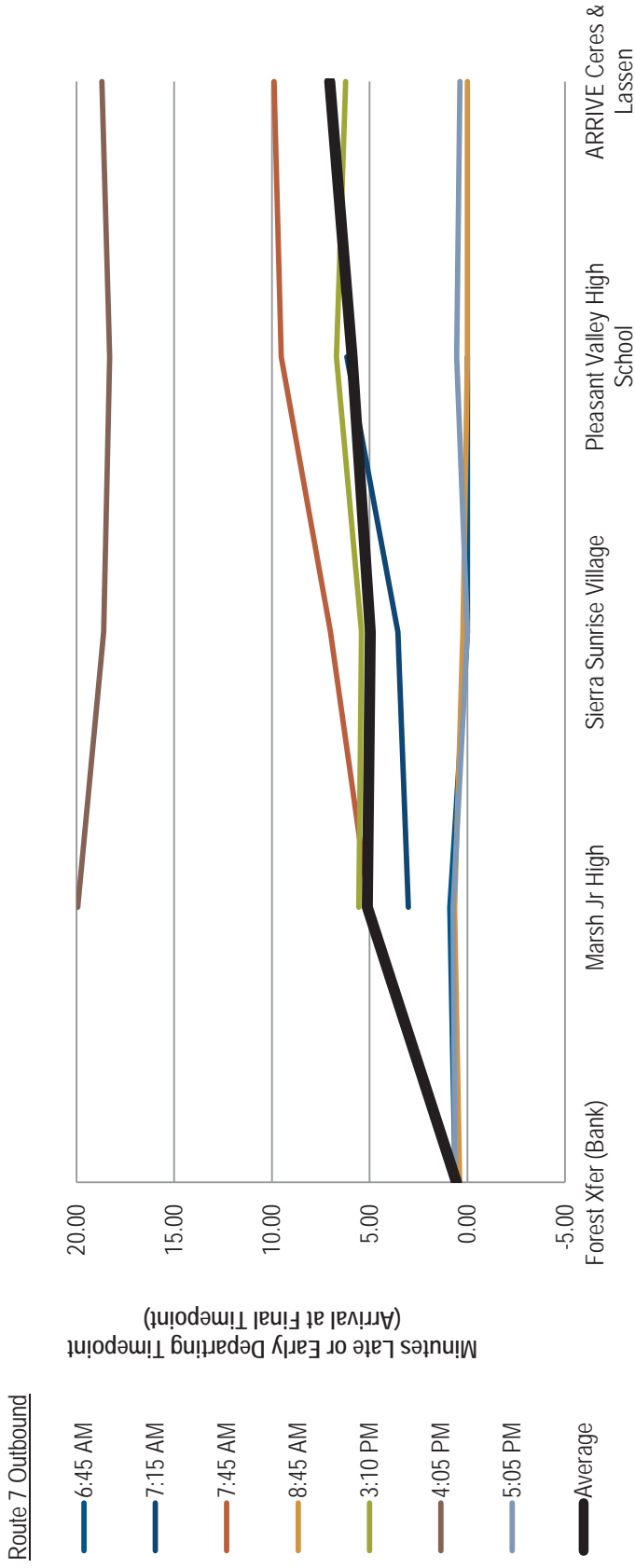
**Route 7 On-Time Performance**

Of the sample data, two of six (33%) inbound runs departed more than five minutes late from timepoints, while 43% of outbound runs had on-time performance problems, with several arriving at the terminal point late, suggesting that this route schedule is tight (see Figure 3-36).

Figure 3-36 Route 7 Schedule Adherence by Route Segment  
Route 7 Inbound



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**Route 8 Nord**

At a Glance		
Weekday Boardings		605
Weekday Revenue Hours		9.5
Boardings per Hour		63.7
Boardings per Trip		25.2
Frequency (minutes)	All Day	30
Span	Mon-Thu	7:30am - 10pm
	Fri	7:30am - 4pm

**Description**

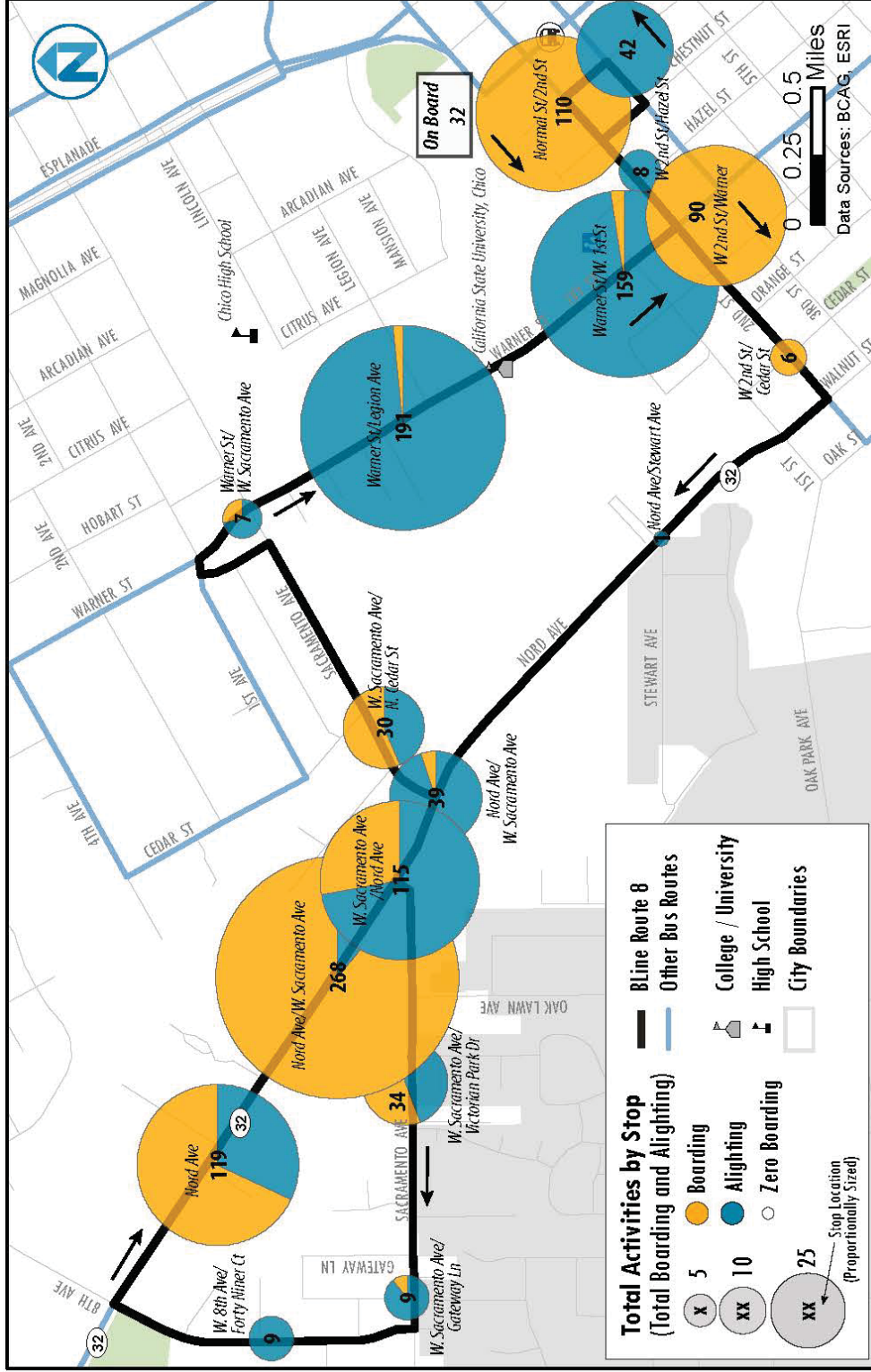
Along with Route 9, with which it is through-routed, Route 8 is a student shuttle loop that directly connects CSU-Chico with downtown Chico and student neighborhoods to the northwest of campus. Route 8 operates on Nord Avenue and Warner Street flanking the campus, and makes a loop of student housing on West Sacramento Avenue, 8<sup>th</sup> Street, and Nord Avenue. Major timepoints along Route 8 include the Chico Transit Center, West Sacramento Avenue & Nord Avenue at the Chevron station, Nord Avenue at the University Village apartments, and Warner Street & West Sacramento Avenue. The route has a total round trip time of approximately 24 minutes.

Route 8 only operates when CSU is in session; it does not operate on extended school breaks and holidays. Route 8 also operates a slightly shorter service span on Fridays, and does not operate at all on the weekend.

**Route 8 Weekday Service**

Figure 3-37 below presents the Route 8 boarding and alighting activity along the loop route.

Figure 3-37 Route 8 Weekday Boardings and Alightings by Stop

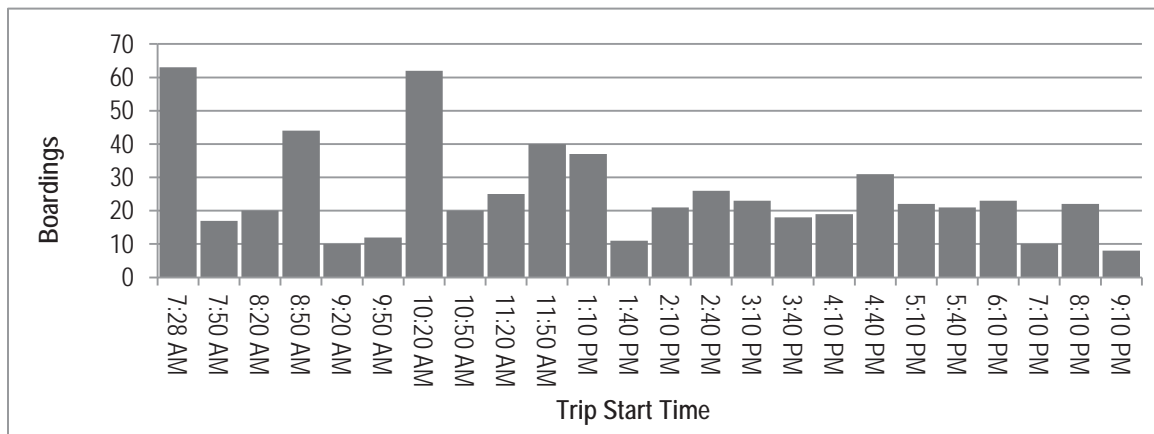


Route 8 is a loop route, and according to the observed boardings and alightings, it fulfills its role as a student shuttle; the highest number of boardings occur at Nord Avenue & West Sacramento Avenue, at the University Village apartment complex, while the highest numbers of alightings occur, appropriately, along Warner Street immediately adjacent to the CSU Student Health Center (Warner St & Legion Avenue) and the CSU parking structure (Warner Street & W. 1<sup>st</sup> Street). A total of 30 passengers were carried through on interlined Route 9 buses.

Despite the popularity of the route overall, there is very little activity northbound on 2<sup>nd</sup> Street and Nord Avenue between Chico Transit Center and Sacramento Avenue.

Figure 3-38 presents boardings by trip start time for Route 8. Overall, boardings are relatively steady throughout the day with the highest numbers of boardings on the 7:28am, 8:50am, and 10:20am runs.

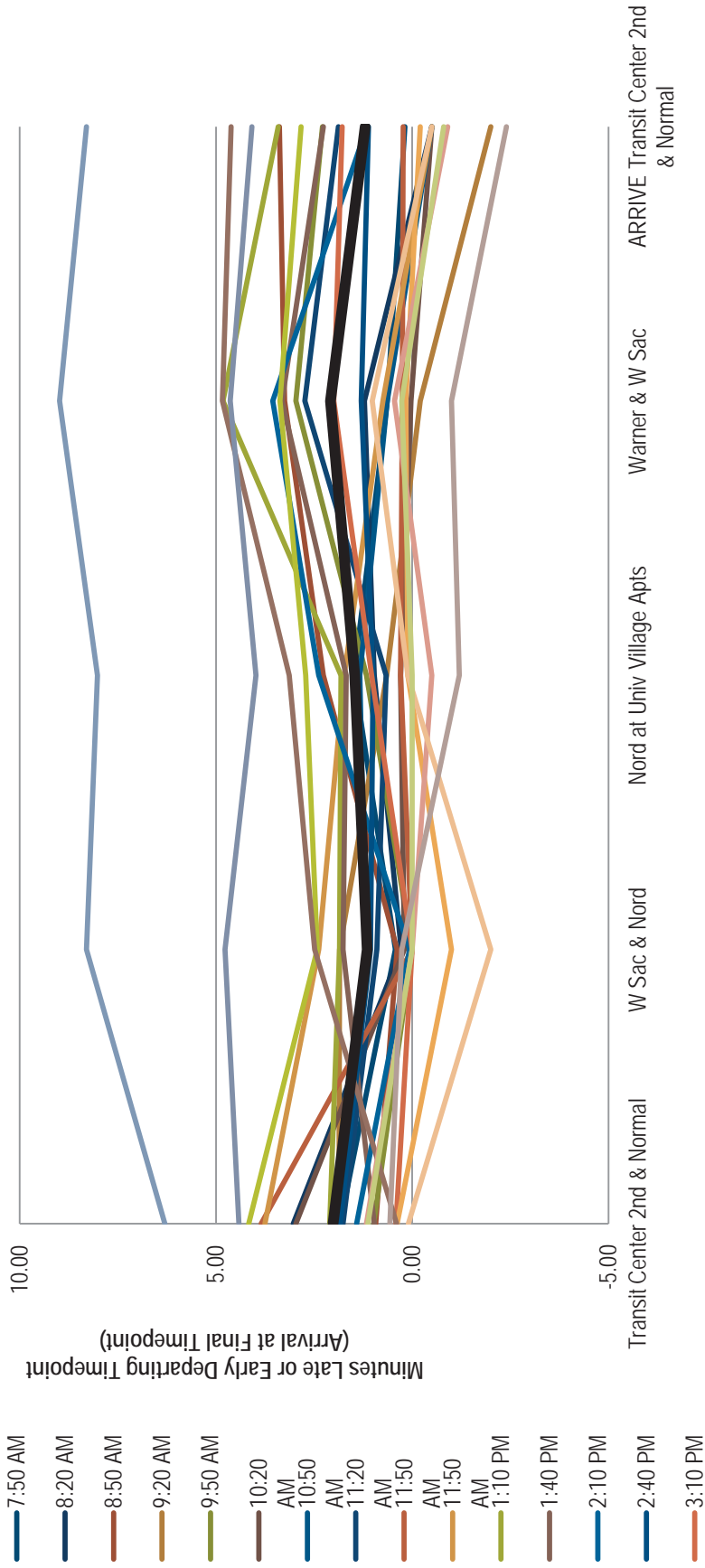
**Figure 3-38 Route 8 Weekday Boardings by Run**



**Route 8 On-Time Performance**

As shown in Figure 3-39, Route 8 has consistently strong on-time performance, with only one run of 24 running more than 5 minutes late at a timepoint. Two of 24 runs ran more than one minute early, however, making the trip between Chico Transit Center and West Sacramento Avenue & Nord Avenue faster than scheduled.

Figure 3-39 Route 8 Schedule Adherence by Route Segment



**Route 9 Warner/Oak**

At a Glance		
Weekday Boardings		499
Weekday Revenue Hours		10.7
Boardings per Hour		46.9
Boardings per Trip		20.0
Frequency (minutes)	All Day	30
Span	Mon-Thu	7:30am - 10pm
	Fri	7:30am - 4pm

**Description**

As noted above, Route 9 is through-routed with Route 8, and is also a student shuttle. Route 9 makes two loops, first one serving student neighborhoods to the north of campus on W. 4<sup>th</sup>, Cedar, and Warner Streets, then, after returning to the Chico Transit Center, one to the south of campus along Oak, W. 5<sup>th</sup>, and W.7<sup>th</sup> Streets. The route has a total round trip time of 27 minutes.

Like Route 8, Route 9 only operates when CSU is in session; it does not operate on extended school breaks and holidays. Route 9 also operates a slightly shorter service span on Fridays, and does not operate at all on the weekend. However, unlike Route 8, Route 9 service on the north (Cedar) loop is provided whenever Route 9 is not running. This replacement operation, Route 9C, operates on Fridays after 4pm (year-round), Saturdays year-round, and during CSU breaks.

When CSU is in session, Route 9C operates three runs on Fridays from 5:10pm to 8:24pm; on Saturday, it operates five runs from 8:30am through 6:24pm. When CSU is on break, however, Route 9C begins operating at 7:50am and ends at 8:24pm, making seven runs over the course of the day.

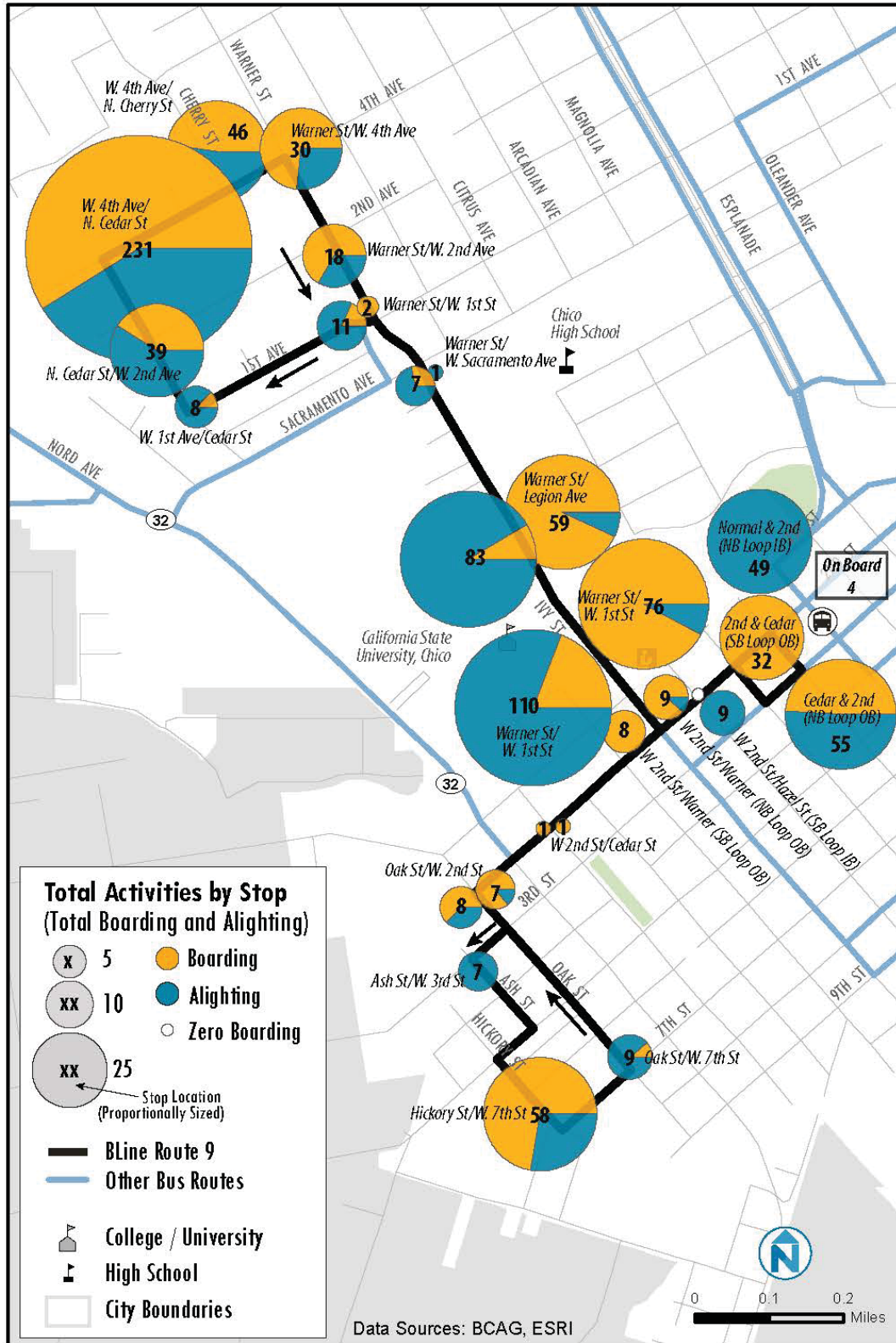
**Route 9 Weekday Service**

Figure 3-40 presents the Route 9 boarding and alighting activity along the loop route.



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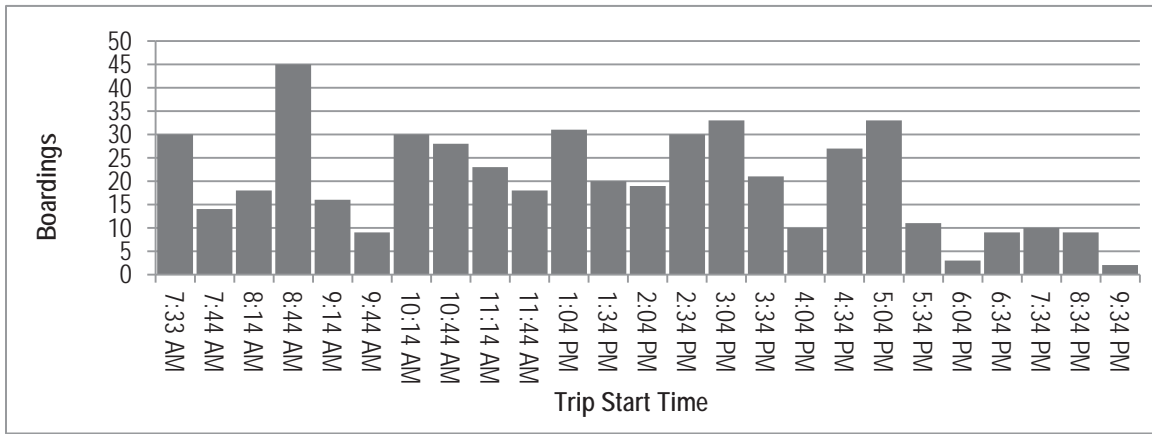
Figure 3-40 Route 9 Weekday Boardings and Alightings by Stop



On the south loop, the highest number of boardings occurs at Hickory St & W. 7<sup>th</sup> Street, adjacent to the Jefferson on 5<sup>th</sup> apartment complex; on the north loop, most boarding and alighting activity takes place at the W. 4<sup>th</sup> Avenue & N. Cedar Street stop, adjacent to a number of different apartment complexes.

Figure 3-41 presents boardings by trip start time for Route 9. Like Route 8, boardings peak in the morning (8:44am); over the rest of the day, boardings are relatively steady with smaller peaks scattered throughout the afternoon. Boardings fall significantly after 5:30pm.

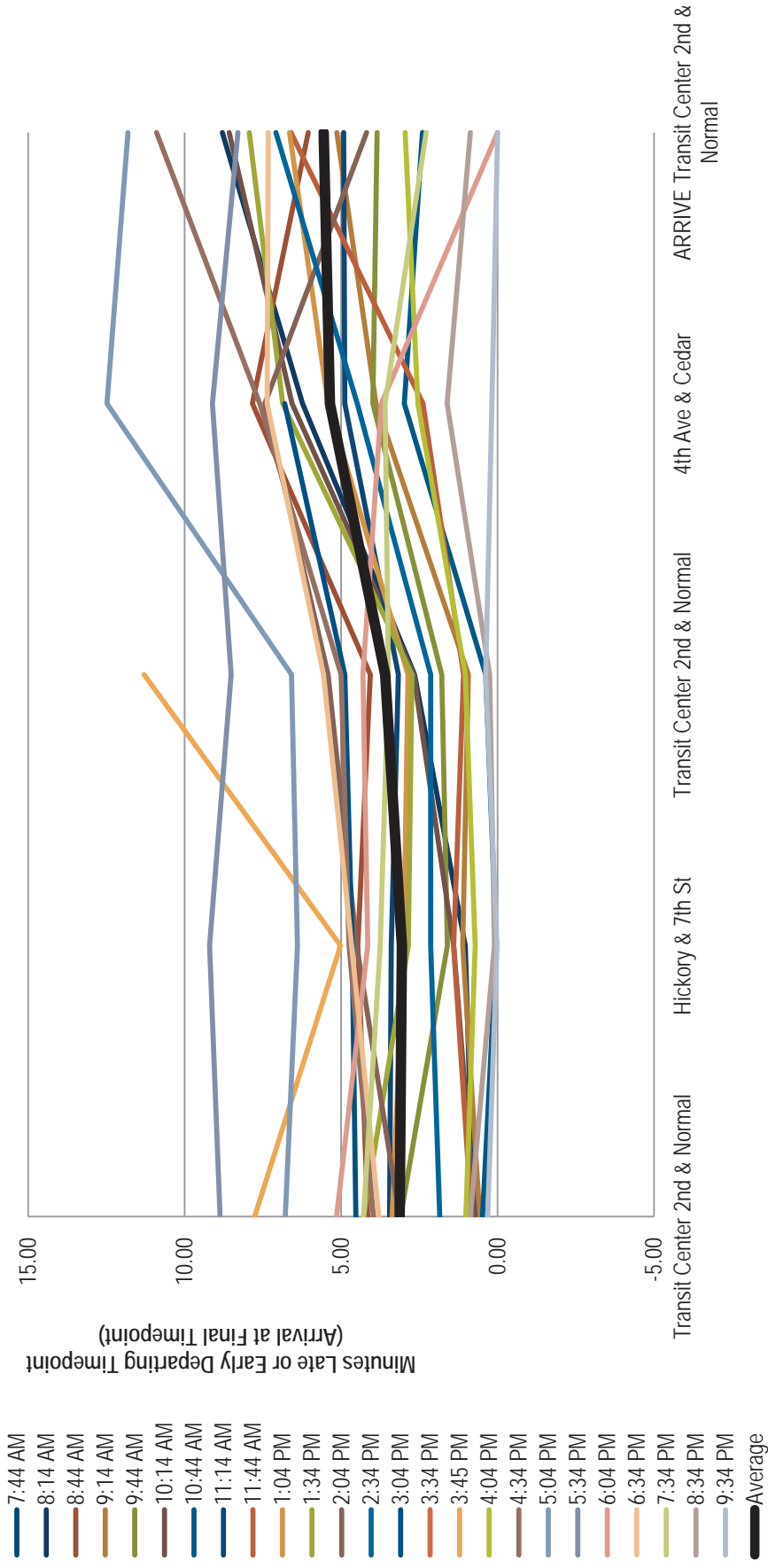
**Figure 3-41    Route 9 Weekday Boardings by Run**



**Route 9 On-Time Performance**

Unlike its counterpart student shuttle service Route 8, over half of Route 9 runs (52%, 13 of 25) were more than five minutes late at timepoints. In particular, Route 9 runs tended to run behind schedule on the northern loop (see Figure 3-42). It is possible that the delays in the route after the 4<sup>th</sup> Avenue & Cedar Street stop are being caused by passenger volumes as total boarding and alighting activity is very high on this segment, the final leg of the route.

Figure 3-42 Route 9 Schedule Adherence by Route Segment



## Route 15 - Overview

Route 15, one of the most popular routes in the system, provides service on the Esplanade and Park Avenue corridor from Ceres & Lassen in the north to the Forest Avenue Transfer in the south. It is divided into two distinct sections that are through-routed: Route 15N (Lassen/Esplanade) and Route 15S (Forest/MLK/Park). For the sake of ease, Routes 15N and 15S are discussed separately in this section.

### Route 15N Lassen/Esplanade

At a Glance		
Weekday Boardings		446
Weekday Revenue Hours		16.4
Boardings per Hour		27.2
Boardings per Trip		9.5
Frequency (minutes)	Mon-Fri Peak/Midday/Evening	20/30/60
	Sat	60
Span	Mon-Fri	6:15am - 9:30pm
	Sat	7:50am - 6:30pm

### Description

Route 15N operates between the Chico Transit Center and Ceres & Lassen via the Esplanade and Lassen Avenue. Route 15N operates in a short loop at the terminus on Eaton Road and Ceres Avenue. Major stops and timepoints include Chico Transit Center, Esplanade & 5<sup>th</sup>, Esplanade & East, Lassen & Cohasset, and Ceres & Lassen. Other destinations along the route include Chico High School, Enloe Memorial Hospital, and several shopping centers. The route has a total round trip time of approximately 49 minutes.

### Route 15N Weekday Service

Figure 3-43 shows the Route 15N boarding and alighting activity for the northbound and southbound directions.

Figure 3-43 Route 15N Weekday Boardings and Alightings by Stop



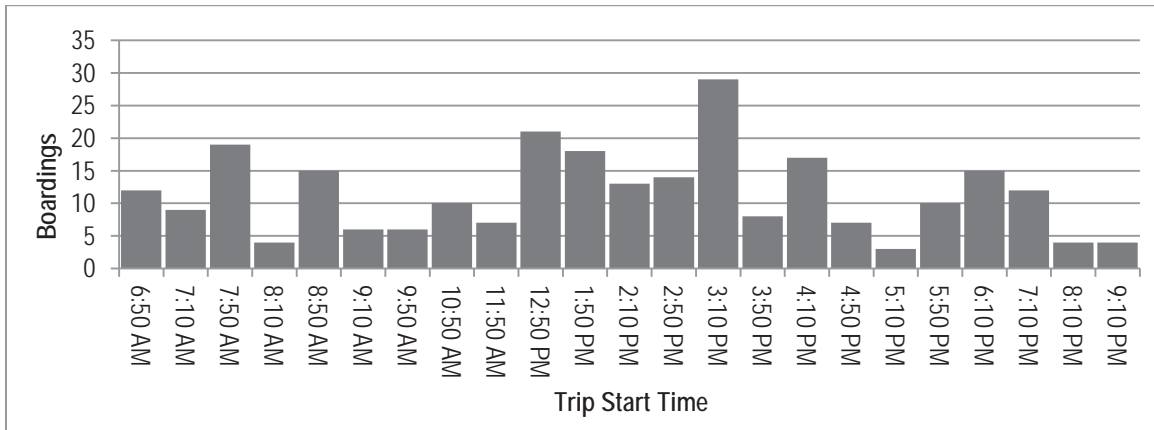
On northbound trips, Route 15N has a high level of consistent alighting activity, with the highest share of alightings taking place at Esplanade & Rio Lindo Avenue, Esplanade & East Avenue, and Esplanade & Henshaw Avenue. Outside of Chico Transit Center, the greatest amount of boarding and alighting activity occurs at Esplanade & Henshaw Avenue, and Lassen Ave & Burnap Avenue, in the vicinity of several apartment complexes. Over the course of the day, a total of 72 passengers rode through from Route 15S to Route 15N in the northbound direction at Chico Transit Center. In the southbound direction, there were more boardings than alightings along much of the route outside of downtown Chico, especially along Lassen Avenue.

Figure 3-44 present boardings by trip start time for Route 15N. In the northbound direction, boardings varied over the course of the day, peaking on the 3:10pm run while experiencing smaller peaks during midday and the AM and PM peaks. In the southbound direction, boardings peaked in the early and peak morning period, with a smaller period of high boardings around noon. Three runs in the peak and late evening period did not have any boardings.

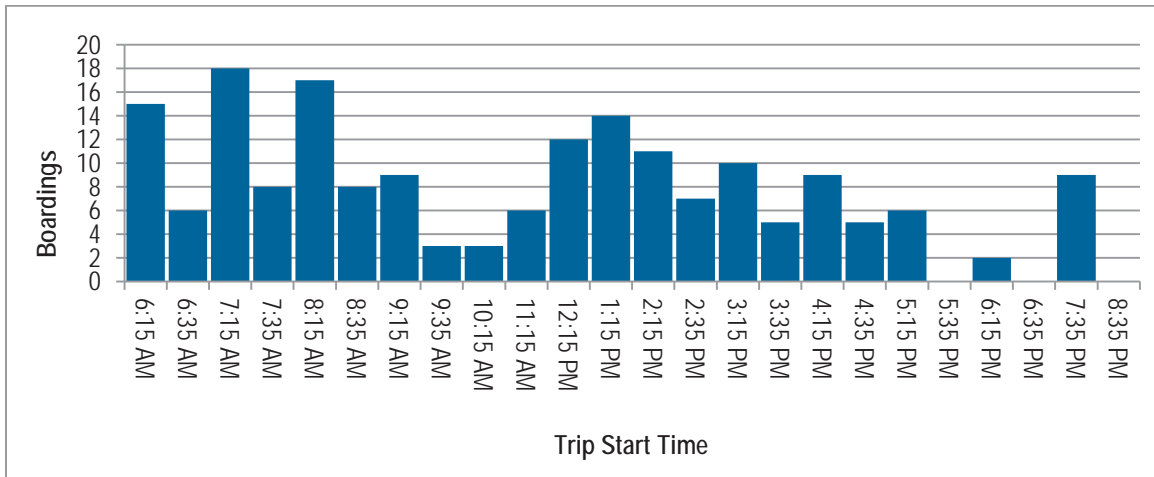
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Figure 3-44 Route 15N Weekday Boardings by Run – Northbound & Southbound

Northbound



Southbound



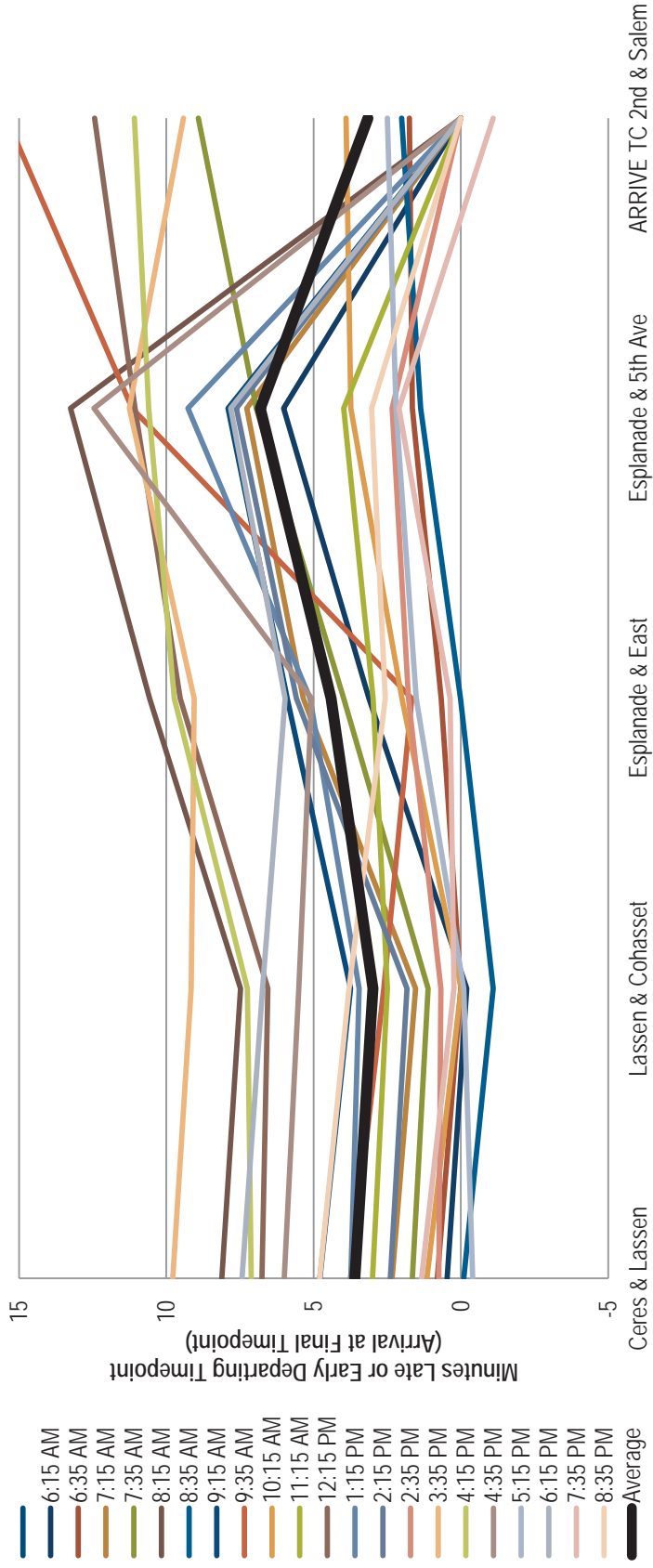
### **Route 15N On-Time Performance**

Route 15N is more reliable in the outbound direction than the inbound direction, as 60% of runs depart timepoints within five minutes or less of the schedule. As shown in Figure 3-45, traveling outbound, most runs experienced some delay between Esplanade & East Avenue and Lassen Avenue & Cohasset Road, suggesting that this segment may be a bit tightly scheduled. That many runs used the next segment, between Lassen Avenue & Cohasset Road and the Ceres & Lassen Avenues terminus, to return to schedule indicates that there is slack built into the existing schedule to absorb the earlier delays.

In the inbound direction, 57% of runs were more than five minutes behind schedule at timepoints. On average, the segment from Esplanade & East Avenue down the Esplanade to Esplanade & 5<sup>th</sup> Avenue caused runs to run more than five minutes behind schedule. The schedule may be tight in this segment.

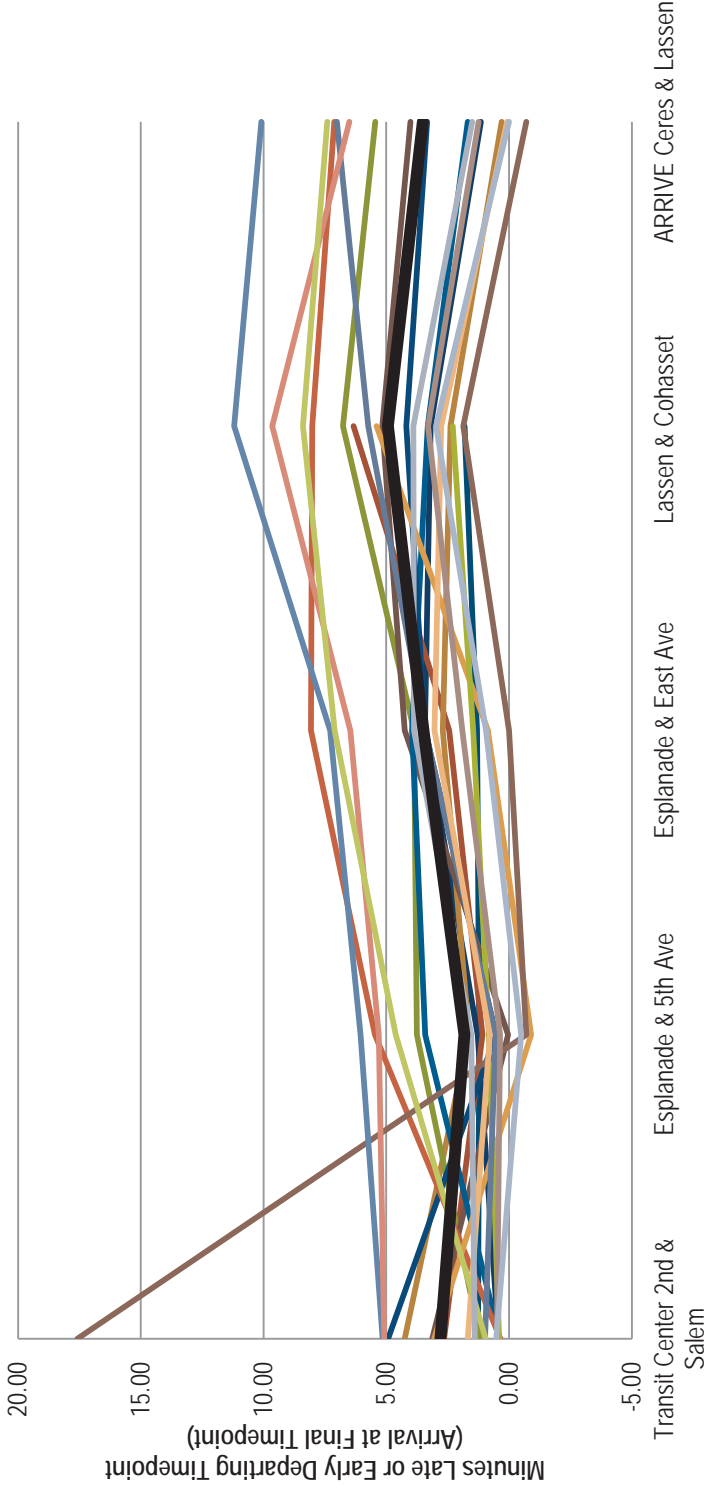


Figure 3-45 Route 15N Schedule Adherence by Route Segment  
Route 15N Inbound



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Route 15N Outbound



**Route 15S Forest/MLK/Park**

At a Glance		
Weekday Boardings		878
Weekday Revenue Hours		16.4
Boardings per Hour		27.2
Boardings per Trip		12.2
Frequency (minutes)	Mon-Fri Peak/Midday/Evening	20/30/60
	Sat	60
Span	Mon-Fri	6:20am - 9:40pm
	Sat	7:50am - 7pm

**Description**

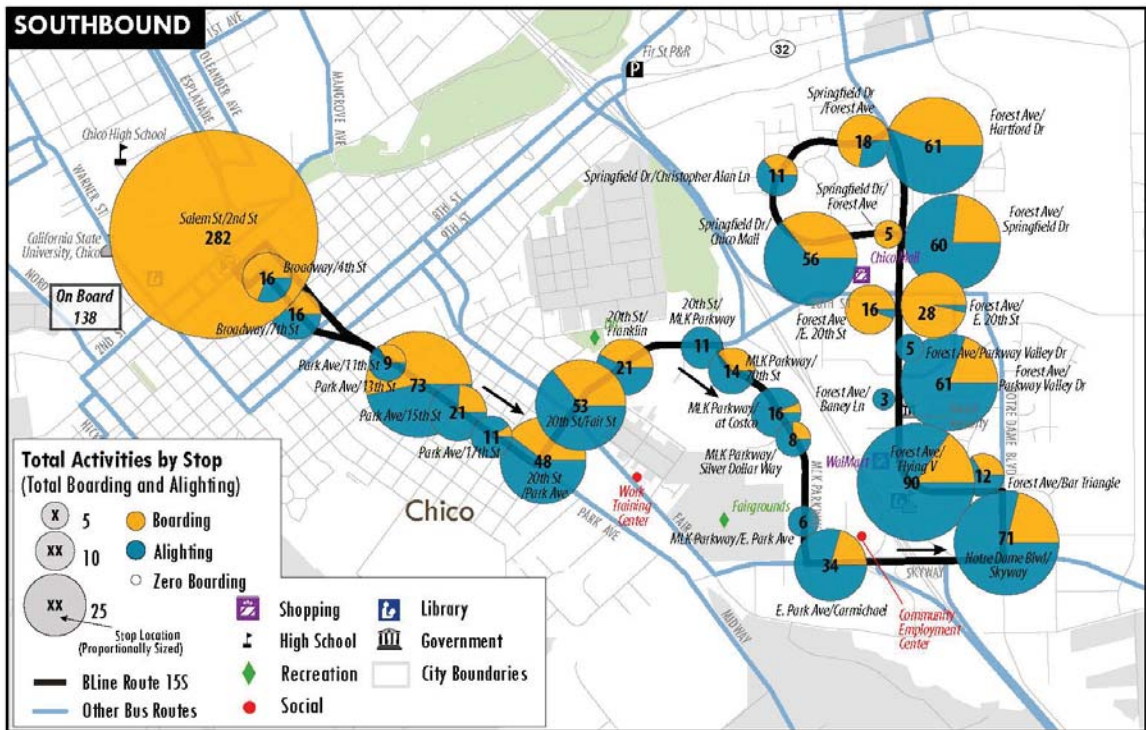
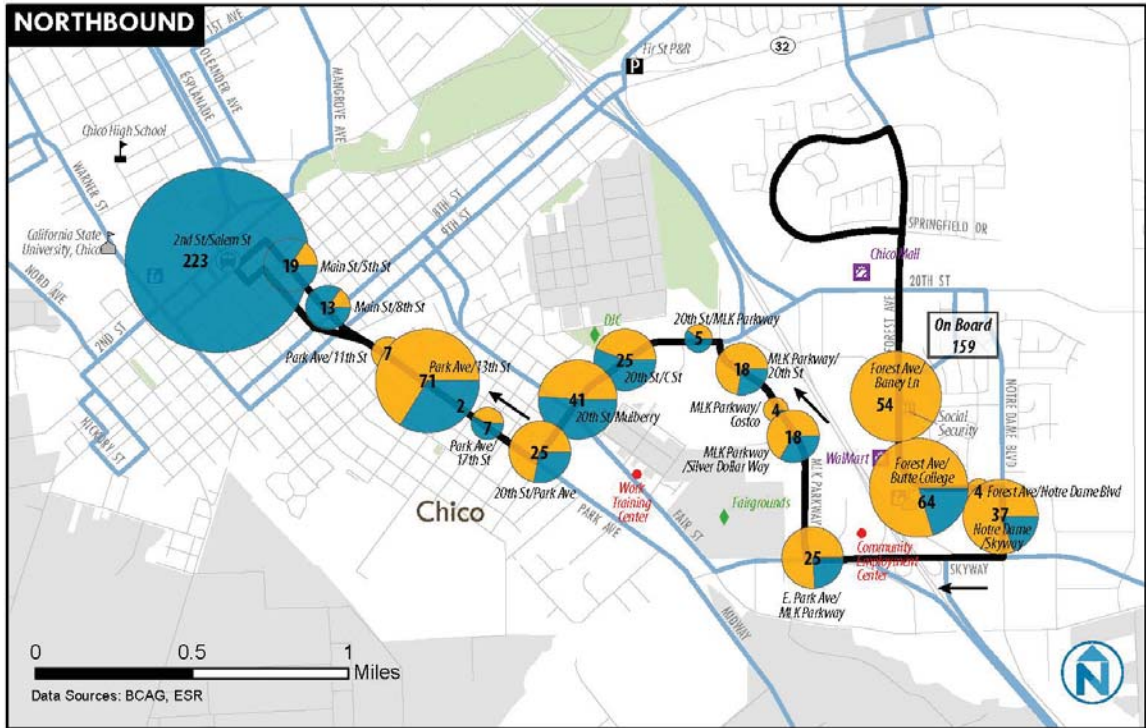
Route 15S operates between the Chico Transit Center and the Forest Avenue Transfer via Park Avenue, 20<sup>th</sup> Street, MLK Parkway, Forest Avenue, and Springfield Drive. Like Route 15N, Route 15S operates in a short loop before reaching its terminus, traveling in a counterclockwise direction on Springfield Drive north of Chico Mall. Major stops and timepoints on Route 15S include Chico Transit Center, 20<sup>th</sup> Street at East Park Avenue, East Park Avenue at MLK Parkway, Forest Avenue Transfer (Bank – NB), and Forest Avenue Transfer (WalMart – SB). Route 15S also serves the Community Employment Center, Butte College Chico campus, and Chico Mall, completing the round trip in approximately 49 minutes.

**Route 15S Weekday Service**

Figure 3-46 shows the Route 15S boarding and alighting activity for the northbound and southbound directions.

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Figure 3-46 Route 155 Weekday Boardings and Alightings by Stop

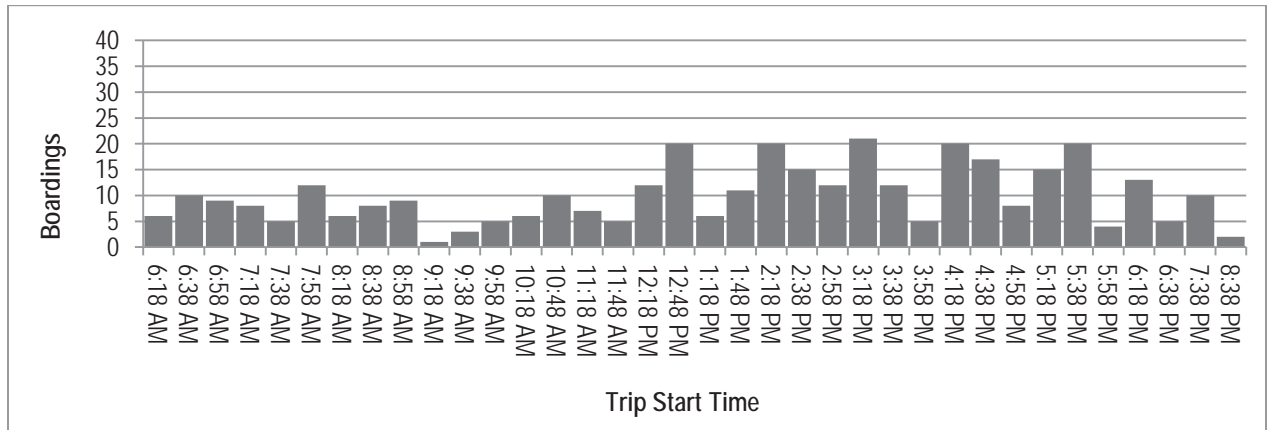


Route 15S has significant boarding and alighting activity on weekdays along several sections of the route, especially around Chico Mall, WalMart and Butte College. Outside of the Chico Transit Center, the most popular stops are Forest Avenue at Butte College and Forest Avenue at Flying V (northbound and southbound), Park Avenue at 13<sup>th</sup> Street (northbound and southbound), and Notre Dame Boulevard at Skyway. In the southbound direction, a total of 138 riders continued on Route 15S from interlined Route 15N buses.

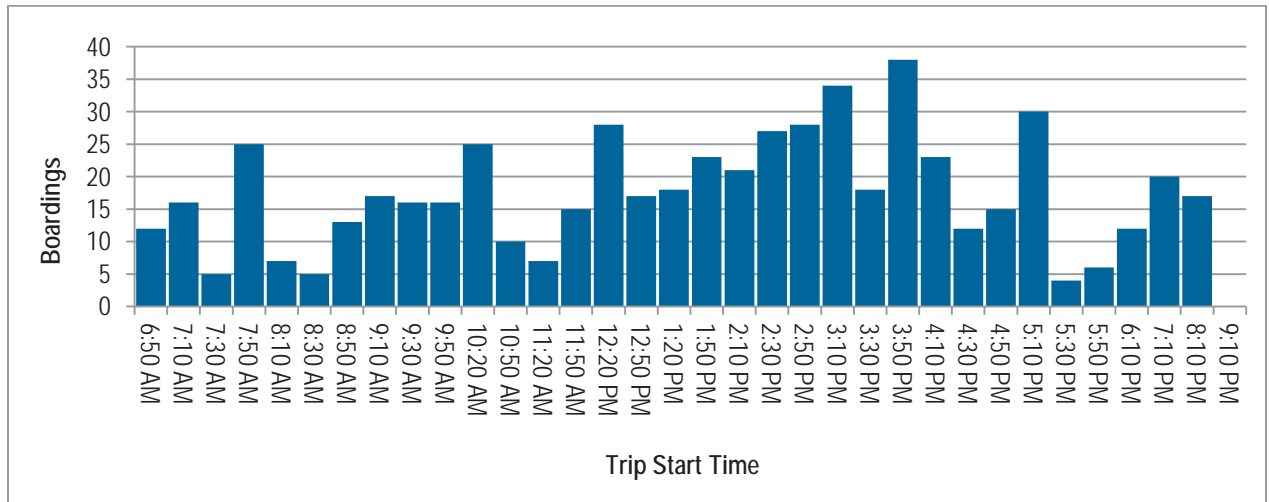
Figures 3-47 presents boardings by trip start time for Route 15S. In the northbound direction, boardings were highest in the afternoon and evening, though there was a high degree of variance between some runs (in particular, boardings were the highest on the 3:18pm run). In the southbound direction, boarding activity also varied over the course of the day with peaks in the late afternoon, midday, and morning.

Figure 3-47 Route 15S Weekday Boardings by Run – Northbound & Southbound

Northbound



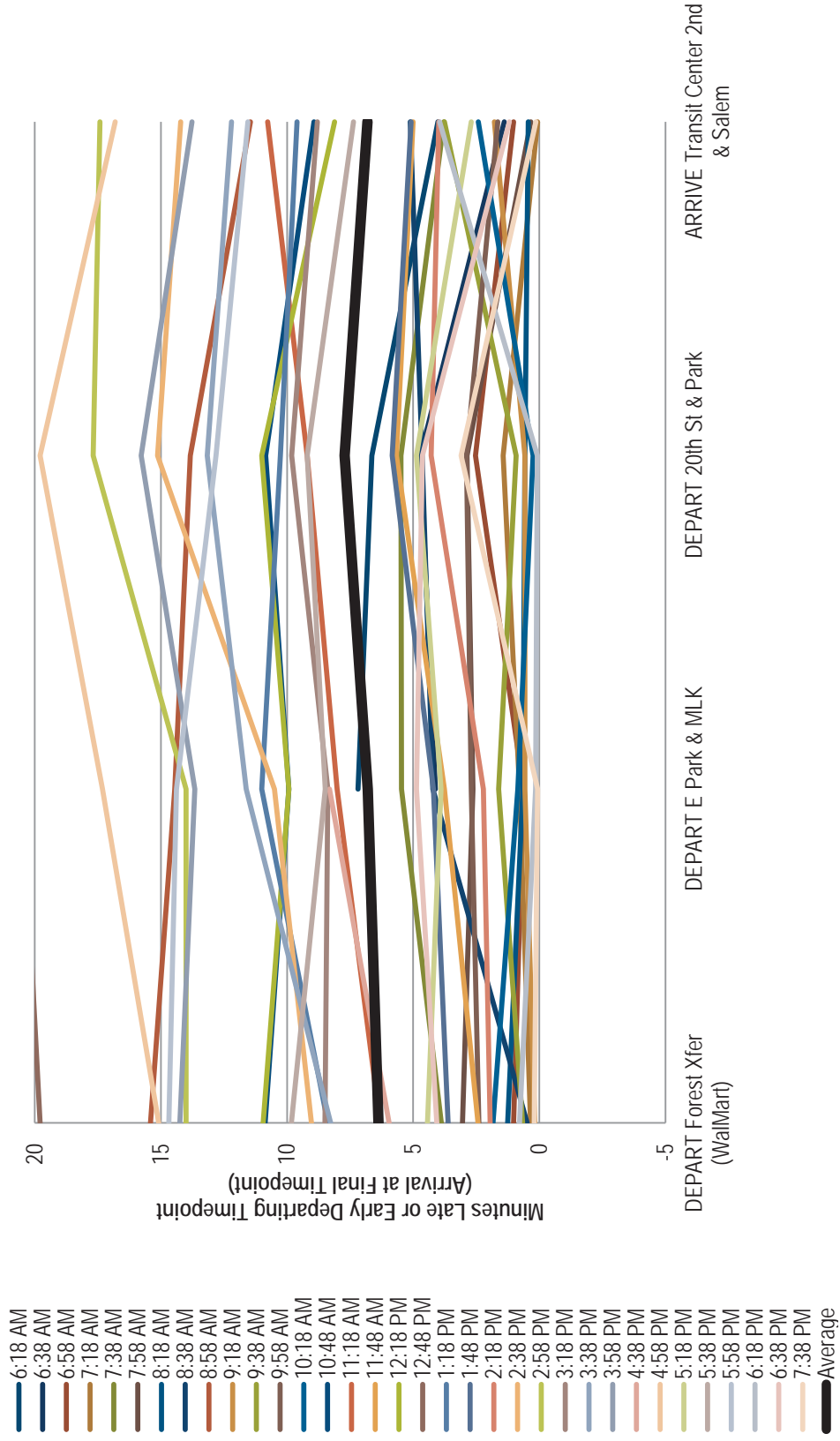
Southbound



**Route 15S On-Time Performance**

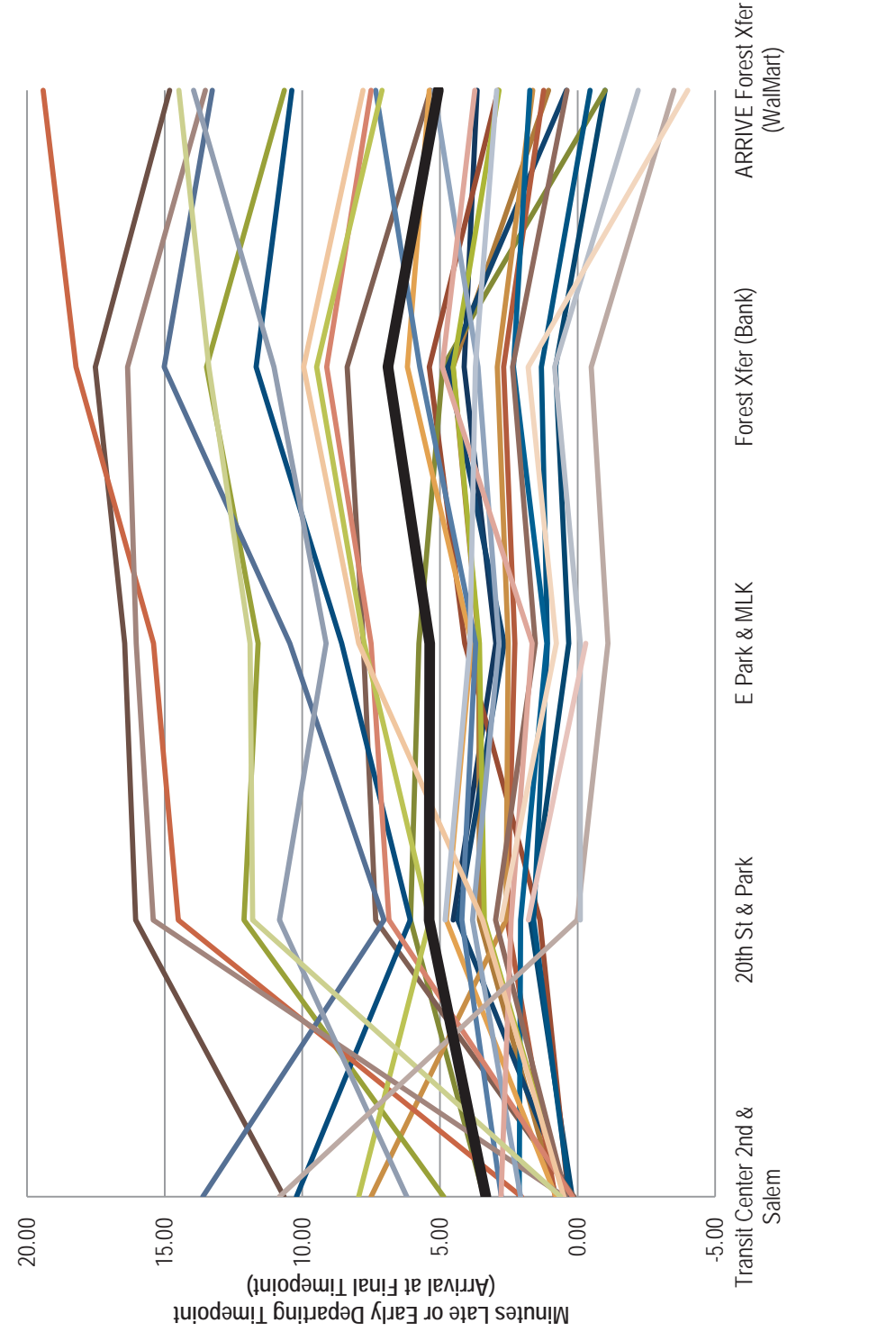
As shown in Figure 3-48, on both inbound and outbound trips, Route 15S is plagued by delays, with one half (50%) of all trips delayed at some timepoints. Of sampled trips, average delay on inbound trips is approximately seven minutes; outbound trips average five to seven minutes. The outbound segment of the route between the downtown Transit Center and the timepoint at 20th Street and Park Avenue accounts for an average of more than two minutes of delay, while the segment between East Park Avenue at MLK Parkway and the Forest Avenue Bank Transfer location adds an average of 1.5 minutes of delay to nearly all trips. Being interlined with Route 15N allows for very modest recovery, but both routes run tight on about one-half of all trips, suggesting the need for some revisions to schedule and/or routing.

Figure 3-48 Route 15S Schedule Adherence by Route Segment  
Route 15S Inbound



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Route 15S Outbound





**Route 16 Esplanade/SR99**

At a Glance		
Weekday Boardings		273
Weekday Revenue Hours		10.4
Boardings per Hour		26.3
Boardings per Trip		11.4
Frequency (minutes)	Mon-Fri All Day	60
	Sat	60
Span	Mon-Fri	7am - 7pm
	Sat	8am - 6pm

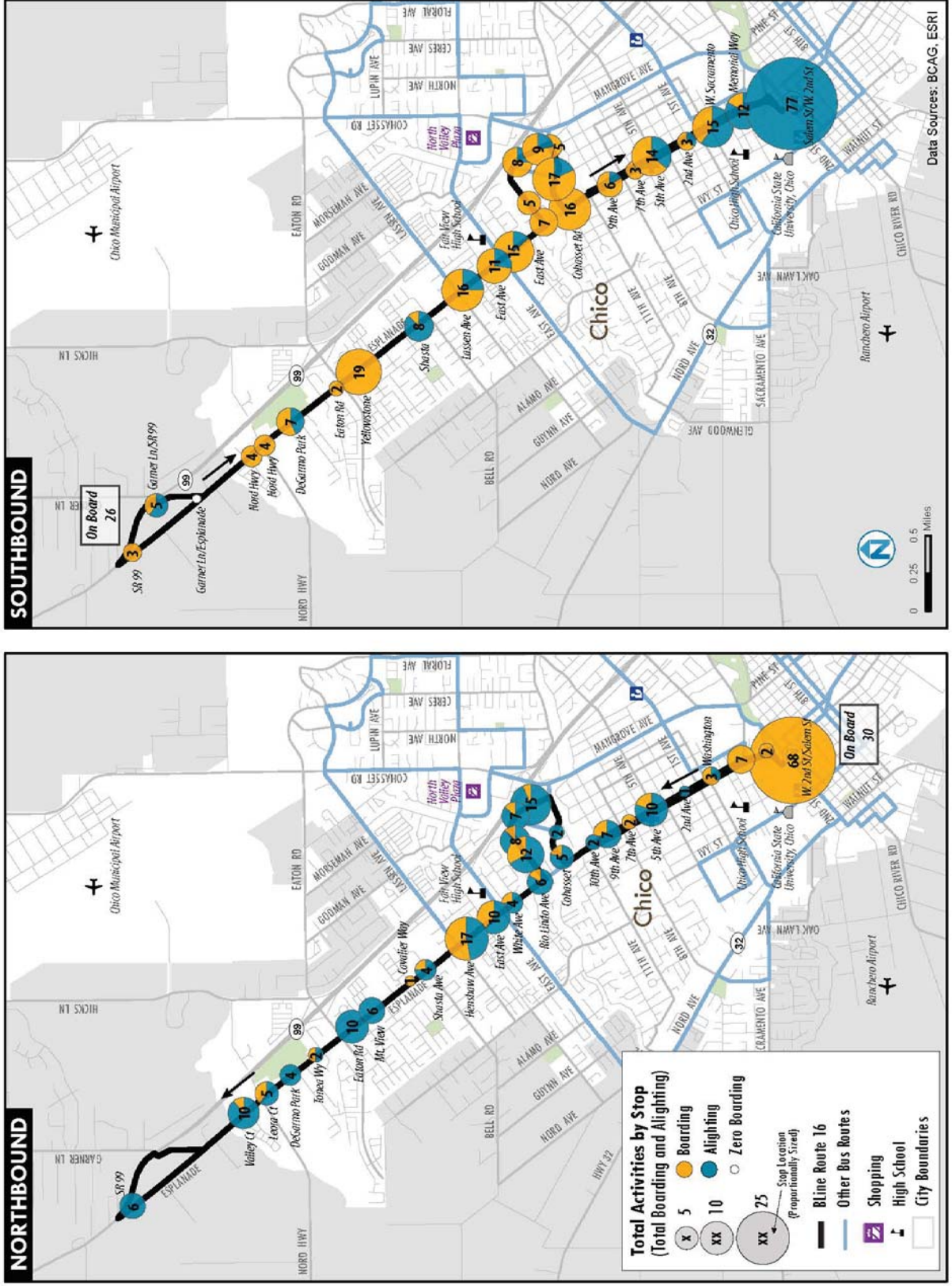
**Description**

Route 16 operates along the Esplanade from Chico Transit Center to a loop on Garner Lane and State Route 99 at the far northwest corner of Chico. About halfway along the route, Route 16 jogs off of Esplanade to serve the shopping centers and medical facilities along Rio Lindo. Major stops and timepoints include Chico Transit Center, Esplanade & 5<sup>th</sup>, Rio Lindo & Parmac, East & Esplanade, and Esplanade & SR 99. Route 16 is through-routed with Route 15 at the Chico Transit Center. Route 16 completes one round-trip in approximately 52 minutes.

**Route 16 Weekday Service**

Figure 3-49 presents the Route 16 boarding and alighting activity for the northbound and southbound directions.

Figure 3-49 Route 16 Weekday Boardings and Alightings by Stop



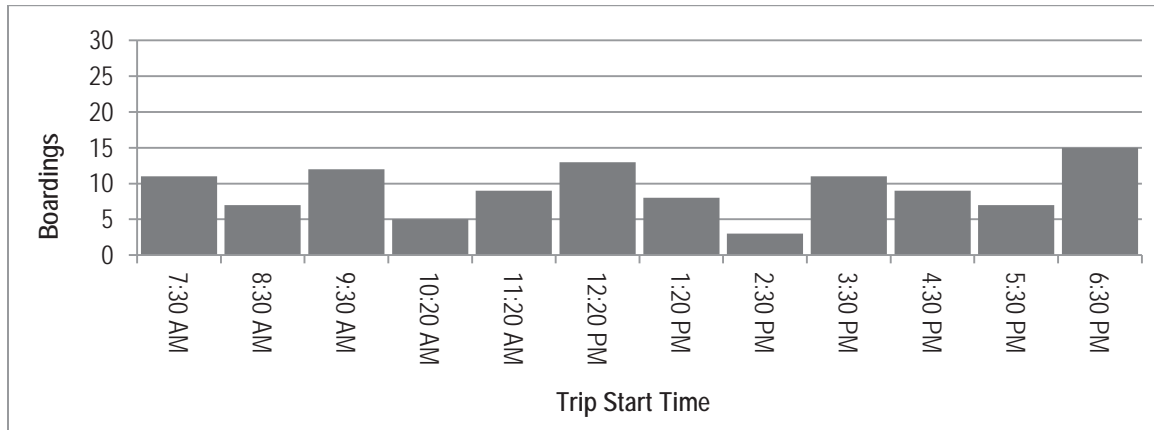
In the northbound direction, outside of Chico Transit Center the greatest number of boardings occurs at Esplanade & Henshaw Avenue in the vicinity of a few apartment complexes and other commercial activity. Most of the activity in the northbound direction, however, consisted of alightings, especially along Rio Lindo. At a few stops, such as Esplanade & Eaton Road, the activity consisted solely of passengers alighting. Additionally, in the northbound direction, a total of 30 riders joined Route 16 on interlined Route 15N buses.

In the southbound direction towards Chico Transit Center, the highest amount of activity occurs at the Esplanade & Yellowstone stop. Additionally, there is a cluster of activity around East Avenue and the Rio Lindo loop. The Garner Lane & Esplanade stop was observed to have no activity on the surveyed weekday. On the surveyed weekday, a total of 26 riders rode through from Route 16 northbound to Route 16 southbound.

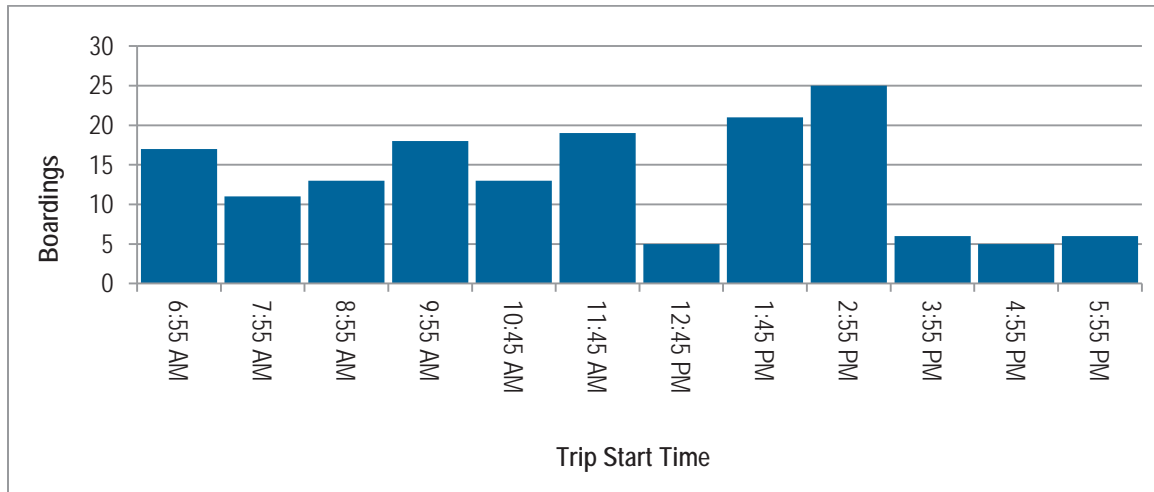
Figure 3-50 presents boardings by trip start time for Route 16. While boardings fluctuated throughout the day in the northbound direction, the highest amount of boardings (i.e., over 10) occurred on the 7:30am, 9:30am, 12:20pm, 3:30pm, and 6:30pm runs. In the southbound direction, boardings remained consistent for most of the day, peaking in the early afternoon. Relatively little boarding activity occurred on the last three runs of the day.

Figure 3-50 Route 16 Weekday Boardings by Run – Northbound & Southbound

Northbound



Southbound

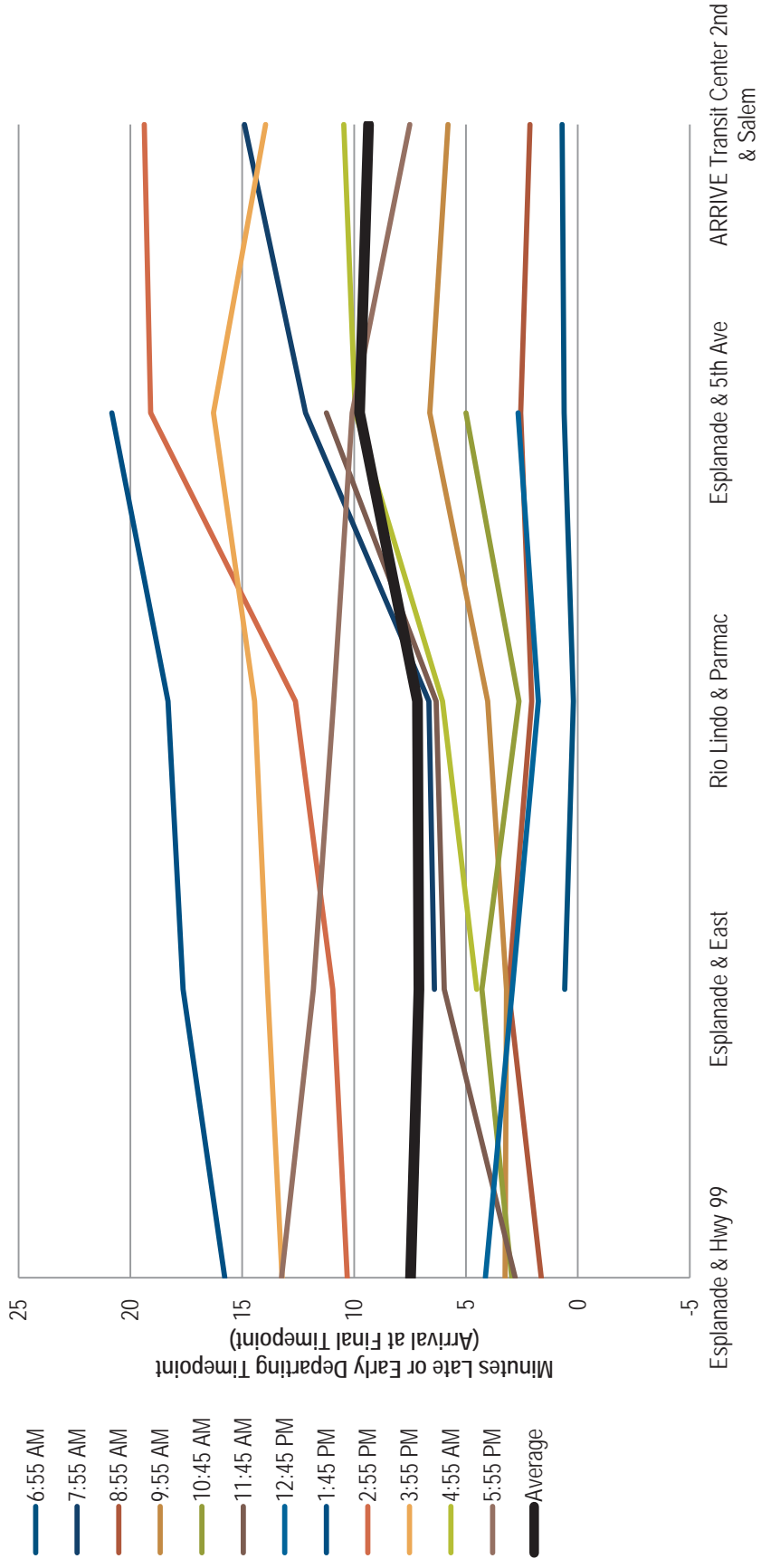


**Route 16 On-Time Performance**

As shown in Figure 3-51, outbound Route 16 runs generally averaged between four and five minutes behind schedule, with two-thirds of trips running on-schedule (less than five minutes late at timepoints). Inbound Route 16 performance was less consistent; in this direction, two-thirds of trips ran more than five minutes behind schedule at timepoints. On the sample weekday, four runs in the inbound direction were more than ten minutes behind schedule throughout the route.

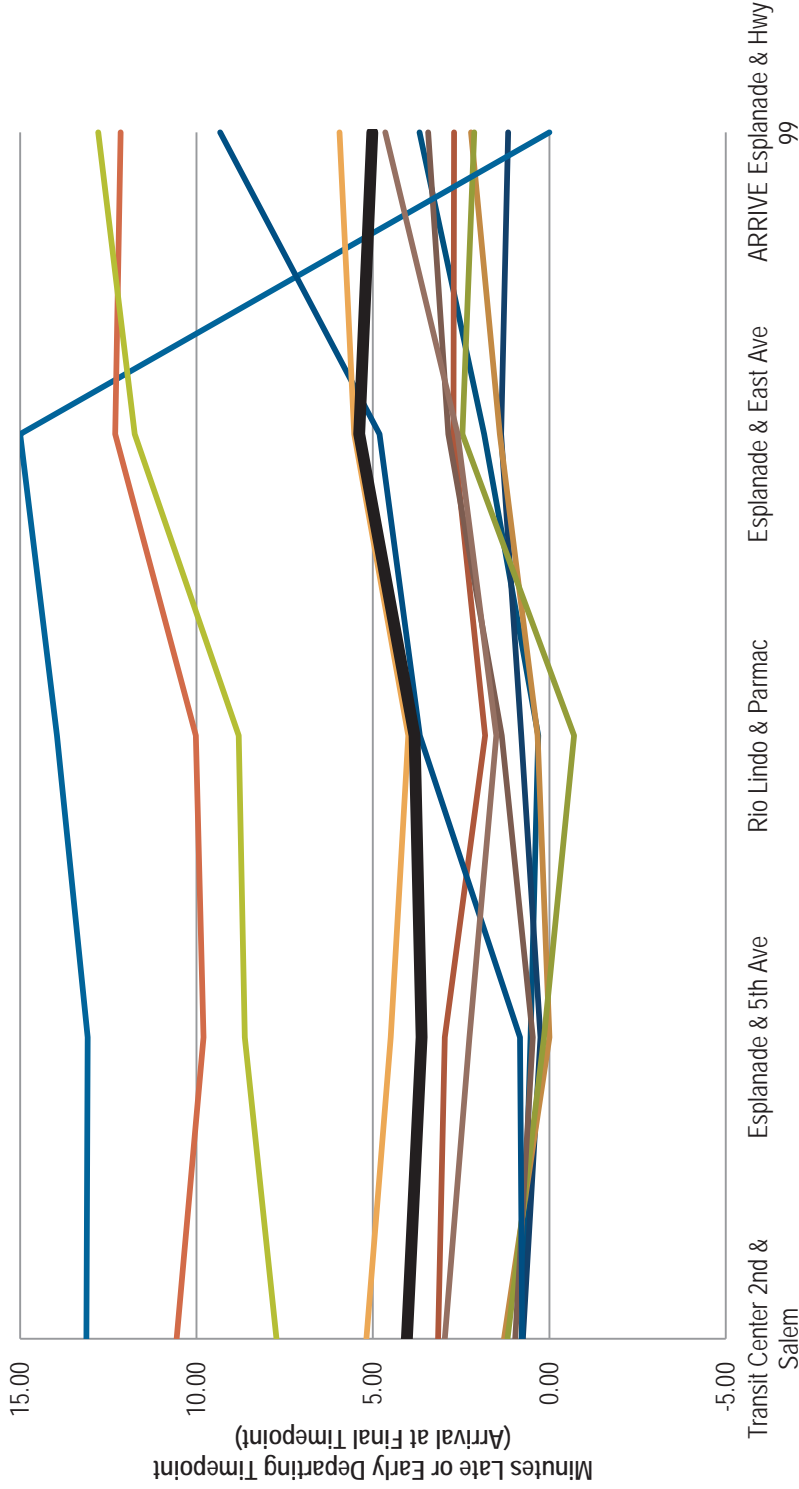
Given the performance of Route 15N and Route 16 in the inbound direction, it is possible that traffic along the Esplanade is causing systemic delays. In any case, there is an opportunity to reevaluate the schedule of these routes along this segment in particular to improve future on-time performance on these and connecting routes.

Figure 3-51 Route 16 Schedule Adherence by Route Segment  
Route 16 Inbound



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Route 16 Outbound



## Local Routes – Oroville

### Route 24 Thermalito

At a Glance		
Weekday Boardings		139
Weekday Revenue Hours		6.9
Boardings per Hour		20.2
Boardings per Trip		11.6
Frequency (minutes)	Mon-Fri All Day	60
Span	Mon-Fri	6:30am - 7:30pm

### Description

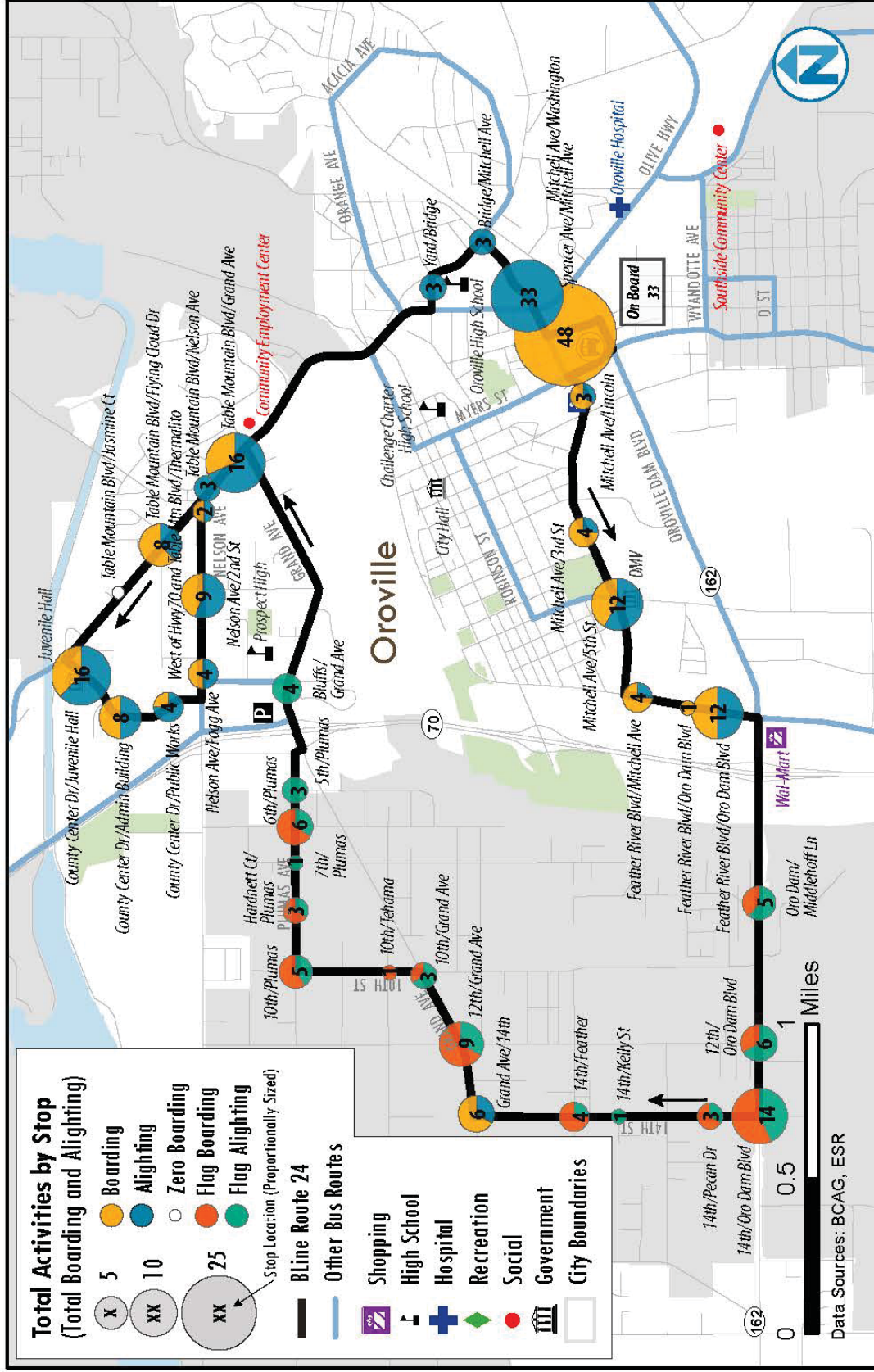
Route 24 provides service to Thermalito, operating from the Oroville Transit Center (Mitchell & Spencer) to the Butte County Public Works/Administration center and back in a clockwise loop along Mitchell Avenue, Oroville Dam Boulevard, 14<sup>th</sup> Street, Plumas Avenue, and Grand Avenue. Major stops and timepoints along Route 24 include the Oroville Transit Center, 14<sup>th</sup> & Grand, and Public Works/Administration. Other destinations served include WalMart, Prospect High School, the Community Employment Center, Oroville High School, and Juvenile Hall. The total round trip running time is 36 minutes. Route 24 is interlined with Route 27 at the Oroville Transit Center.

Like several other routes in Oroville and Paradise, Route 24 has portions of the route that allow flag stops. Flag stops were recorded on the surveyed weekday and are included on the boarding and alighting activity map below.

### Route 24 Weekday Service

Figure 3-52 presents the Route 24 boarding and alighting activity along the loop route.

Figure 3-52 Route 24 Weekday Boardings and Alightings by Stop

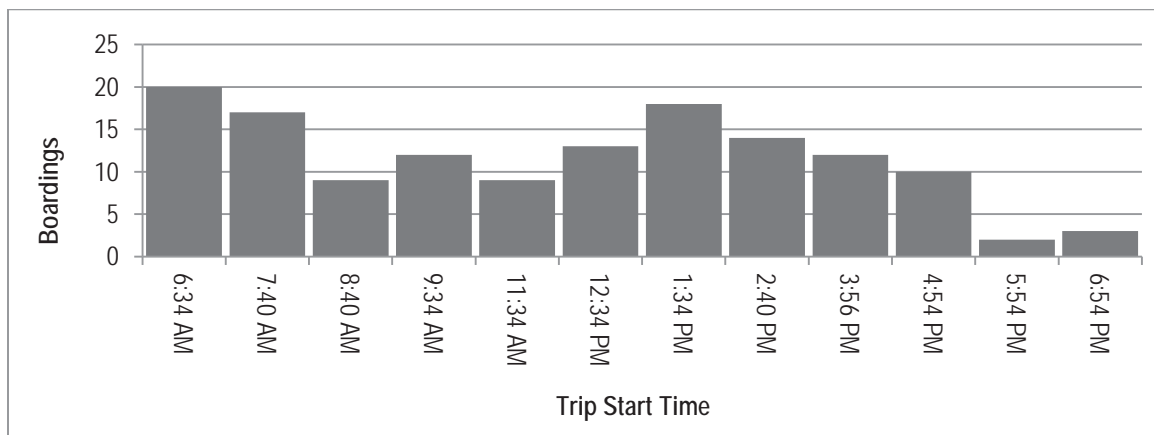




Other than Oroville Transit Center, the scheduled stops with the highest total amount of boarding and alighting activity include Table Mountain Boulevard & Grand Avenue, near the Community Employment Center, and County Center Drive at Juvenile Hall. The highest number of alightings along the route occur at Table Mountain & Grand Avenue, and at Juvenile Hall. The most popular flag stops included 14<sup>th</sup> & Oro Dam Boulevard and 12<sup>th</sup> & Grand Avenue in Thermalito. A total of 30 passengers joined Route 24 on interlined Route 27 buses.

Figure 3-53 presents boardings by trip start time for Route 24. Route 24 is most popular from the early morning until approximately 5pm, after which boardings fall off. Peak boardings occurred on the 6:34am, 7:40am, and 1:34pm runs.

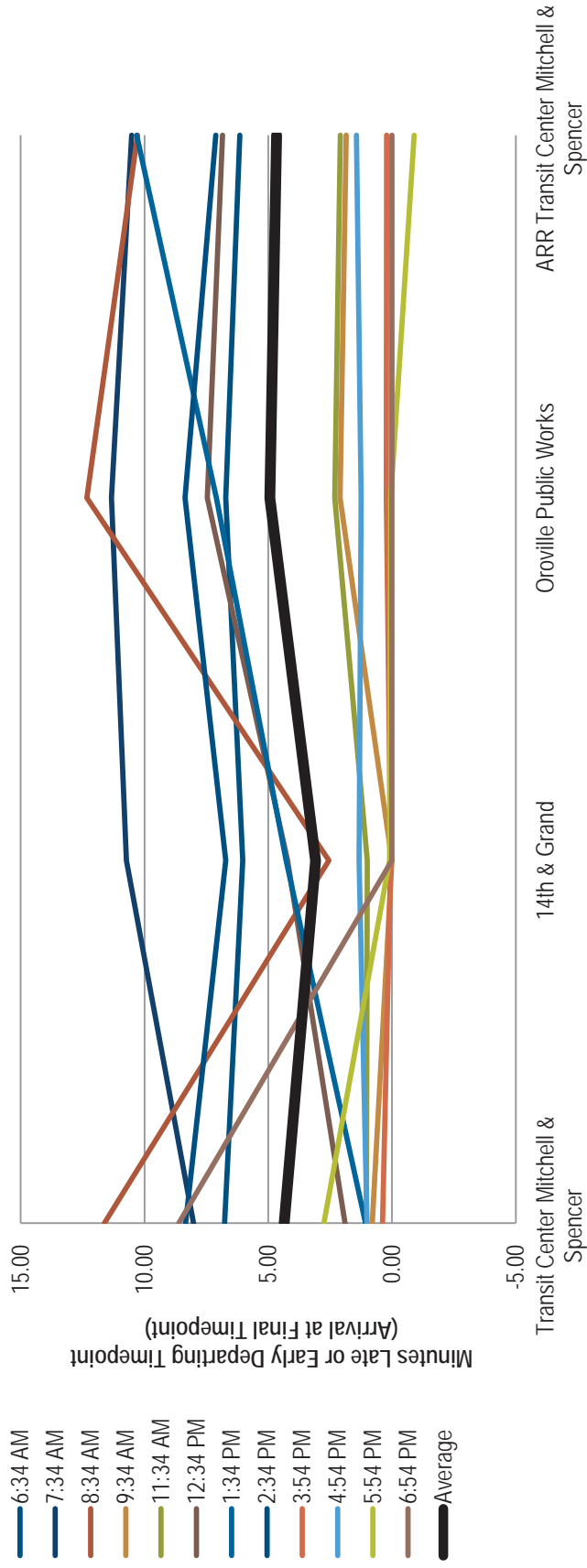
Figure 3-53 Route 24 Weekday Boardings by Run



### Route 24 On-Time Performance

Over half (58%, 7 of 12) of Route 24 runs were more than five minutes behind schedule at timepoints along the route (see Figure 3-54). Three of the runs that had the worst on-time performance on the sampled day were the 6:34am, 7:34am, and 8:34am trips, an indication that morning traffic or other special occurrences in the mornings cause delays for Route 24.

Figure 3-54 Route 24 Schedule Adherence by Route Segment



**Route 25 Oro Dam**

At a Glance		
Weekday Boardings		61
Weekday Revenue Hours		3.6
Boardings per Hour		16.9
Boardings per Trip		5.1
Frequency (minutes)	Mon-Fri All Day	60
Span	Mon-Fri	6:10am - 6:50pm

**Description**

Route 25 provides local service within Oroville, operating in a clockwise loop between Oroville Transit Center, Feather River Cinemas, and downtown Oroville. Other destinations served by Route 25 include the Oroville DMV, Challenge Charter High School, and the Oroville Library. The time to complete one loop is approximately 18 minutes. Like other Oroville routes, Route 25 includes a few sections of flag-stop operation, notably in downtown Oroville along Robinson Street. Route 25 is through-routed with Route 26.

**Route 25 Weekday Service**

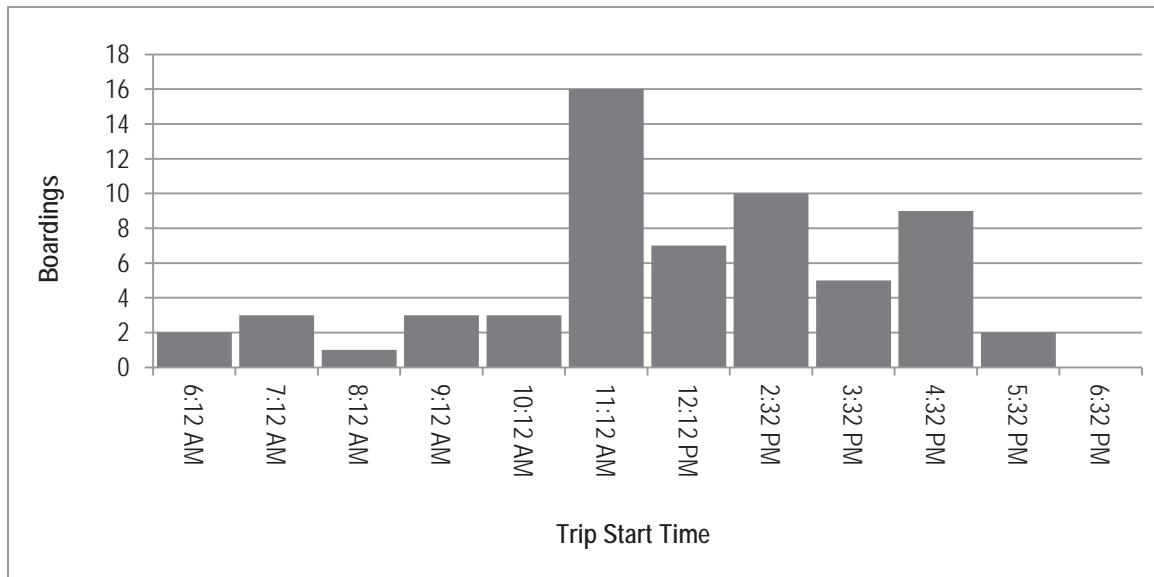
Figure 3-55 presents the Route 25 boarding and alighting activity along the loop route.



Overall, Route 25 has relatively light activity, with a total of 61 boardings recorded on the surveyed weekday. Along the loop route, the most active stops were Oroville Transit Center and Feather River Boulevard & Oro Dam Boulevard, near the Oroville WalMart. Several stops experienced very little activity over the course of the day, including the Feather River Cinemas stop and a string of stops on Mitchell Avenue and 5<sup>th</sup> Avenue. The most popular flag stop was located at Robinson Street and Pine in downtown Oroville. A total of 11 passengers rode through to Route 25 on through-routed Route 26 buses.

Figure 3-56 presents boardings by trip start time for Route 25. Boardings were very light until the 11:12am run, which had the highest number of boardings (16). In the afternoon, boardings fluctuated; there were no boardings on the 6:32pm run.

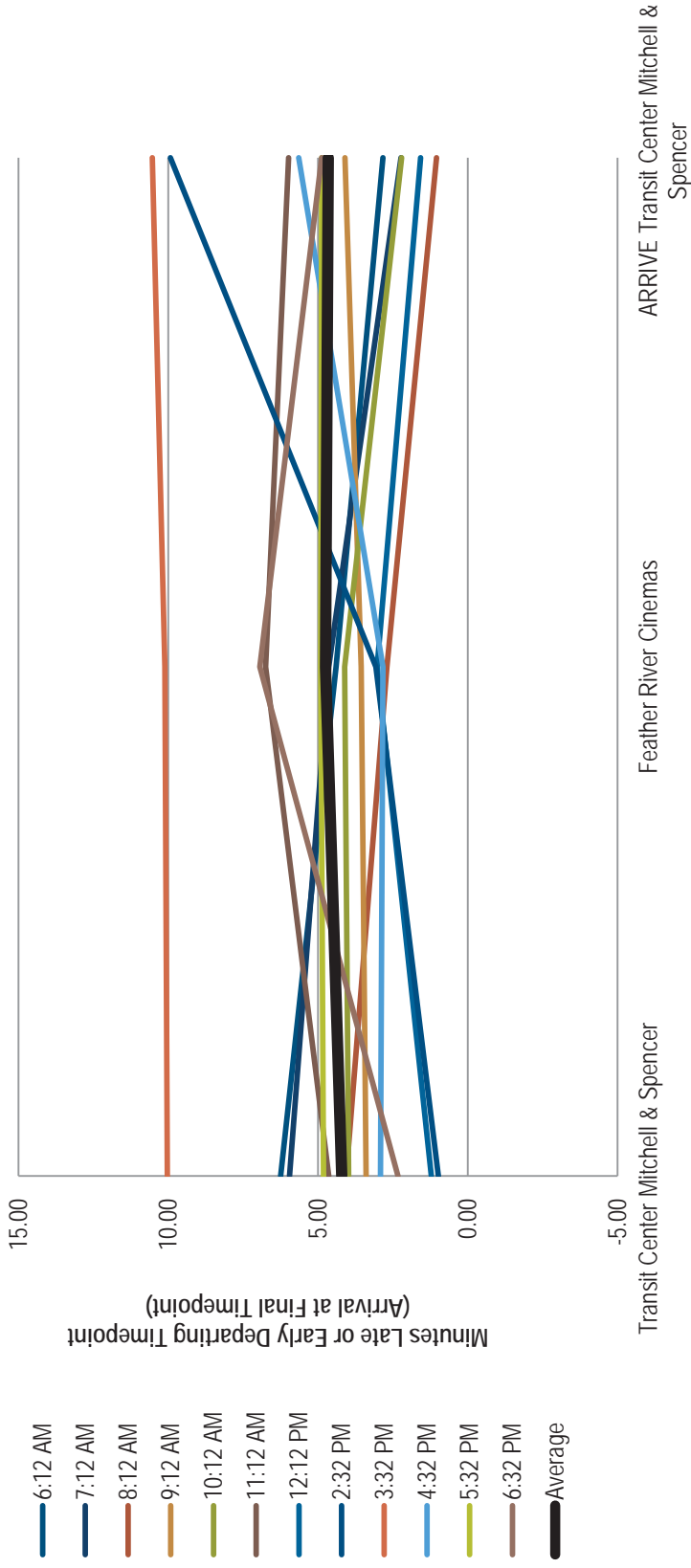
Figure 3-56 Route 25 Weekday Boardings by Run



### Route 25 On-Time Performance

On average, Route 25 trips departed timepoints under five minutes behind schedule (see Figure 3-57); however, 42% (5 of 12) of runs on the sample day were more than five minutes late at timepoints. There may be an opportunity to loosen the schedule slightly to improve route performance.

Figure 3-57 Route 25 Schedule Adherence by Route Segment



**Route 26 Olive Highway/Kelly Ridge**

At a Glance		
Weekday Boardings		59
Weekday Revenue Hours		5.6
Boardings per Hour		10.5
Boardings per Trip		5.4
Frequency (minutes)	Mon-Fri All Day	60
Span	Mon-Fri	6:30am - 6:20pm

**Description**

Route 26 provides additional local service within Oroville and to neighborhoods and destinations to the northeast and east of the city. The route operates between the Oroville Transit Center and South Oroville to Gold Country Casino on 60 minute headways, and serves on alternating 120 minute headways the Kelly Ridge (5 trips per day) and Orange & Acacia areas (6 trips per day). These two sub-routes are designated Routes 26a and 26b. Major stops and timepoints on Route 26 are the Oroville Transit Center, D Street & Meyers, Gold County Casino, Kelly Ridge & Royal Oaks, Oroville Hospital, and Orange & Acacia. Other destinations adjacent to Route 26 include the Southside Community Center and Oroville Hospital. Total running time for Route 26 is between 28 and 34 minutes, depending on which alternate loop it is running. Route 26 is through-routed with Route 25.

Route 26 includes flag stop segments in the South Oroville and Kelly Ridge areas.

**Route 26 Weekday Service**

Figure 3-58 shows the Route 26 boarding and alighting activity for the alternating loop route.





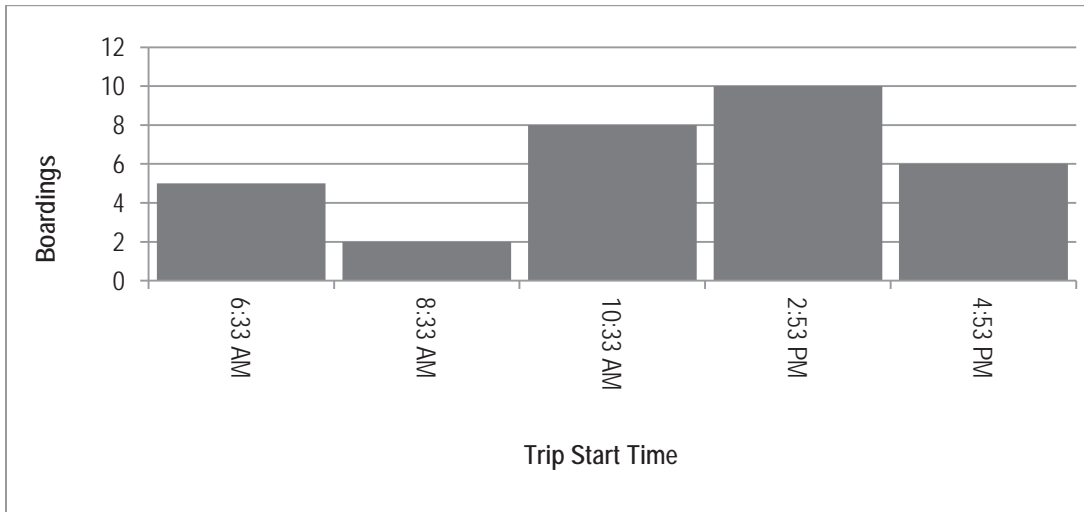
Like Route 25, Route 26 also experienced relatively low ridership on the surveyed weekday, with just under 60 total boardings. Other than the Oroville Transit Center, the most active scheduled stops were located at the Gold County Casino and at Kelly Ridge Road & Royal Oaks. A total of 34 passengers joined Route 26 on through-routed Route 25 buses.

The most popular flag stops were located in South Oroville, and included Myers Street at Oro Dam Boulevard and Rosoben Avenue & B Street. Many stops on both the Kelly Ridge and Orange & Acacia loops had no boarding or alighting activity on the surveyed weekday. The onboard surveyor noted that there have been multiple requests for a bus stop at Olive Highway & Lower Wyandotte Road, near the Dialysis Center.

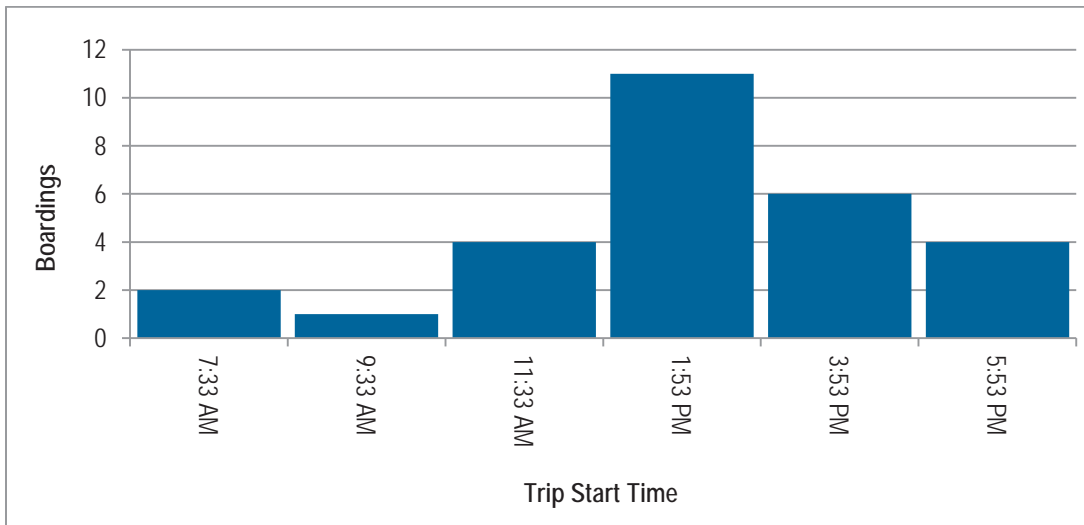
Figure 3-59 presents boardings by trip start time for each loop of Route 26. On Route 26A (Kelly Ridge), boardings were highest on the 2:35pm run; the fewest boardings occurred on the 8:33am run. On Route 26B (Orange & Acacia), there were few boardings in the morning with peak boardings occurring on the 1:53pm run.

Figure 3-59 Route 26 Weekday Boardings by Run – Northbound & Southbound

26A



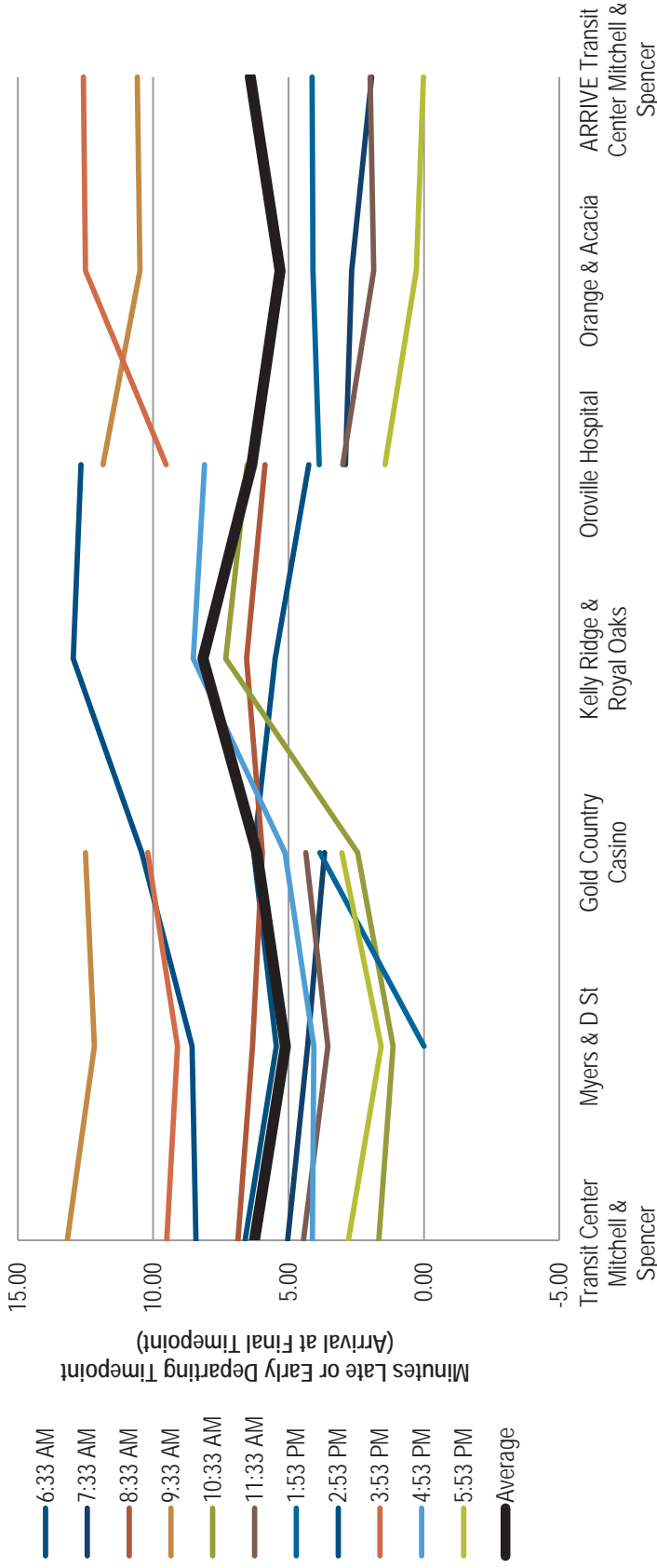
26B



**Route 26 On-Time Performance**

Seven of the eleven Route 26 runs on the sample day ran more than five minutes late at timepoints. On average, Route 26A buses were more on schedule than Route 26B runs; the average delay at the Orange & Acacia timepoint was five and a half minutes, compared with an average delay of over eight minutes at the Kelly Ridge & Royal Oaks timepoint (see Figure 3-60). The Route 26B schedule may be too tight to allow consistent on-time performance on that loop.

Figure 3-60 Route 26 Schedule Adherence by Route Segment



**Route 27 South Oroville**

At a Glance		
Weekday Boardings		86
Weekday Revenue Hours		3.7
Boardings per Hour		23.5
Boardings per Trip		7.8
Frequency (minutes)	Mon-Fri All Day	60
Span	Mon-Fri	7:10am - 6:50pm

**Description**

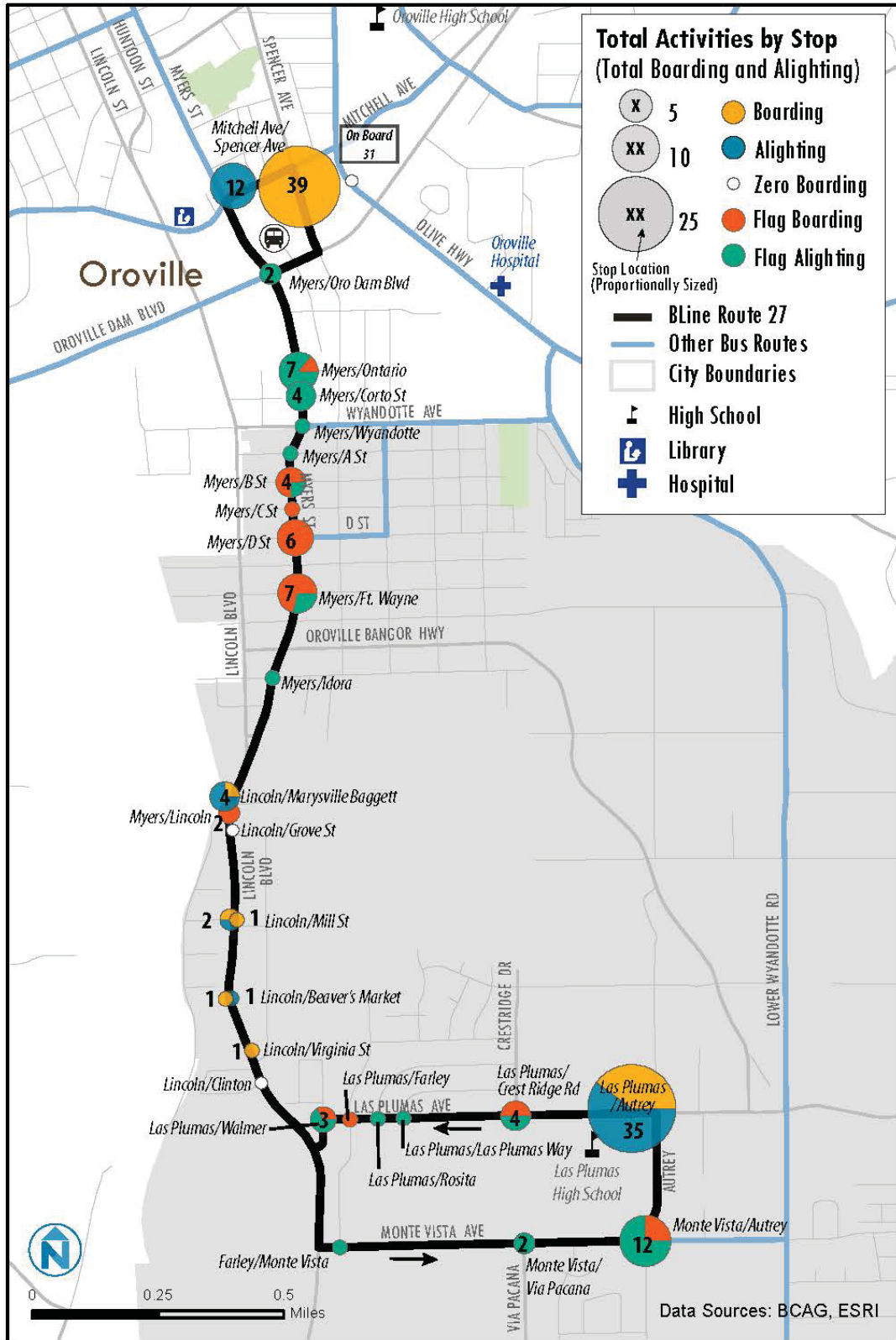
Route 27 provides a loop service between the Oroville Transit Center and Las Plumas High School, operating on Lincoln Boulevard and in a counterclockwise loop on Monte Vista Avenue, Autrey Lane, and Las Plumas Avenue in South Oroville. Most of the route has no defined stops, and flag stop operation is in effect along Lincoln Boulevard from Oro Dam Boulevard to Oro Bangor Highway as well as along both Monte Vista and Las Plumas Avenues in South Oroville. The major stops and timepoints on Route 27 are Oroville Transit Center, Las Plumas High School, and Myers & D Street in South Oroville. Total running time for Route 27 is 20 minutes. Route 27 is through-routed with Route 24.

**Route 27 Weekday Service**

Figure 3-61 presents the boarding and alighting activity for Route 27.

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Figure 3-61 Route 27 Weekday Boardings and Alightings by Stop



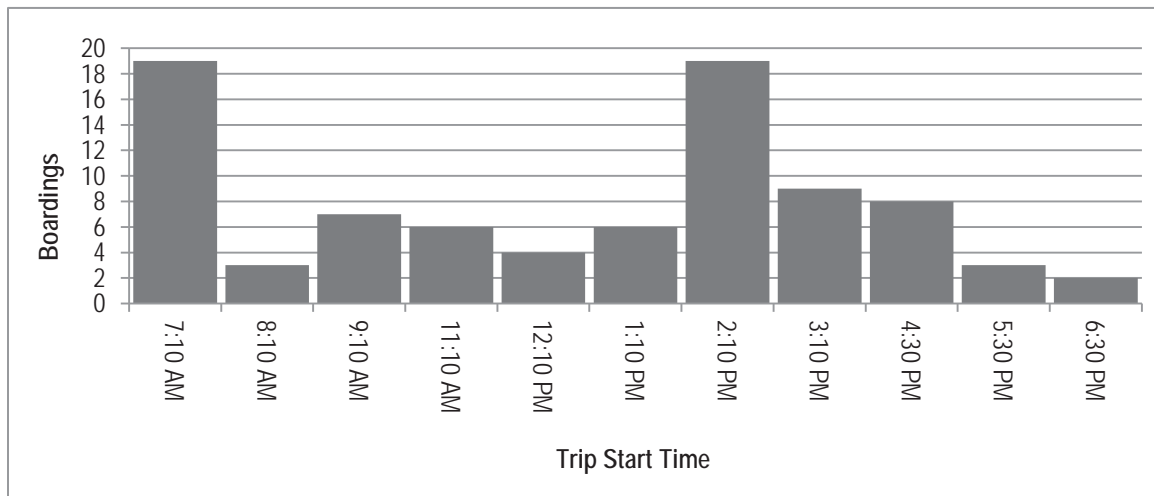
Aside from the Oroville Transit Center, most boarding and alighting activity on Route 27 occurred at Las Plumas & Autrey Lane, outside Las Plumas High School. In the morning, 15 passengers disembarked the 7:10am bus, and in the afternoon, 11 boarded at this stop.

The most popular flag stop was located at Monte Vista Avenue and Autrey Lane, adjacent to a Mormon church and the Las Plumas High School sports fields. Other popular flag stops were located along Myers Street in South Oroville, and included Myers & Ontario, which had more alightings than boardings, and Myers & Ft. Wayne, which had more boardings than alightings.

Additionally, a total of 31 passengers joined Route 27 on through-routed Route 24 buses at Oroville Transit Center.

Figure 3-62 presents boardings by trip start time for Route 27. The peak boarding runs occurred in the morning and mid-afternoon, at 7:10am and 2:10pm. In conjunction with the boarding and alighting counts at Las Plumas High School on these runs, it seems reasonable to assume that high school students are using Route 27 on a regular basis.

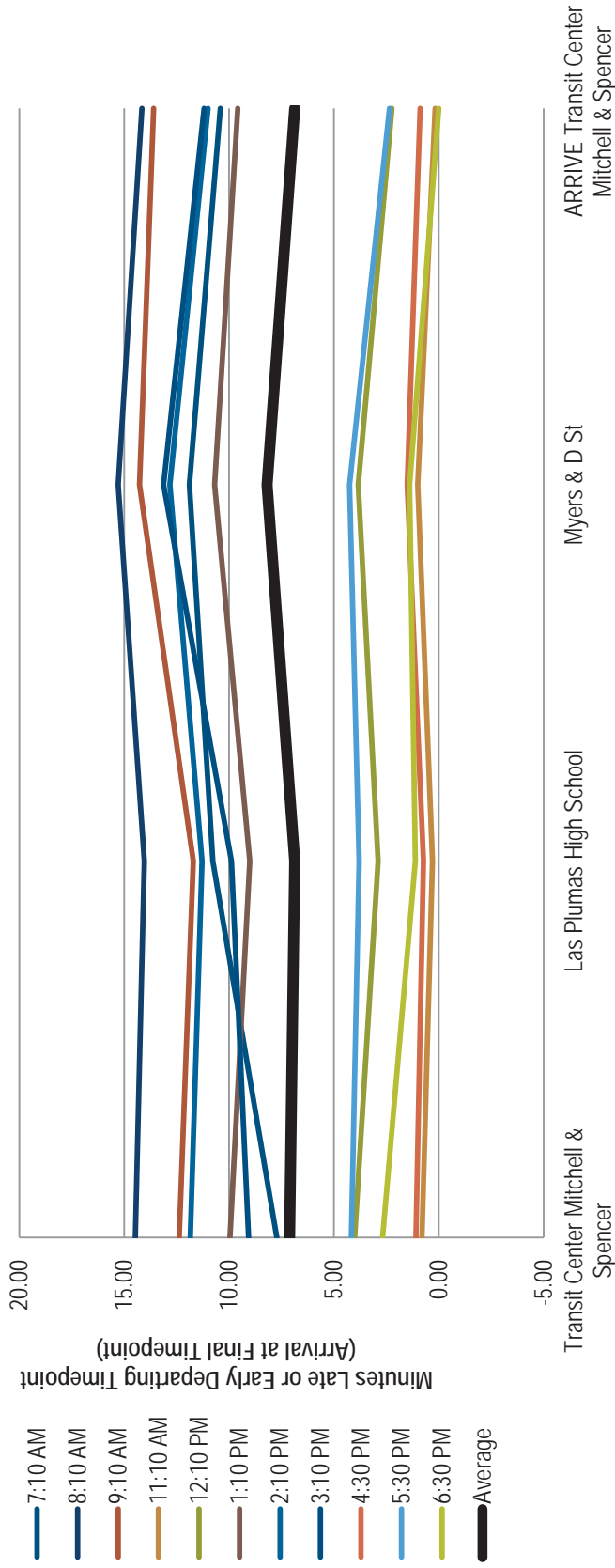
Figure 3-62 Route 27 Weekday Boardings by Run



### Route 27 On-Time Performance

Six of eleven Route 27 runs (55%) were more than five minutes late at timepoints, with all six of these runs more than ten minutes behind schedule at times (see Figure 3-63). This is likely a direct outgrowth of late-running Route 24 buses, showing the cascading effects of late buses in a system that relies on through-routing to efficiently maximize frequency and coverage. That the rest of the runs were all on time throughout the duration of Route 27 indicates that its schedule is appropriately timed, especially when connecting Route 24 buses are also on time.

Figure 3-63 Route 27 Schedule Adherence by Route Segment



### **Route 46 Feather River Hospital**

Route 46 operates in conjunction with B-Line Paratransit, and provides local service in Paradise between Paradise Transit Center and Feather River Hospital. Route 46 operates three round trips daily.

Route 46 was not evaluated as part of this effort.

According to B-Line staff, Route 46 is being considered for elimination due to low ridership.



## Intercity (Regional) Routes

B-Line operates six intercity routes among the major cities and towns in Butte County. These routes are summarized below.

### Route 20 Chico - Oroville

At a Glance		
Weekday Boardings		660
Weekday Revenue Hours		19.8
Boardings per Hour		33.4
Boardings per Trip		26.4
Frequency (minutes)	Mon-Fri Peak/Midday	60/120
	Sat-Sun All Day	120
Span	Mon-Fri	5:50am - 8pm
	Sat-Sun	7:50am - 6pm

### Description

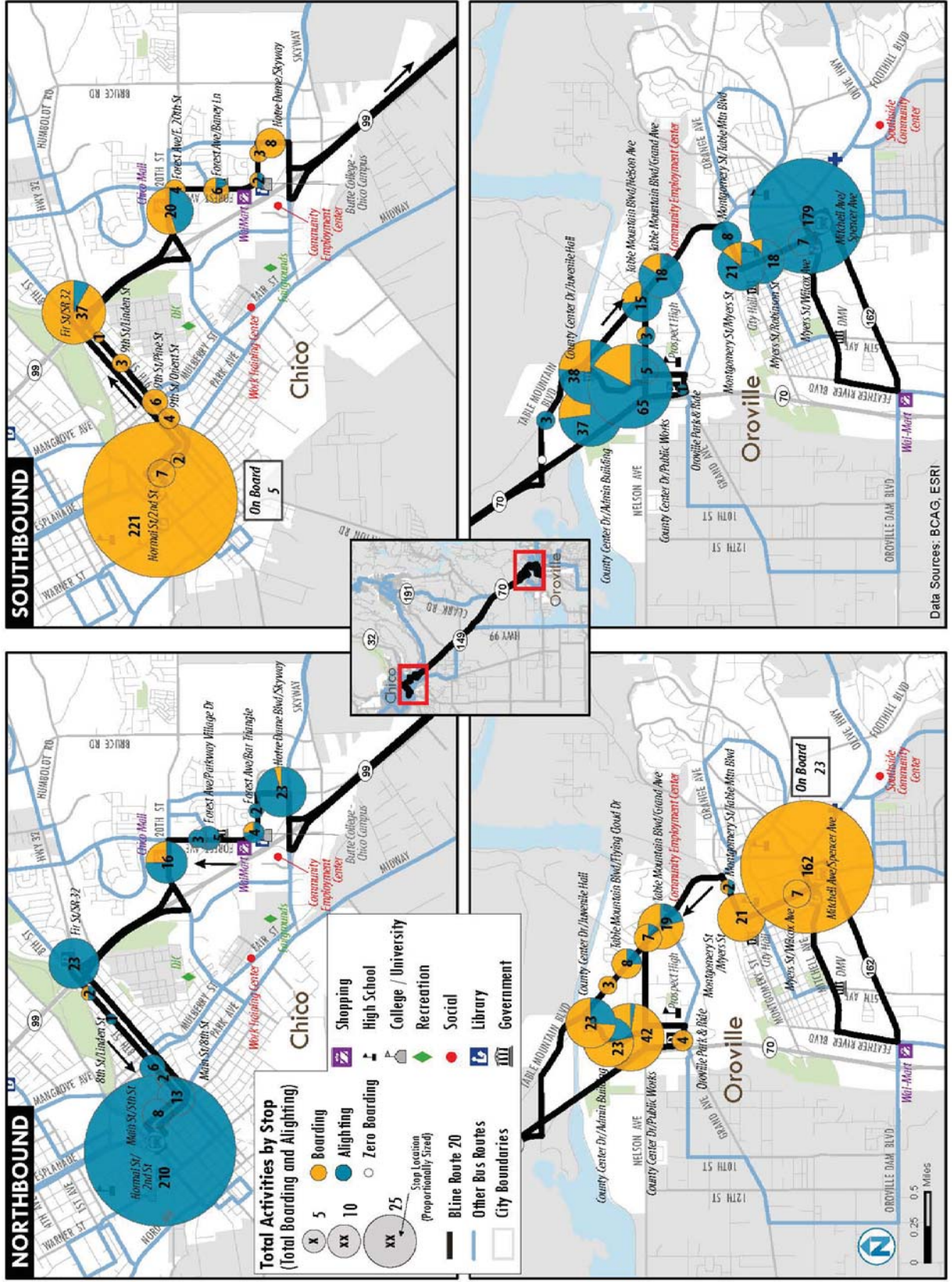
Route 20 provides intercity service between Chico and Oroville. Major stops and timepoints include Chico Transit Center, Fir Street Park-and-Ride, Forest Avenue Transfer, the Butte County Administration Complex, and Oroville Transit Center. Other destinations served include WalMart and the Butte College Chico campus, as well as the Community Employment Center in Oroville. Route 20 completes one round trip in approximately one hour and 50 minutes (110 minutes), with a layover at the Oroville Transit Center. Additionally, on weekdays the first two runs and the last two runs of Route 20 serve the Oroville Park-and-Ride at 3<sup>rd</sup> & Grand.

On weekends, Route 20 conducts a larger loop in Oroville, looping clockwise on Oro Dam Boulevard, Feather River Boulevard, and Mitchell Avenue to serve WalMart and other destinations in greater Oroville.

### Route 20 Weekday Service

Figures 3-64 shows the Route 20 boarding and alighting activity for the northbound and southbound directions.

Figure 3-64 Route 20 Weekday Boardings and Alightings by Stop



In the northbound direction, the most popular boarding locations in Oroville other than the Transit Center are clustered around the Butte County Administration Complex (with the highest total at County Center Dr/Public Works), as well as at Montgomery St & Myers St near downtown Oroville. That there are a number of locations with alightings in Oroville suggests that some, if relatively few, passengers may also use Route 20 as a local service during the day. In the northbound direction in Chico, the majority of passengers alight at Chico Transit Center; smaller nodes of alighting also occur at the Fir Street Park-and-Ride, Chico Mall, and Notre Dame Boulevard & Skyway near several shopping centers.

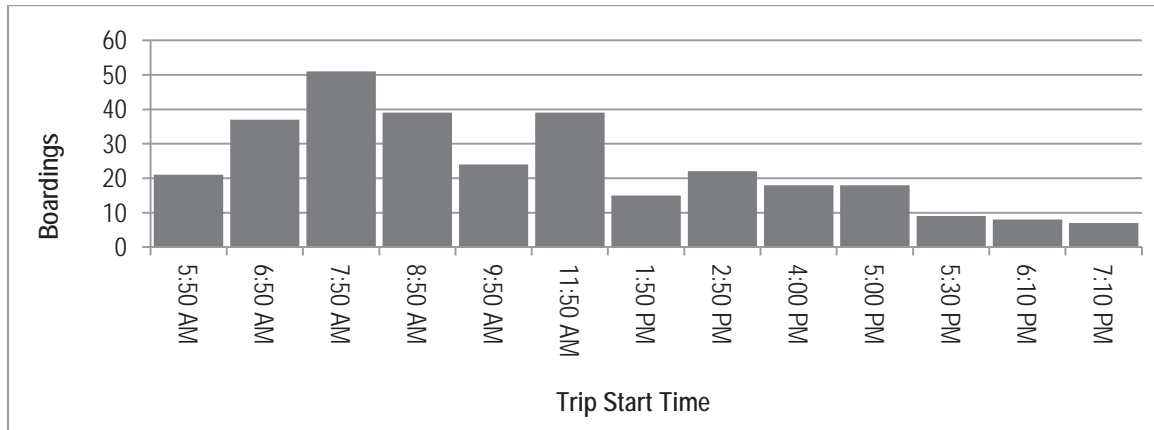
Heading southbound towards Oroville, activity patterns largely match northbound boardings and alightings, with clusters of activity around the Fir Street Park-and-Ride, Chico Mall, and Butte County Administration Complex in Oroville.

The deviation towards Oroville Park-and-Ride at 3<sup>rd</sup> & Grand yields relatively few passengers; a total of five (5) passengers boarded and alighted at this stop on the surveyed weekday.

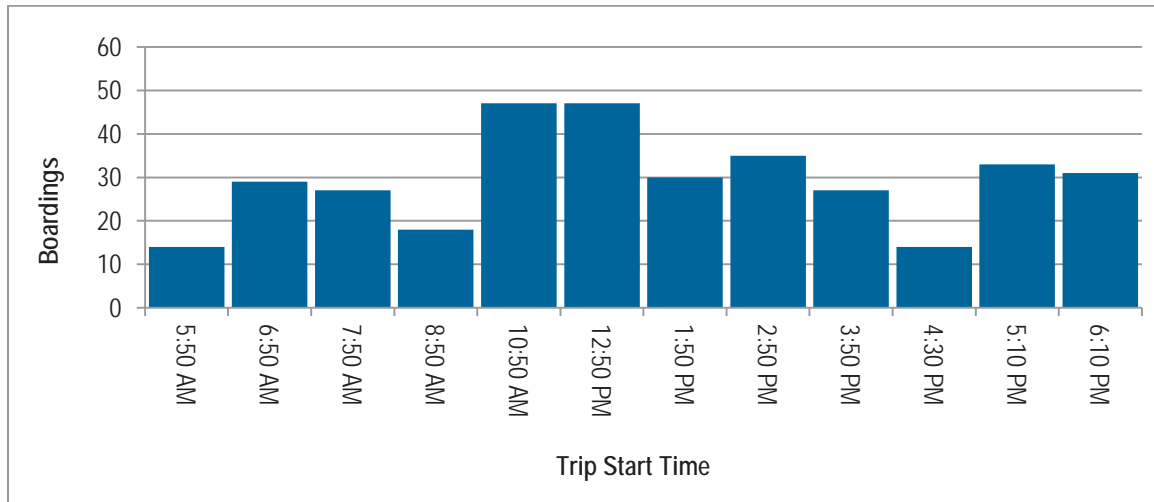
Figure 3-65 shows boardings by trip start time for Route 20. In the northbound direction, boardings were highest in the early and late morning, and subsided in the afternoon and evening. In the southbound direction, however, boardings were more consistent throughout much of the day, peaking in the midday period. Peak AM and PM periods also saw a more moderate degree of boardings. Together, these data suggest that while Route 20 may be being used as a more traditional commute route in the northbound direction, it also plays an important role throughout the day in providing service to Oroville.

Figure 3-65 Route 20 Weekday Boardings by Run – Northbound & Southbound

Northbound



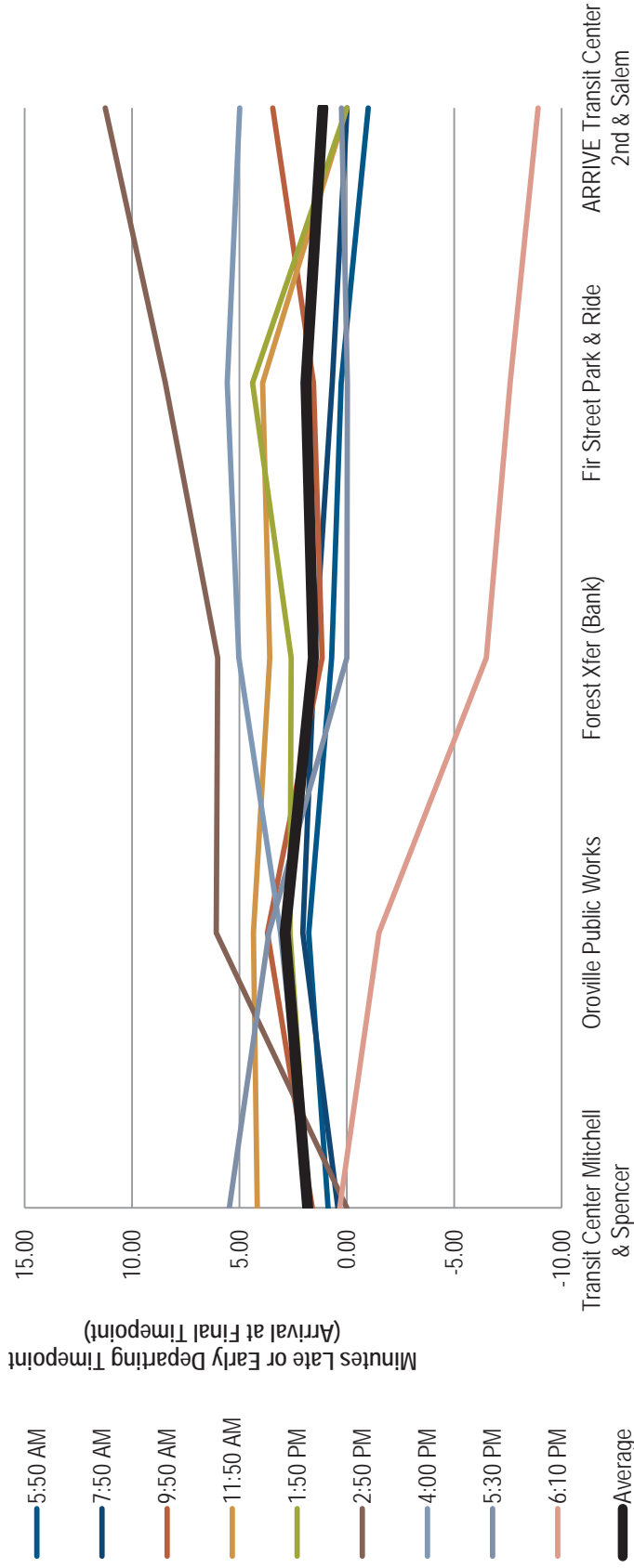
Southbound



**Route 20 On-Time Performance**

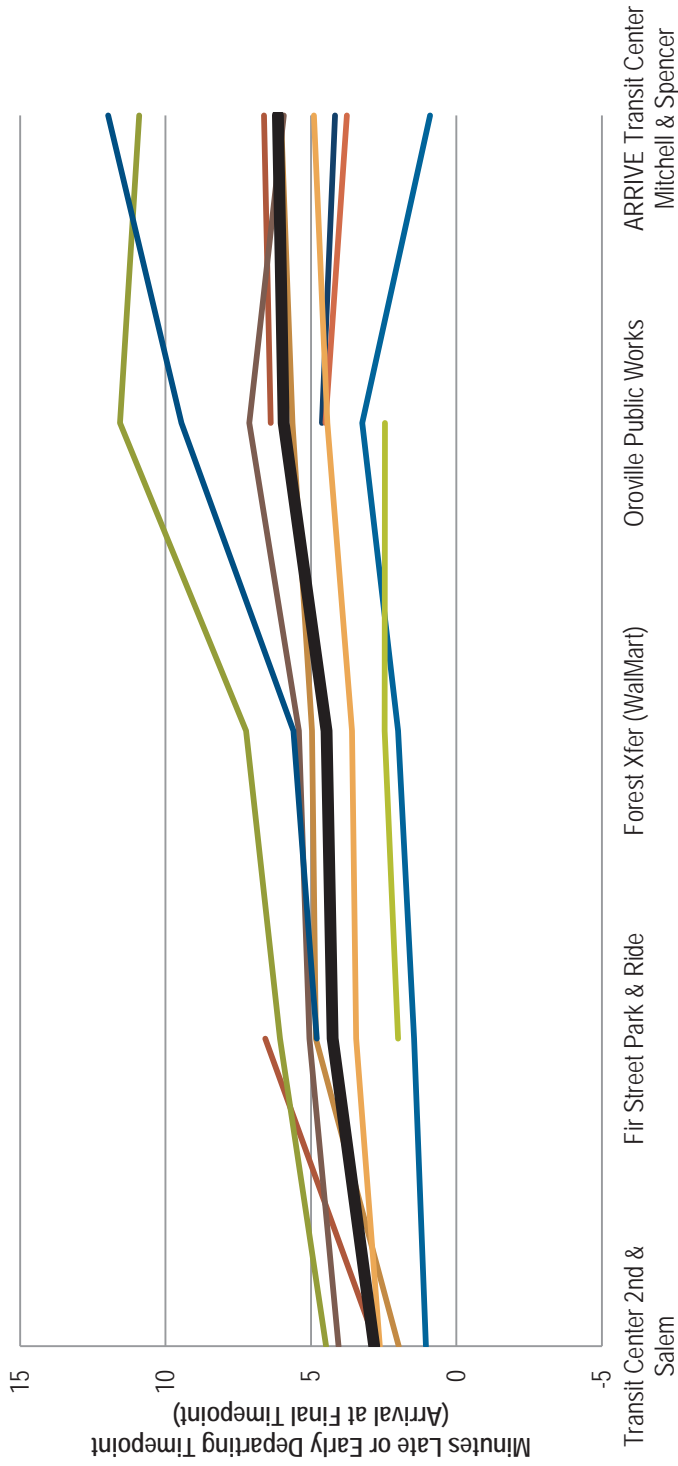
Route 20 has mixed on-time performance results. In the inbound direction, just over half of runs were on time, with one of nine sampled inbound runs actually arriving more than five minutes early to stops in Chico (see Figure 3-66). On average, inbound runs departed timepoints along the route between one and a half and three minutes behind schedule, indicating that the inbound direction is likely appropriate as currently scheduled. In the outbound direction, however, 42% (5 of 12) of sampled runs were more than five minutes late at timepoints. Additionally, half of the surveyed routes were late in arriving at the Oroville Transit Center, suggesting that the schedule in this direction may be tight.

Figure 3-66 Route 20 Schedule Adherence by Route Segment  
Route 20 Inbound



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Route 20 Outbound



**Route 30 Oroville – Gridley – Biggs**

At a Glance		
Weekday Boardings		77
Weekday Revenue Hours		4.6
Boardings per Hour		16.7
Boardings per Trip		12.8
Frequency (minutes)	Mon-Fri All Day	240
	Saturday All Day	120
Span	Mon-Fri	7:45am - 5pm
	Saturday	8:45am - 5pm

**Description**

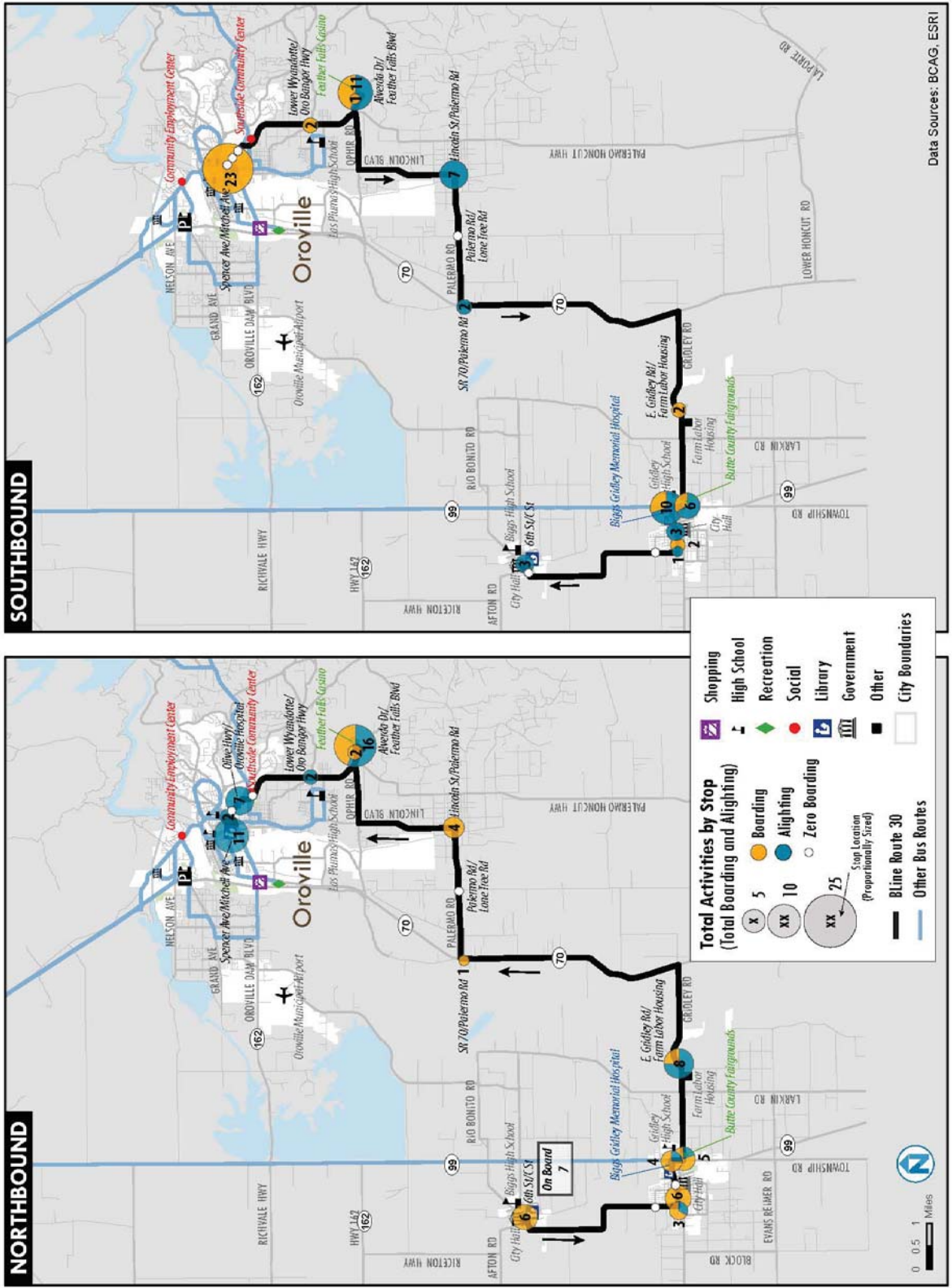
Route 30 links Oroville and Biggs with intermediate stops in Palermo and Gridley. Major stops and timepoints include Oroville Transit Center, Lincoln & Palermo in Palermo, Heritage Oaks Mall in Gridley, and 6<sup>th</sup> & B Streets in Biggs. Other destinations along Route 30 include Feather Falls Casino, Butte County Fairgrounds, and Biggs Gridley Memorial Hospital. On weekdays, headways are approximately four hours while on Saturdays buses operate on two-hour headways. Total round-trip travel time on Route 30 is approximately one hour and 40 minutes (100 minutes). The segment of the route on Lincoln Road between Ophir and Palermo Roads is designated for flag stops.

On Saturdays, Route 30 serves South Oroville on Wyandotte Avenue, Myers Street, Lincoln Road, and Monte Vista Avenue; it does not serve Lower Wyandotte Road between Wyandotte and Monte Vista Avenues.

**Route 30 Weekday Service**

Figure 3-67 presents the Route 30 boarding and alighting activity for the northbound and southbound directions.

Figure 3-67 Route 30 Weekday Boardings and Alightings by Stop





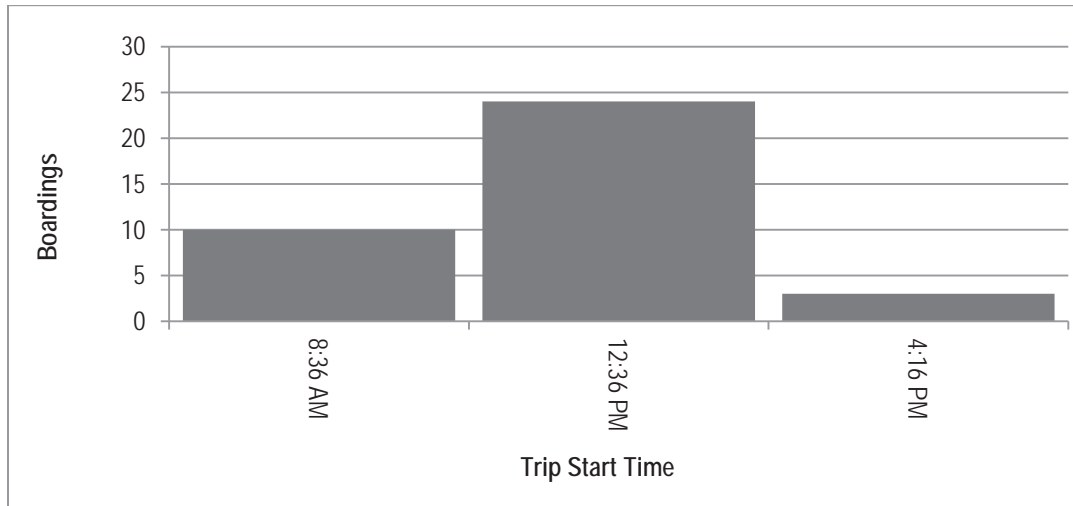
Partly due to its shortened schedule, and partly due to service provided by Route 32 (Gridley – Chico via Biggs), ridership on Route 30 is relatively low; on the surveyed weekday, the route attracted a total of 77 boardings over the course of the day. In the northbound direction towards Oroville, the stops with the most activity included Alverda Dr. & Feather Falls Boulevard, at the Feather Falls Casino, E. Gridley Road/Farm Labor Housing, and the cluster of stops in downtown Gridley. There was also local traffic within the Biggs - Gridley area, with a total of six alightings at the Farm Labor Housing stop.

Similar to northbound activity, in the southbound direction the most active bus stops included the cluster of stops in downtown Gridley and the Feather Falls Casino stop. In contrast to northbound activity, however, there were more alightings at Palermo in the southbound direction.

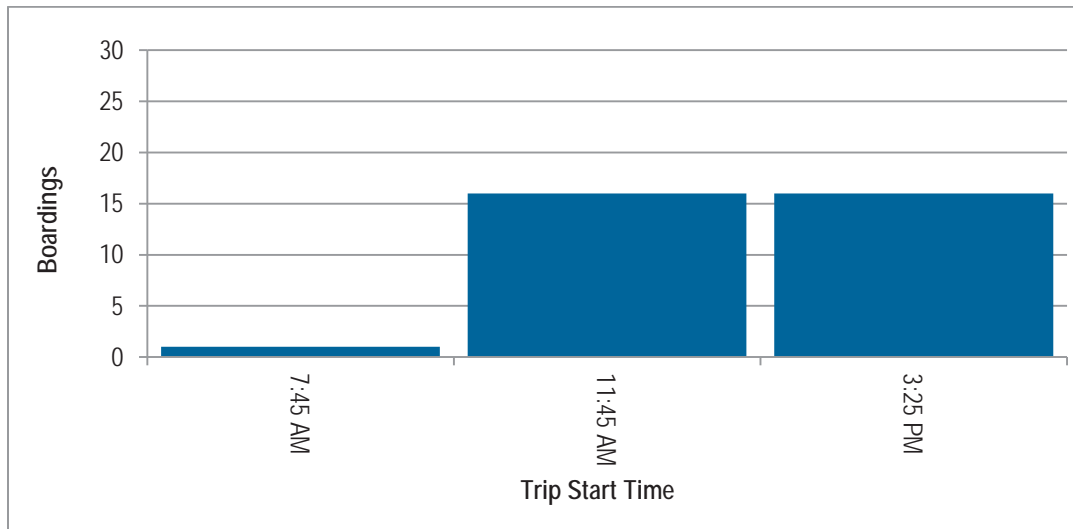
Figure 3-68 presents boardings by trip start time for Route 30. There are only three trips in each direction on weekdays. In the northbound direction, boardings peaked on the midday run, whereas in the southbound direction, peak boardings occurred on the midday and afternoon runs.

Figure 3-68 Route 30 Weekday Boardings by Run – Northbound & Southbound

Northbound



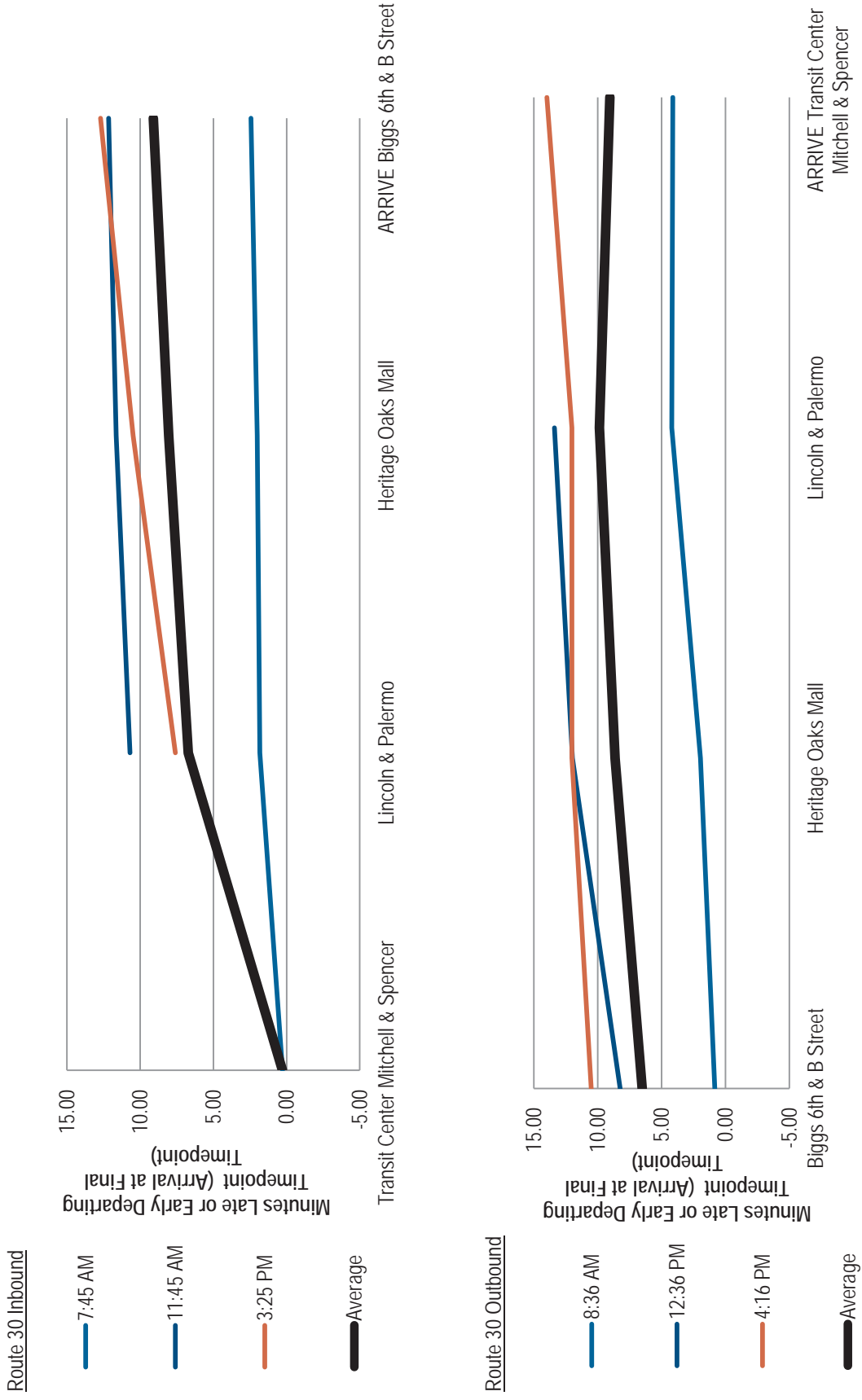
Southbound



**Route 30 On-Time Performance**

As shown in Figure 3-69, two-thirds (four of six) of Route 30 trips were more than five minutes late at timepoints along the route. The only runs that met the five minute standard were the morning trips (7:45am southbound & 8:36am northbound), indicating that extenuating factors for the midday and afternoon trips are causing delays on this route. It is also worthy of note that boardings on the morning trips are very low, which may allow the route to perform on schedule. If increased boarding and alighting activity is indeed causing delays on this route on its midday and afternoon trips, then there is an opportunity to adjust the schedule to allow the route to both attract these riders and operate on time.

Figure 3-69 Route 30 Schedule Adherence by Route Segment



**Route 31 Paradise – Oroville**

At a Glance		
Weekday Boardings		15
Weekday Revenue Hours		1.7
Boardings per Hour		9.1
Boardings per Trip		7.5
Frequency	Mon-Fri	One AM and one PM trip
Span	Mon-Fri	6:45am – 7:30am (SB) 5pm – 6pm (NB)

**Description**

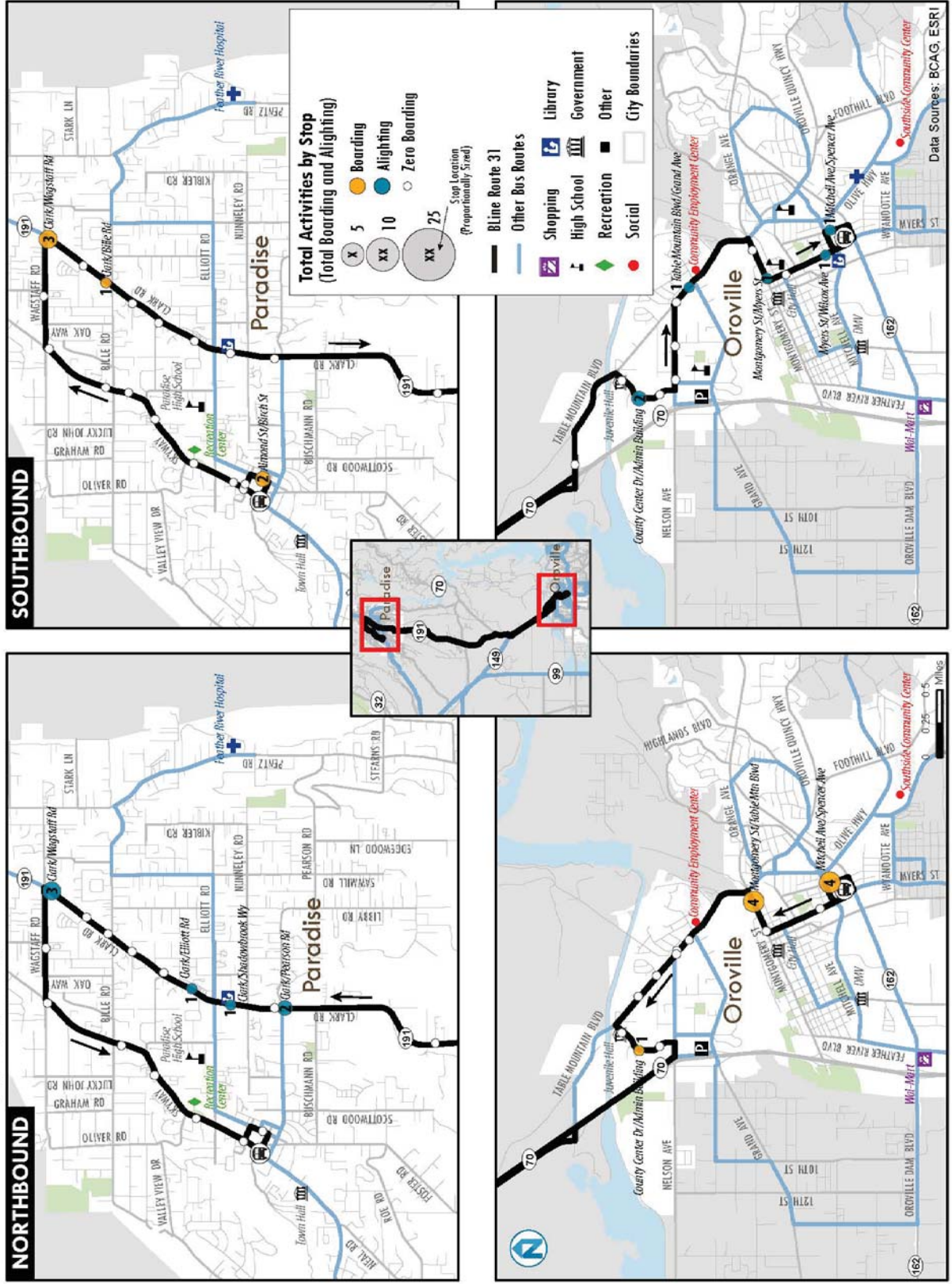
Route 31 links Oroville and Paradise with one morning and one evening trip on weekdays only; the morning trip travels southbound and the evening trip travels northbound. Major stops and timepoints on Route 31 are Almond & Birch (Paradise Transit Center), Clark & Wagstaff (Paradise), Clark & Pearson (Paradise), County Public Works (Oroville), and the Oroville Transit Center. The total one-way travel time between Paradise and Oroville is approximately 50 minutes.

Note that the morning (southbound) Route 31 bus will serve the Butte College Main Campus if and only if a passenger on the bus asks for that stop. In the northbound direction, riders who wish to get on a Route 31 bus at Butte College must call dispatch to let them know they want to ride; the bus will then deviate into campus on its way to Oroville.

**Route 31 Weekday Service**

Figure 3-70 shows the Route 31 boarding and alighting activity for the northbound and southbound directions.

Figure 3-70 Route 31 Weekday Boardings and Alightings by Stop



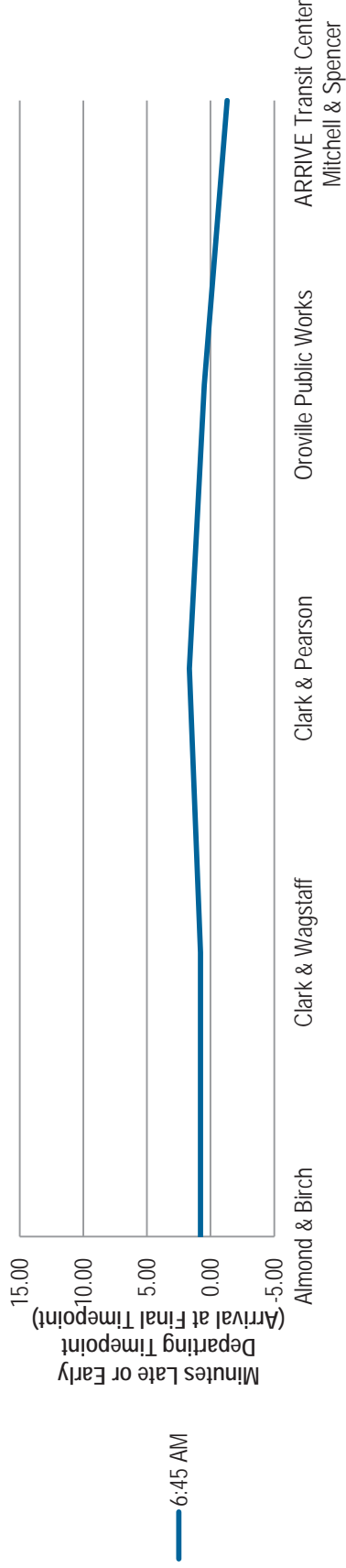
Due to its limited schedule, Route 31 has very low ridership. On the surveyed weekday, a total of 15 riders boarded Route 31. On the morning run (southbound), the most active stops in Paradise were Clark & Wagstaff (3 boardings), Almond & Birch (2), and Clark & Bille (1) with alightings spread along the route in Oroville. On the evening/northbound run, boardings were more consolidated in Oroville, with the highest numbers getting on the bus at Oroville Transit Center and Montgomery St. & Table Mountain Boulevard. Alighting activity in Paradise included more stops than had been used for boardings.

A total of 2 passengers were dropped off at Butte College on the morning run on the surveyed weekday. Additionally, many stops in Oroville and Paradise were not used at all on the surveyed weekday.

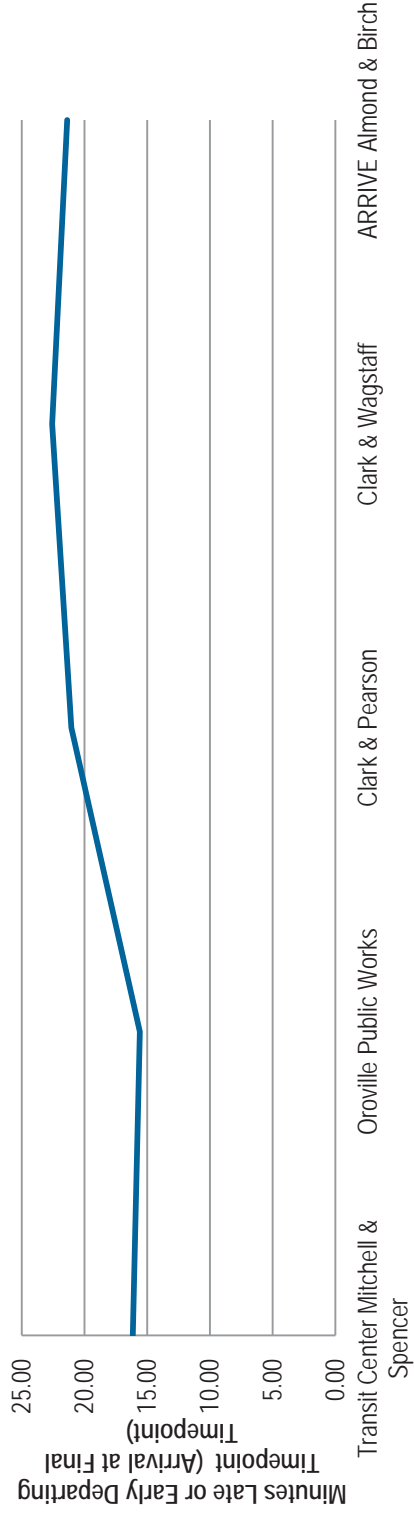
### **Route 31 On-Time Performance**

As shown in Figure 3-71, on the sample weekday, Route 31's southbound trip operated on schedule while its evening northbound route ran late throughout the duration of the route. There may have been extenuating circumstances to cause this delay on the sampled weekday, and given that there are only two runs per day with very low ridership, it does not appear that the northbound delays have major effects on ridership. Furthermore, given that on-demand deviations to Butte College are allowed on this route, on-time performance may be affected by this practice as well.

Figure 3-71 Route 31 Schedule Adherence by Route Segment  
Route 31 Inbound



Route 31 Outbound



**Route 32 Gridley – Chico**

At a Glance		
Weekday Boardings		12
Weekday Revenue Hours		2
Boardings per Hour		6
Boardings per Trip		6
Frequency	Mon-Fri	One AM trip and one PM trip
Span	Mon-Fri	6:40am - 7:40am (NB) 5:20pm – 6:20pm (SB)

**Description**

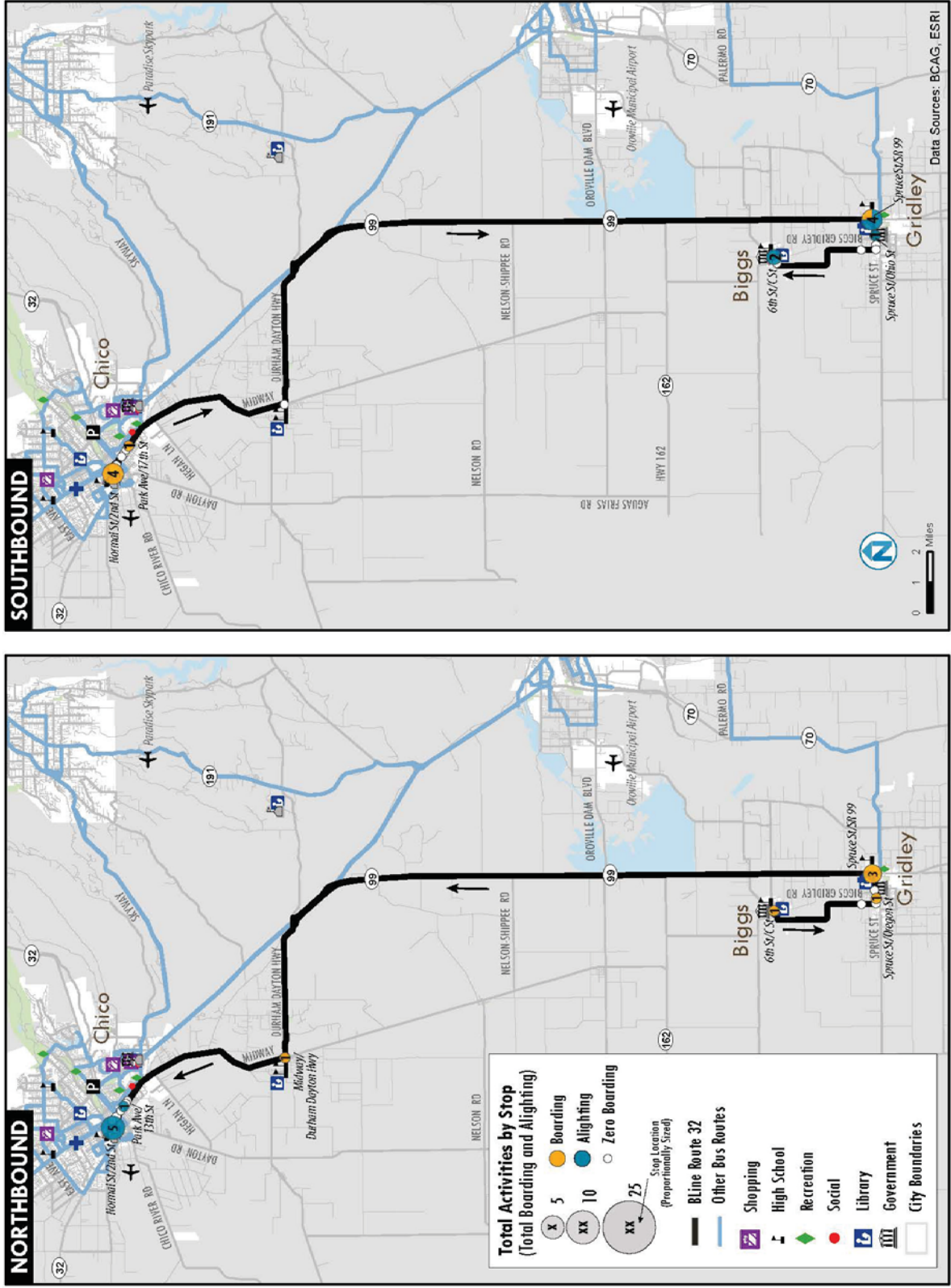
Route 32 links Biggs, Gridley, and Chico with one morning and one evening trip on weekdays only; the morning trip travels northbound and the evening trip travels southbound. Major stops and timepoints include City Hall – 6<sup>th</sup> & C Street (Biggs), Spruce & SR 99 (Gridley), Midway & Durham Dayton Highway (Durham), and the Chico Transit Center. The total travel time one-way between Biggs, Gridley, and Chico is 60 minutes.

**Route 32 Weekday Service**

Figure 3-72 presents the Route 32 boarding and alighting activity for the northbound and southbound directions.



Figure 3-72 Route 32 Weekday Boardings and Alightings by Stop

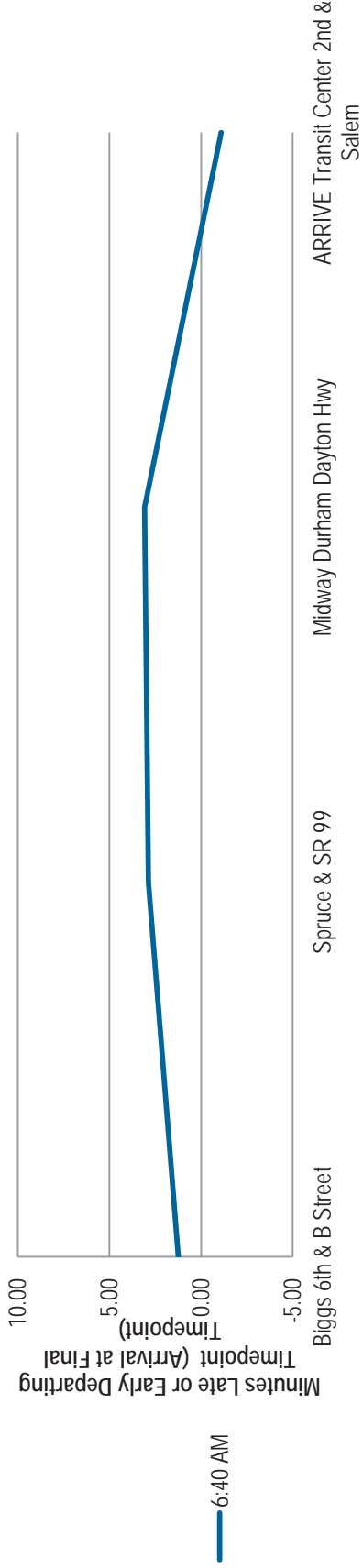


Route 32 has very low ridership; on the surveyed weekday, a total of 12 people boarded the bus. On the morning run, only one person joined the route in Biggs, four boarded in Gridley, and one boarded in Durham. In the southbound direction (evening run), the pattern was similar. There was one passenger in the southbound direction who traveled locally between Gridley and Biggs. According to B-Line staff, Route 32 is being considered for elimination due to its low ridership.

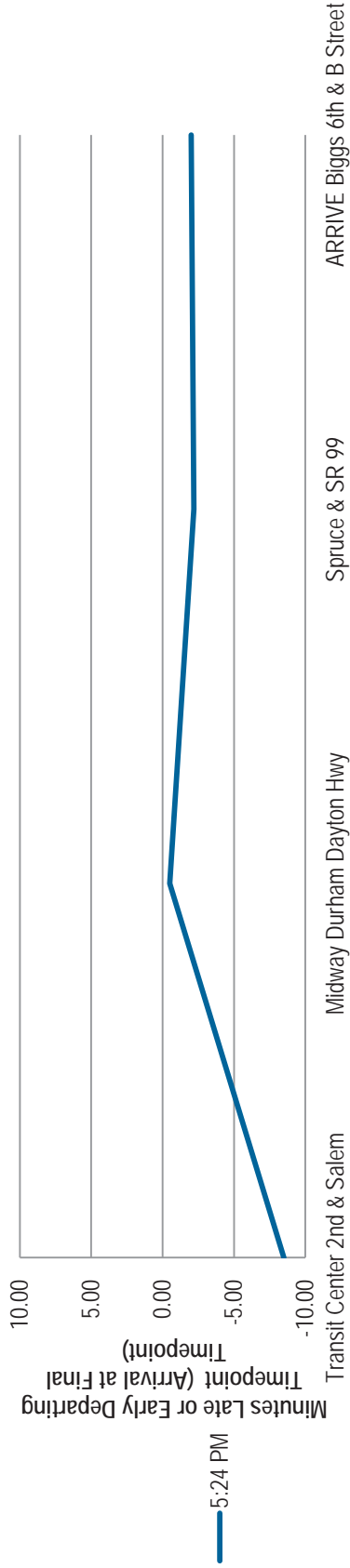
#### **Route 32 On-Time Performance**

Figure 3-73 shows that Route 32 performs on time in both directions, arriving early in the morning. However on the sampled weekday, the data from B-Line shows the evening (southbound) run left nearly nine minutes ahead of schedule, which is not a recommended practice for future operations. It is possible that the data is anomalous.

Figure 3-73 Route 32 Schedule Adherence by Route Segment  
Route 32 Inbound



Route 32 Outbound



**Route 40 Paradise – Chico**

At a Glance		
Weekday Boardings		284
Weekday Revenue Hours		15.5
Boardings per Hour		18.3
Boardings per Trip		15.8
Frequency (minutes)	Mon-Fri Peak/Midday	60/120
	Sat-Sun All Day	120
Span	Mon-Fri	6am - 7:30pm
	Sat	7:50am - 6pm
	Sun	9:50am - 6pm

**Description**

Route 40 provides intercity service between Chico and Paradise seven days a week. Major stops and timepoints on Route 40 are Chico Transit Center, Forest Avenue Transfer, Almond & Birch (Paradise Transit Center), and Skyway & Wagstaff (Paradise). Other destinations served include Chico Mall, WalMart, Butte College Chico Center, and Paradise Town Hall. In Paradise, Route 40 serves Paradise Transit Center twice; after leaving the transit center, it makes a loop of residential neighborhoods to the northeast of downtown on Skyway, Wagstaff, Clark, and Pearson Roads to Paradise Transit Center and back. The total round-trip travel time on Route 40 is approximately an hour and 52 minutes (112 minutes), with a scheduled 10 minute layover in Paradise. Route 40 alternates with Route 41 on most runs.

An additional westbound Route 40 run is provided on weekdays at 6:44am. Referred by B-Line staff as “Route 40X,” or Route 40 Express, it was added as a backup to Route 41, which at this time of day is typically heavily used by middle and high school students. The Route 40X run is only provided during the middle/high school year. Route 40X operates as an express service from the Paradise Transit Center to the Chico Transit Center, making one intermediate stop at the Fir Street Park-and-Ride lot.

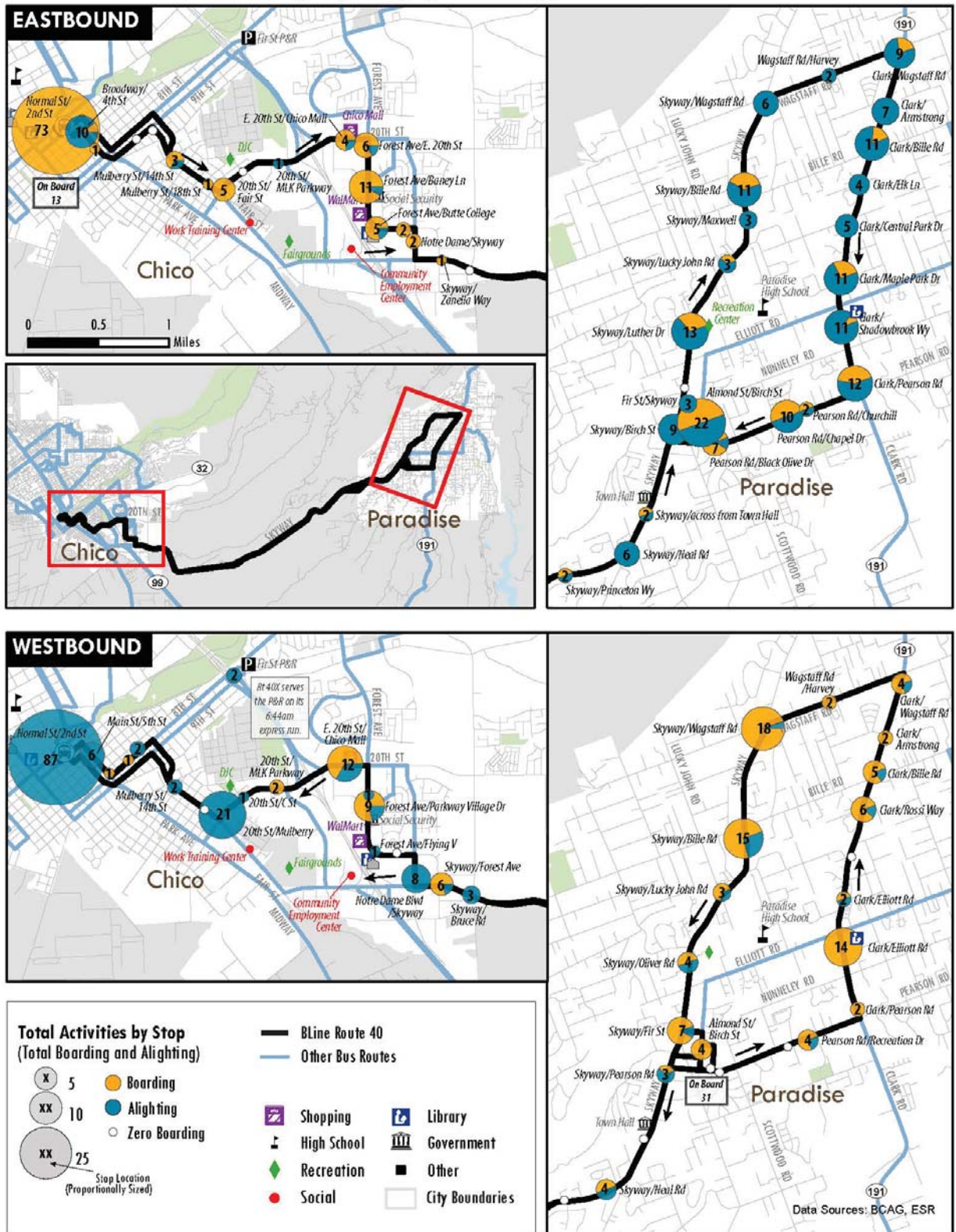
In Paradise, the Skyway & Wagstaff and Clark & Wagstaff stops serve as transfer points for Routes 40, 41, and 31.

**Route 40 Weekday Service**

Figure 3-74 presents the Route 40 boarding and alighting activity for the eastbound and westbound directions.

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Figure 3-74 Route 40 Weekday Boardings and Alightings by Stop



In the eastbound direction towards Paradise, the majority of boardings occur at the Chico Transit Center. Smaller numbers of boardings occur at Forest Avenue Transfer and Paradise Transit Center. Alightings, however, occur throughout the route, especially within Paradise where the route essentially serves as a local circulator. A total of 13 passengers joined Route 40 in the eastbound direction already on buses at Chico Transit Center. In the westbound direction, total activity is concentrated at Skyway & Wagstaff Road, Clark Road & Elliott Road, and Skyway & Bille Road in Paradise; peak alightings occur in the vicinity of Chico Mall (Notre Dame Boulevard & Skyway), at 20<sup>th</sup> St & Mulberry Street, and at Chico Transit Center. The presence of boardings in the westbound direction in Chico and alightings in this direction in Paradise reinforce that even though Route 40 is primarily an intercity route, some are using it as a local service. A total of 31 passengers joined Route 40 westbound aboard buses continuing from the eastbound direction.

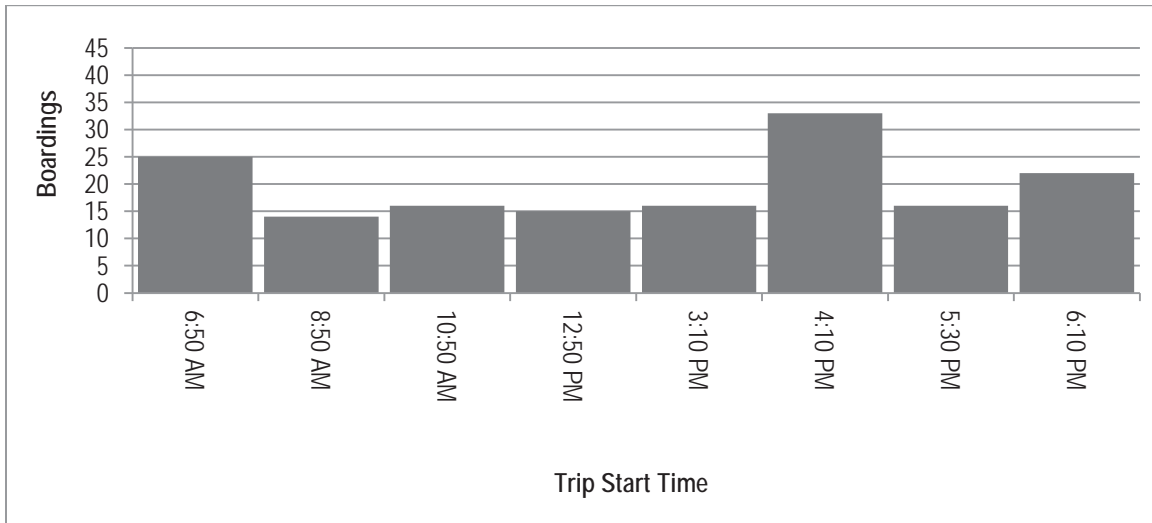
Note that on Tuesday, September 24<sup>th</sup> (the second day of weekday data collection for this report), Route 40 ridership was affected by two separate delays:

- An accident along the route, first reported on the scheduled 10:50am eastbound trip, caused initial delays on that run of over an hour. The subsequent westbound trip out of Paradise Transit Center, scheduled for an 11:44am departure, left instead at 12:25pm. In order to return to the schedule, the driver skipped the Paradise loop portion of the route. The combination of the missed route and the delays directly affected ridership on Route 40 during the midday runs.
- Early in the 3:10pm run, the Route 40 bus broke down, causing delays along the route as another bus was brought into service.

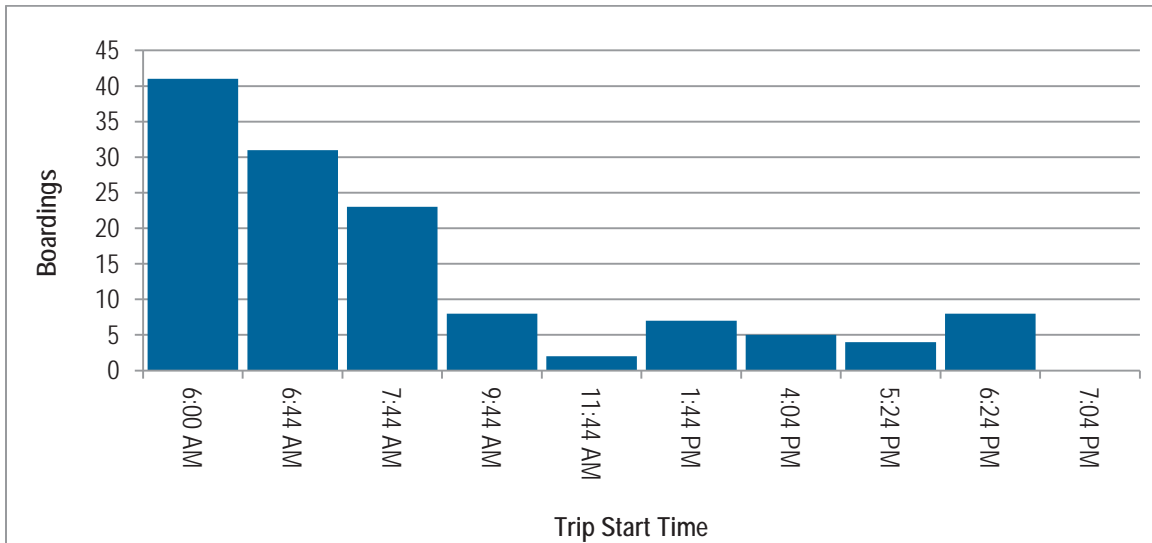
Figure 3-75 presents boardings by trip start time for Route 40. Heading eastbound, boardings peaked in the peak morning, late afternoon (4:10pm), and peak evening periods. In the westbound direction, however, ridership peaked in the morning and was very low throughout the rest of the day. Given that Route 41's ridership had a secondary peak on its 1:26pm run (see below), it is possible that riders traveling between Chico and Paradise may take either Route 40 or Route 41 depending on convenience.

Figure 3-75 Route 40 Weekday Boardings by Run – Eastbound & Westbound

Eastbound



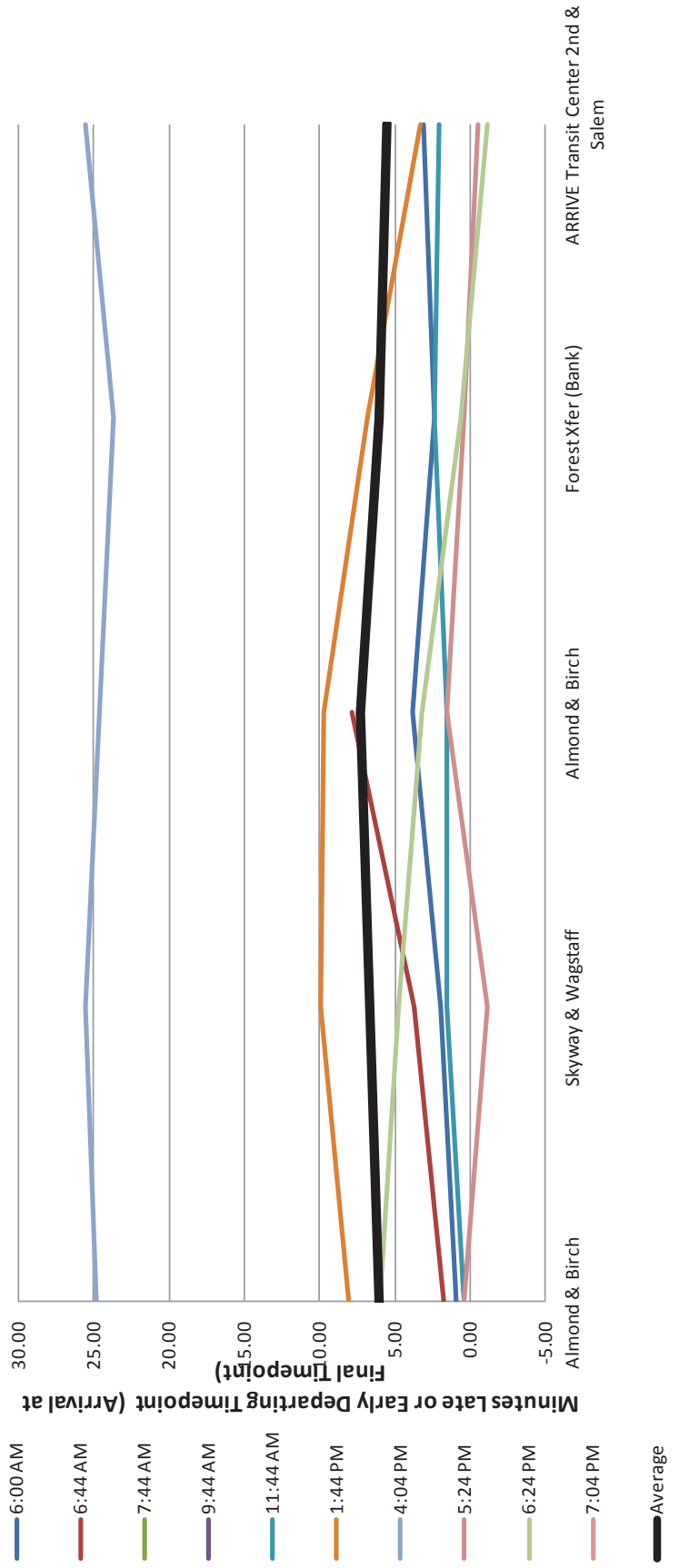
Westbound



**Route 40 On-Time Performance**

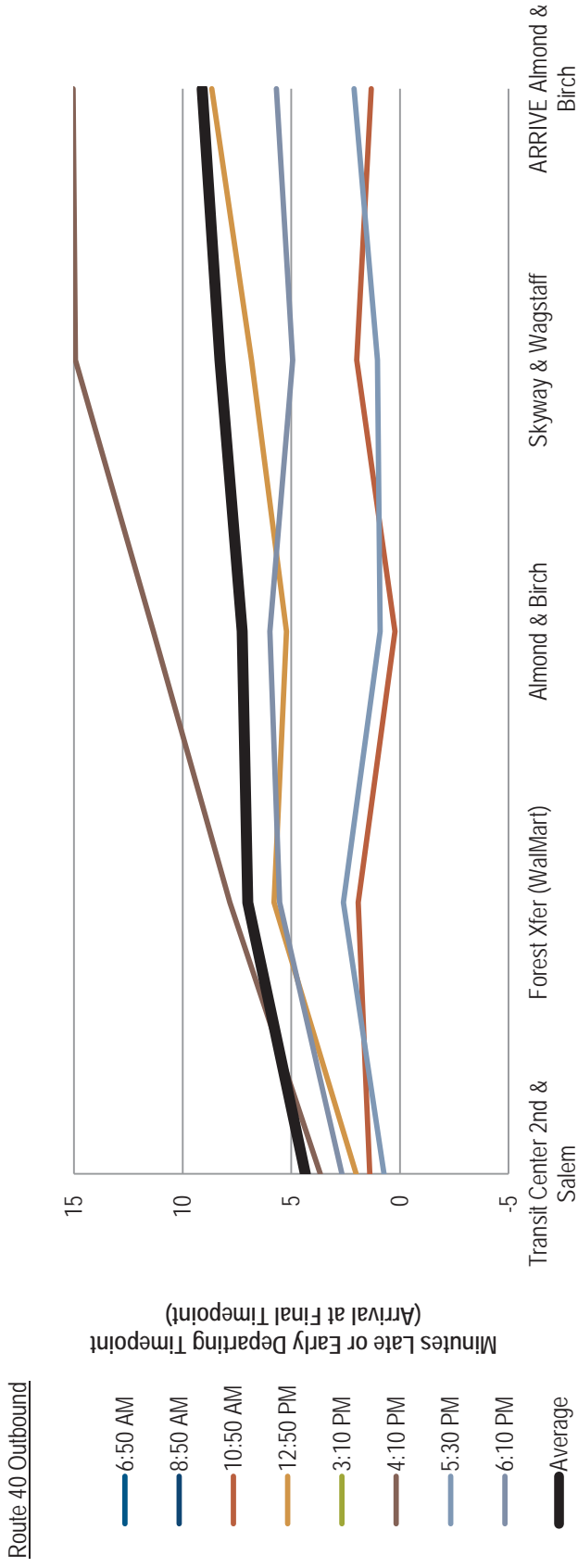
Route 40 performs better in the outbound than the inbound direction, with five of eight (63%) runs departing timepoints within five minutes of the scheduled time. Nevertheless, average delays exceed the five minute standard on the segment between Chico Transit Center and the Forest Avenue Transfer, suggesting that the schedule for this segment at some times of the day is a bit tight. In the inbound direction, half of the runs on the sample day were more than five minutes behind schedule at timepoints along the route (see Figure 3-76). However, that all runs arrived at the Chico Transit Center within five minutes of the scheduled arrival time indicate that some additional time is available between the Forest Avenue Transfer and downtown.

Figure 3-76 Route 40 Schedule Adherence by Route Segment  
Route 40 Inbound





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**Route 41 Paradise Pines – Chico**

At a Glance		
Weekday Boardings		246
Weekday Revenue Hours		14.5
Boardings per Hour		17.0
Boardings per Trip		16.4
Frequency (minutes)	Mon-Fri All Day	120
	Sat-Sun All Day	3 round-trips in AM, midday, PM
Span	Mon-Fri	5:30am - 6:45pm
	Sat	9:45am – 6pm

**Description**

Route 41 provides intercity service between Chico, Paradise, and Magalia on Monday through Friday; on Saturdays, it provides limited service within northern Paradise and Magalia connecting to Route 40 at Skyway & Wagstaff Road. Between much of Paradise and Chico, Route 41 parallels Route 40; however, instead of turning south at Wagstaff & Clark in Paradise like Route 40, it turns north on Clark, operating into the forested neighborhoods of Magalia. Three sections of the route are flag stop areas: a loop on Rosewood Drive, Wood Drive, and Imperial Way; a loop on Nimshew Road, Carnegie Road, and Colter Way; and a loop on Creston Road and Ponderosa Way. The first run in the morning begins at Skyway & Rosewood in Magalia. Major stops and timepoints include Skyway & Colter (Paradise Pines), Lakeridge at Holiday Market, now a SavMor (Magalia), Skyway & Wagstaff (Paradise), Almond & Birch (Paradise Transit Center), Forest Avenue Transfer, and the Chico Transit Center.

Route 41 has several non-standard operating procedures. For example, whereas during off-peak periods the terminus of Route 41 is the intersection of Skyway & Colter, during peak periods, Route 41 begins its route south and west on the flag stop loop of Nimshew, Carnegie, and Colter before the scheduled time at Skyway & Colter. B-Line asks passengers wishing to catch the bus along this loop to “please be ready approximately 5-10 minutes before the posted time.” Additionally, the first and last westbound runs of the day do not travel all the way to Chico.

Another deviation occurs on two weekday trips, one in each direction. The 6:35am westbound and 3:50pm eastbound trips do not serve Forest Avenue or East 20<sup>th</sup> Street, instead traveling via Fair Street to serve the Work Training Center.

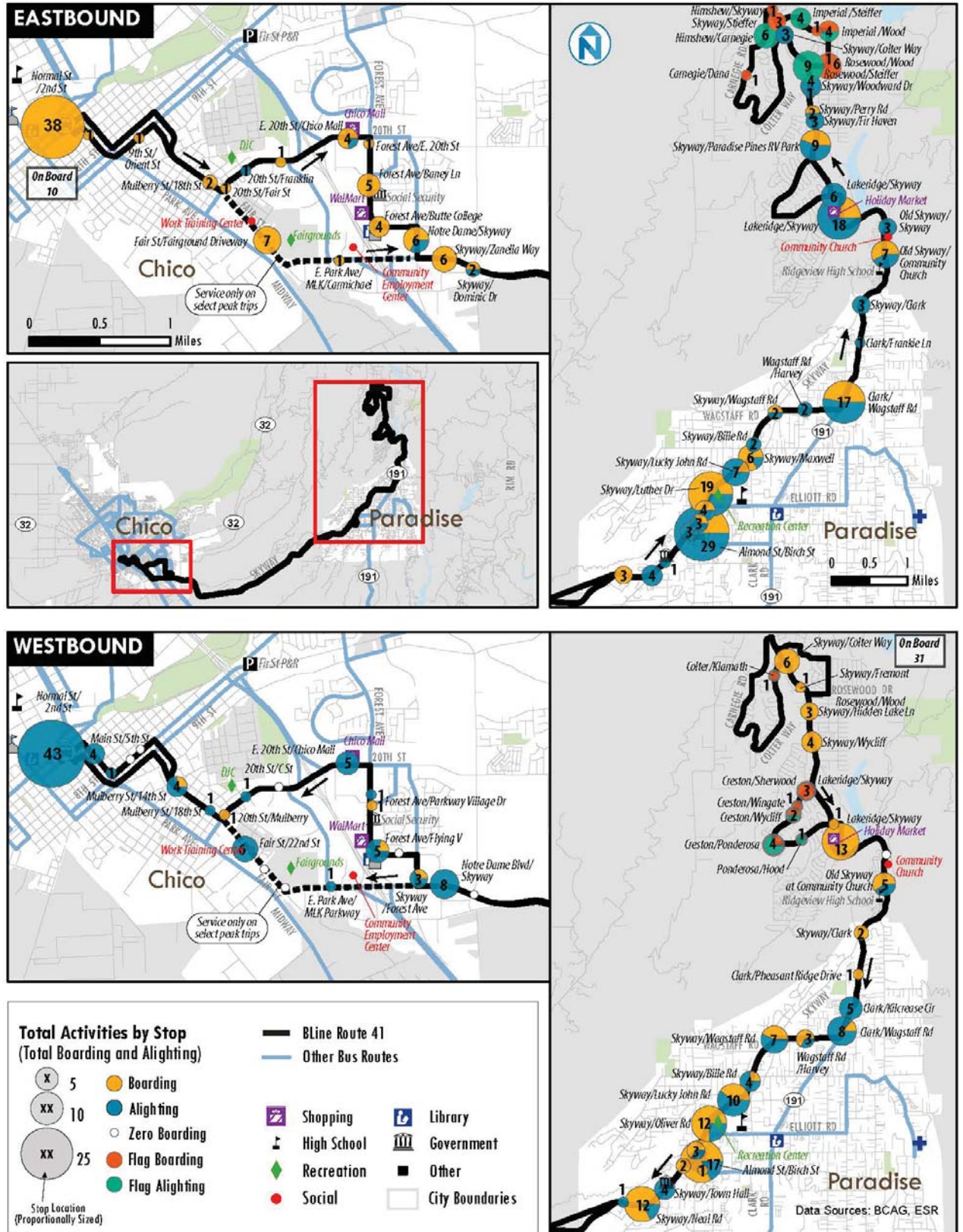
The total round-trip travel time on Route 41 is approximately two hours and 10 minutes (130 minutes). Route 41 alternates with Route 40 for most runs.

**Route 41 Weekday Service**

Figure 3-77 shows the Route 41 boarding and alighting activity for the eastbound and westbound directions.

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Figure 3-77 Route 41 Weekday Boardings and Alightings by Stop



In the eastbound direction towards Magalia, the majority of boardings occur at the Chico Transit Center. Additional boarding activity occurs in Paradise, especially at Skyway & Luther Drive near the Terry Ashe Recreation Center and several shops and businesses. Alightings in the eastbound direction are relatively sustained throughout Paradise and up into Paradise Pines, peaking at Paradise Transit Center and on Lakeridge at Holiday Market (SavMor). The Rosewood/Imperial flag stop area is also relatively popular, with total boarding/alighting activity totaling 25 passengers in this area on the surveyed weekday. A total of 10 riders rode through from other buses entering service as Route 41 at Chico Transit Center.

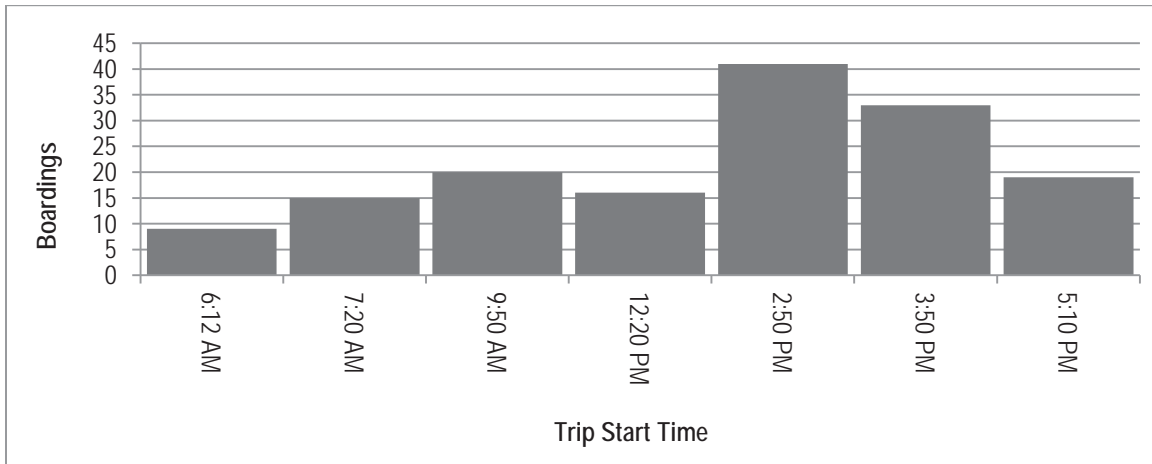
Heading westbound towards Chico, a total of 31 passengers rode through to Route 41, already on board eastbound buses. Stops that had the most boardings included Lakeridge & Skyway at the Holiday Market/SavMor, Paradise Transit Center, and Skyway & Neal Road near a few churches and businesses. The greatest number of alightings occurred at Chico Transit Center, with clusters of alightings in Paradise and in the vicinity of Chico Mall. Notably, the Carnegie/Colter flag stop loop attracted very little ridership on the surveyed weekday; just two riders boarded Route 41 along this stretch. By contrast, the Creston/Ponderosa flag stop segment attracted seven riders and the select route deviation to the Work Training Center resulted in seven boardings and six alightings.

It is important to note that the ridership data also reflect a few atypical occurrences observed during the survey effort. In particular, on Monday, September 23<sup>rd</sup>, the surveyor noted that on the 6:45pm run, a loose belt caused delays, and some passengers left due to these delays.

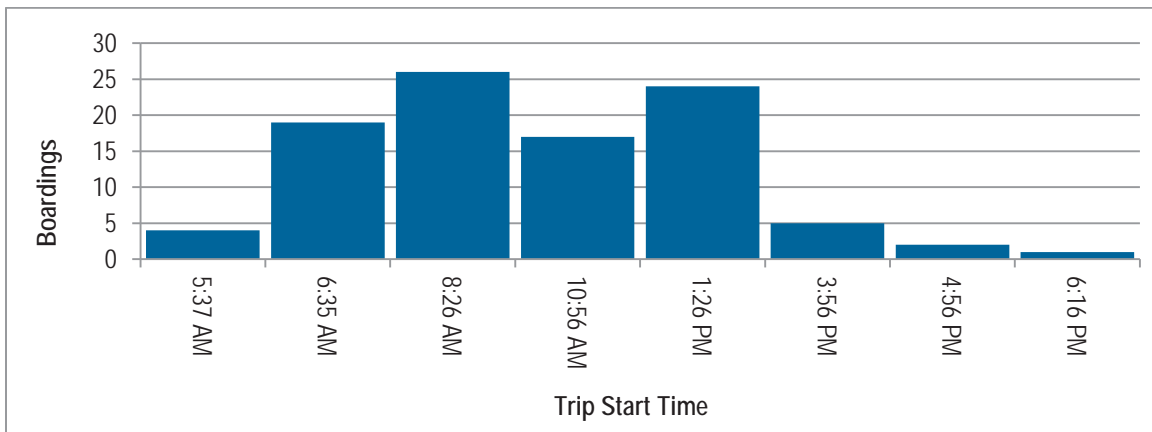
Figure 3-78 presents boardings by trip start time for Route 41. Heading eastbound, boardings peaked in the mid afternoon, with 41 riders boarding the 2:50pm run. In the westbound direction, ridership peaked in the morning (8:26pm run) with a secondary peak in the midday, at 1:26pm.

Figure 3-78 Route 41 Weekday Boardings by Run – Eastbound & Westbound

Eastbound



Westbound

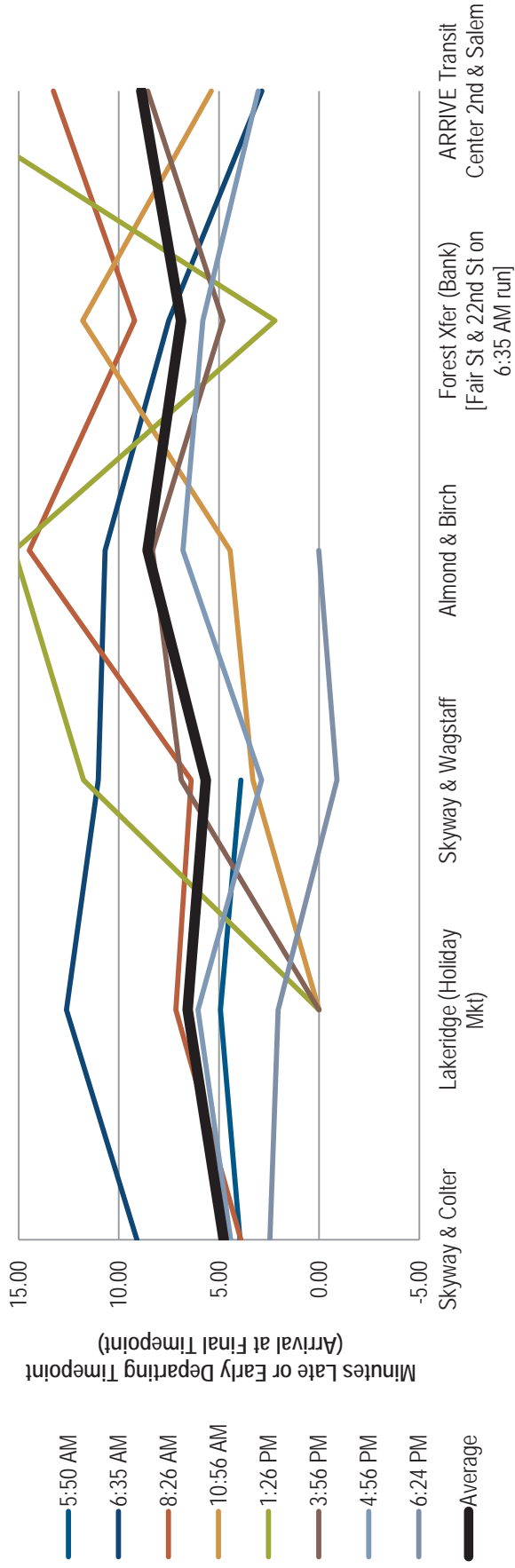


**Route 41 On-Time Performance**

Like Route 40, Route 41 eastbound on average experiences slight delays within Chico, between Chico Transit Center and the Forest Avenue Transfer (see Figure 3-79). For half of the runs on the sampled day, slight slack in the schedule allowed the runs to arrive in Paradise on time. One-third of the outbound routes on the sampled day (the midday runs) increased their delay throughout the run.

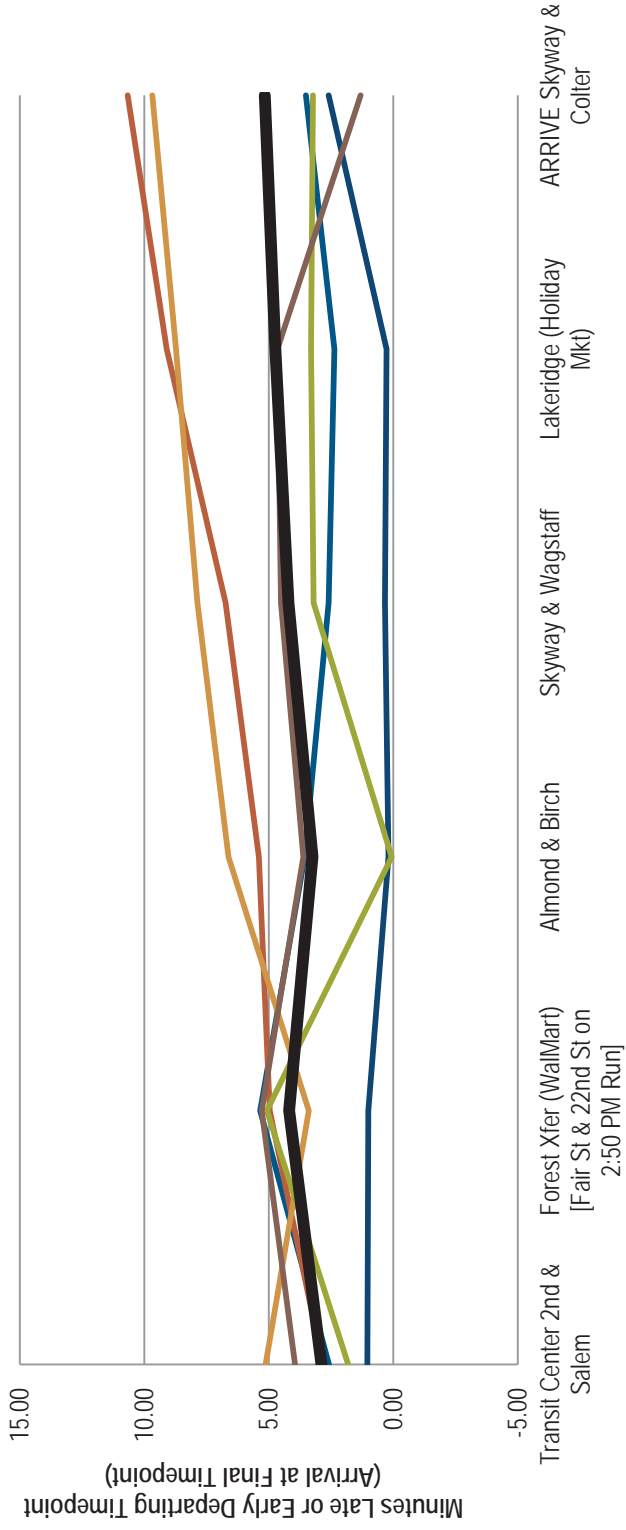
In the westbound direction, three-quarters of Route 41 runs were more than five minutes late at timepoints along the route. While there was a great deal of variability on the sampled weekday, on average buses experience delays between the Skyway & Wagstaff and Almond & Birch timepoints within Paradise and between the Forest Avenue Transfer and Chico Transit Center. On average there appears to be additional time in the schedule between Paradise and the Forest Avenue Transfer.

Figure 3-79 Route 41 Schedule Adherence by Route Segment  
Route 41 Inbound



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Route 41 Outbound



## **B-LINE PARATRANSIT PERFORMANCE**

Key findings related to B-Line Paratransit ridership and trip characteristics are discussed.

### **Paratransit Five-Year Performance**

Below is a summary of findings related to B-Line Paratransit ridership, productivity, and performance over the past five fiscal years using various service and cost performance indicators. Figure 3-80 displays five performance metrics for all B-Line Paratransit services combined (i.e., a combination of the data designated “urban” and “rural”) from FY 2008/09 through FY 2012/13.

Figure 3-80 Paratransit Performance Metrics

Performance Measures	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	% Chg FY09-FY13
Operating Cost	\$2,333,122	\$2,368,286	\$2,457,298	\$2,737,068	\$2,974,530	27.5%
Fare Revenue	\$202,491	\$234,931	\$259,485	\$311,875	\$328,348	62.2%
Vehicle Service Hours	41,215	40,264	41,486	46,431	48,500	17.7%
Vehicle Service Miles	429,194	344,746	313,788	389,530	410,304	-4.4%
Passengers	106,120	111,243	120,980	136,117	147,808	39.3%

Source: BCAG (For detailed notes, see Figure 3-11)

Over the five-year period shown, B-Line Paratransit ridership experienced tremendous growth. While vehicle service miles actually decreased slightly between FY 2008/09 and FY 2012/13 (-4.4%), the number of passengers increased nearly 40% (39.3) and fare revenue grew by 62.2%. While the growth in revenue may be partially attributable to the fare increase implemented in July 2009, when base Paratransit fares rose 25%, the ridership increase is likely due to the expansion of the service to additional zones outside of the required ADA core area in FY 2011/12. (The increase in vehicle service miles (24.1%) in FY 11/12 is also reflective of this change.) It is also possible that the recent simplification of the passenger eligibility process has led to an increase in riders as well. B-Line is considering modifying eligibility requirements that may help reduce some of the growing demand for Paratransit.



Figure 3-81 Paratransit Performance Indicators

Performance Indicators	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	FY 2012/13	% Chg FY09-FY13
Operating Cost per Hour	\$56.61	\$58.82	\$59.23	\$58.95	\$61.33	8.3%
Operating Cost per Passenger	\$21.99	\$21.29	\$20.31	\$20.11	\$20.12	-8.5%
Operating Cost per Mile	\$5.44	\$6.87	\$7.83	\$7.03	\$7.25	33.4%
Passengers per Hour	2.6	2.8	2.9	2.9	3.0	18.4%
Passengers per Mile	0.2	0.3	0.4	0.3	0.4	45.7%
Average Fare per Passenger	\$1.91	\$2.11	\$2.14	\$2.29	\$2.22	16.4%
Farebox Recovery Ratio	8.68%	9.92%	10.56%	11.39%	11.04%	27.2%

Source: BCAG (For detailed notes, see Figure 3-13)

Overall, hourly costs for B-Line Paratransit fluctuated over the five-year review period, effectively increasing approximately 8% between FY 2008/09 and FY 2012/13. While operating costs per mile fell in FY 2011/12 after the expanded zonal system was established, this metric too increased 33.4% over the five-year review period.

Passenger productivity (passengers per hour) for B-Line Paratransit increased to a five-year high of 3.0 passengers per hour in FY 2012/13, largely due to growth in ridership that outpaced increases in vehicle service hours.

## Popular Destinations

As illustrated in Figures 3-82 through 3-84, the most frequented destinations in each of the three major B-Line Paratransit service areas are similar in nature, and indicate that the services are integral for people with disabilities. The data analyzed below are from the week of June 9 – June 15, 2013.

### Chico

The most frequent B-Line Paratransit trip pairs in Chico are shown in Figure 3-82. The most frequented destinations include the Work Training Center, the Peg Taylor Center for Adult Day Health Care, La Hacienda Restaurant, and a cluster of health care offices on East Avenue near the Marigold Elementary School. The preponderance of Paratransit trips to healthcare and senior facilities indicates that there is clearly transit demand to these locations, especially among seniors.

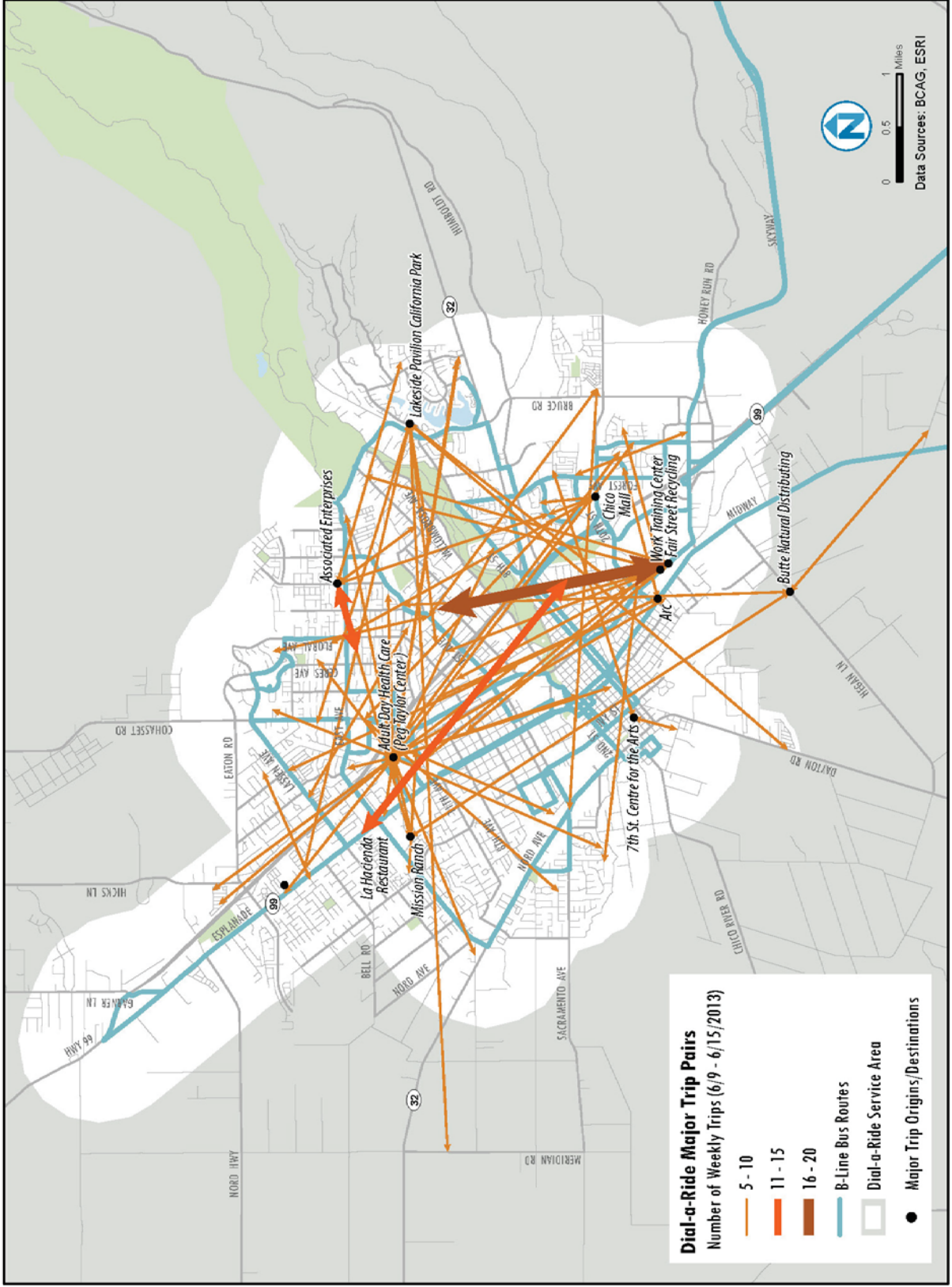
### Oroville

As shown in Figure 3-83, the most frequented destinations in Oroville are primarily social service facilities and assisted living or residential care facilities. These include several Work Training Center facilities, including the Feather River Opportunity Center in South Oroville.

## **Paradise**

As in Chico and Oroville, the most frequented destinations in Paradise include facilities and locations that cater to people with disabilities; the highest frequency of trips is between the Creative Learning Center and a local assisted living/residential care facility. As shown in Figure 3-84, other popular destinations include the Feather River Hospital (served by fixed route Route 46) and Paradise Adult Services, a mental health clinic.

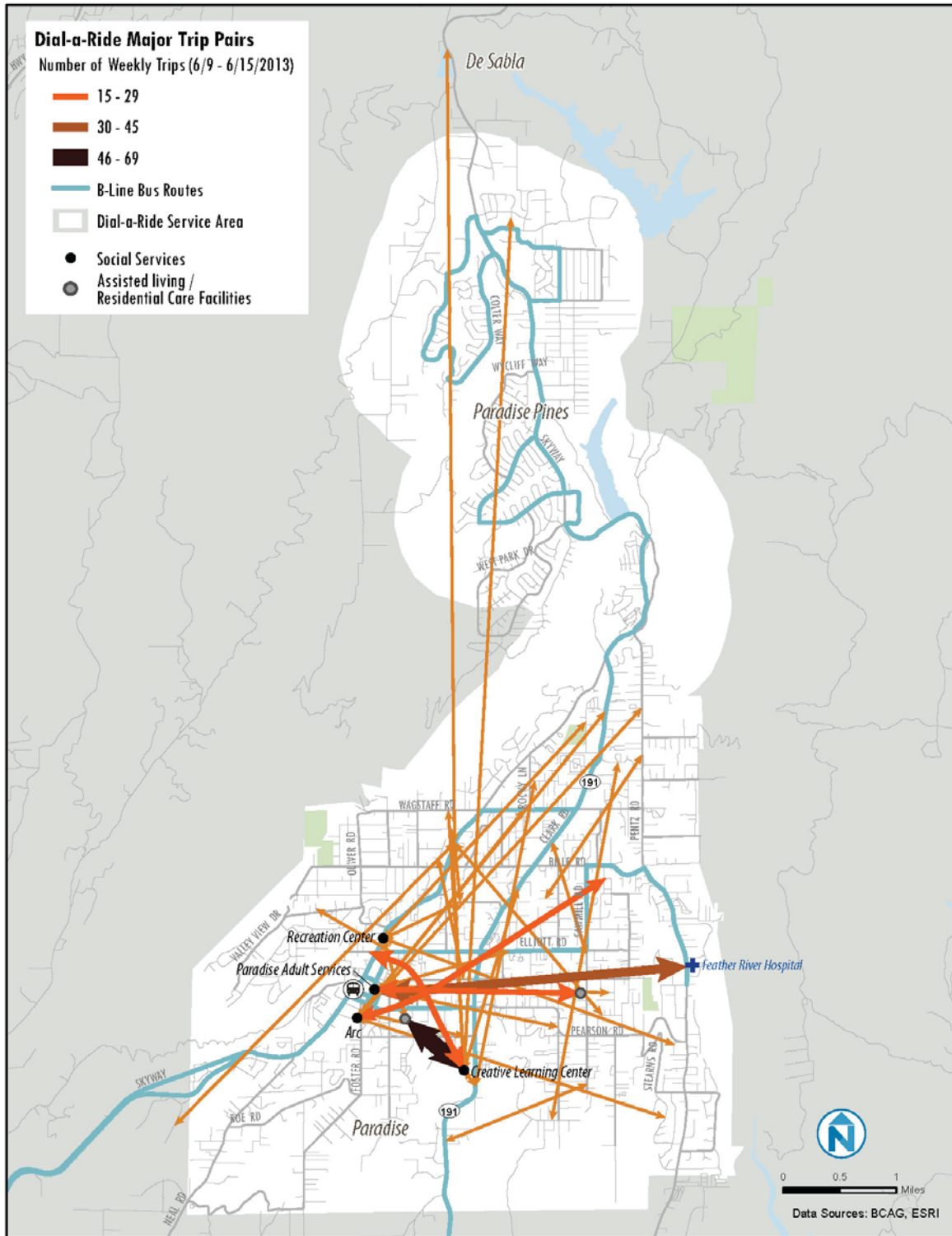
Figure 3-82 B-Line Paratransit Origin-Destination Patterns – Chico





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Figure 3-84 B-Line Paratransit Origin-Destination Patterns – Paradise



## OTHER TRANSIT SERVICES

### Amtrak

Amtrak is the brand name for intercity rail service operated by the National Railroad Passenger Corporation, an entity owned by the federal government. Chico is served by the long-distance *Coast Starlight* route, which runs daily both ways between Los Angeles and Seattle, Washington. (Continuing service to additional destinations is available either through connecting trains or Amtrak Thruway Motorcoach services.) Both daily trips stop in Chico in the early morning, with the southbound train scheduled at 3:50am and the northbound run at 1:47am.

In California, some service is subsidized by the state, managed by the California Department of Transportation's (Caltrans) Division of Rail, and branded as Amtrak California. This service includes the *San Joaquin* line running south-to-north through the Central Valley from Bakersfield to Stockton, where the route splits into Sacramento and Oakland branches, and the *Capitol Corridor* line, which links San Jose and Auburn. Even though these train routes do not serve Chico directly, Amtrak offers Thruway Motorcoach services to and from Chico as a connecting service. Amtrak Thruway Motorcoach Route 3 provides four buses daily between Redding, Sacramento, and Stockton with Chico among seven intermediate stops. Four buses – two in the morning and two in the evening - leave Chico to southbound destinations while four buses arrive in Chico between noon and 7:30pm. All Thruway bus passengers must also be booked on a *Capitol Corridor* or *San Joaquin* train as California state law prohibits the separate sale of Thruway bus tickets.

The Chico Amtrak station is located at 450 Orange Street, in the South Campus neighborhood of Chico, approximately one-half mile from the Chico Transit Center. The station consists of a platform only and there are no ticket sales at this location.

While the utility of Amtrak's Coast Starlight train service for those living and/or working in Chico is limited primarily due to the infrequency of train service and the very early morning arrival/departure times, the Thruway bus service is more useful in that it offers travel to major regional destinations at more convenient times (by way of connecting rail services).

Fares to/from Chico vary according to both distance and time of day. One-way adult fares to regional destinations range from \$20 (to or from Sacramento) to ~\$50 (to or from Oakland or San Francisco). Roughly half-off discounted fares are available for children between ages 2 and 15. Infants may travel for free.

### Greyhound

Greyhound is a privately owned, nationwide bus operator serving more than 100 destinations in California. The lowest cost fare for a one-way ticket without advance purchase (web-only, nonrefundable) from Chico to Marysville is \$14.40. The price of a one-way ticket to Sacramento is \$21.60.

The Chico Greyhound Station is located at the Chico Amtrak depot, at 450 Orange Street.

### Butte College Shuttles

Butte College is a community college in the Butte – Glenn Community College District and is located in Oroville with satellite campuses located in Chico and Orland. In Spring 2012, there were approximately 13,000 students enrolled. As a commuter campus, Butte College promotes

several alternatives to driving alone, including providing preferential carpool parking on campus, and an online ride-sharing program (“ZIMRIDE”). Butte College also has the largest community college bus system in California with several regional routes serving destinations around the county.

In particular, at its peak (i.e., Monday through Friday during the Spring and Fall sessions) the service includes five routes serving Chico, two routes to Oroville, one route to Paradise, and more limited service to Biggs, Gridley, and Palermo as well as Durham. On Fridays, Butte College offers express routes to the main campus, with one line each serving Oroville, Paradise, Biggs, Gridley, & Palermo, and Durham, and two routes serving Chico.

The bus service is free to current students only who are required to show a current and valid Butte College student ID before boarding. Small children must be accompanied by an adult and have proof of enrollment at the Child Development Center.

## **Gridley Golden Feather Flyer**

The City of Gridley offers Dial-A-Ride taxi services within Gridley. The service is restricted to seniors and a one-way fare costs \$2.00.

## **Glenn County Transit**

### **Glenn Ride**

The Glenn County Department of Planning & Public Works operates Glenn Ride, which provides daily bus service from Willows to Chico with several Glenn County destinations in between, including Grove, Artois, Orland, and Hamilton City. Glenn Ride offers seven round trips on weekdays and three round trips on Saturday. All buses are equipped with accessible lifts and bicycle racks. One-way fares for trips within Glenn County are \$1.50 with out-of-county trips costing \$2.00. 30-Day passes are available for \$45.00. Children 6 and under may ride for free with a paying adult 18 years and older.

### **Glenn Trans Dial-a-Ride**

In addition to Glenn Ride fixed route services, Glenn County offers Glenn Trans Dial-a-Ride service for seniors and those who are unable to use Glenn Ride in the Orland and Willows areas. Services are restricted to within a 1.5 mile radius of the city halls of Orland and Willows.

## **Plumas Transit Systems**

Plumas Transit Systems provides fixed route and dial-a-ride service primarily within Plumas County. The system offers round-trip service between Quincy and Chico Transit Center every Wednesday. One-way passes are \$12.00 (fares are lower if the bus is taken from stops closer to Chico) and 10-ride punch passes (10 rides to/from Quincy) are available for \$90. Half-fare is available to seniors, children under 16, and persons with disabilities.

## **Craig Hall Shuttle (CSU)**

Craig Student Living offers dormitory and apartment living options for CSU and Butte College students. The complex is located four blocks from Chico State University and offers a free shuttle (The “C-Shuttle”) for residents and guests to and from campus.

## **Feather River Hospital & Hospice**

Feather River Hospital, located in Paradise, offers a volunteer-run program for Paradise and Magalia residents who need transportation to and from medical appointments. Clients must be ambulatory and in stable medical condition to take advantage of this service.

## **Merit Medi Trans**

Merit Medi Trans offers a fee-based non-emergency medical transportation in a service area that covers all of Northern California from Sacramento to the Oregon state line, including Butte County. Service is offered to patients needing transportation to routine medical appointments and physical therapy sessions, and those requiring a Certified Nurse's Assistant to travel with them. Service is offered 24 hours a day by appointment.

## **Work Training Center**

The Work Training Center in Chico provides services to people with disabilities, and offers its own transportation services for those unable to use public transportation.

## **Public School Transportation**

Transportation for students is available in the following school districts:

- Chico Unified School District: Fee-based home-to-school transportation for eligible students living within the school district boundaries.
- Oroville City Elementary School District: Fee-based transportation for special needs students attending schools in Oroville.
- Oroville Union High School District: Fee-based transportation for all students within the Oroville School District; only those who live more than two miles from their assigned school are eligible.
- Paradise Unified School District: Fee-based transportation for students living within the school district boundaries and attending the school of their area of residence.

## **Shuttle Services**

Several other shuttle services are available for transportation both within Butte County and to/from regional airports. These include:

- North Valley Shuttle, which provides scheduled service between Chico, Paradise, and Oroville and the Sacramento International Airport from Monday through Saturday;
- Super Shuttle, for service between Chico and Sacramento International Airport; and
- Van Man Charters, for service between Chico and Paradise and the Sacramento Airport (as well as recreational trips).

## **Park-and-Ride Lots**

There are two park-and-ride lots in Butte County with a total of 103 parking spaces available. One lot is in Chico along Highway 32 at Fir Street on the east side of Highway 99, where 73 parking spaces and 8 bike lockers are available. The Chico Park-and-Ride lot is served by B-Line Routes 5



and 20. The other lot is located in Oroville at the northeast corner of Grand Avenue and Third Street, where 30 parking spaces are available. This lot is served by B-Line Route 20 on a limited basis.

## **CONCLUSIONS**

For a transit agency of its size, B-Line is performing very well in most respects. Most of its local Chico routes are popular, attracting a total of 4,261 boardings on the surveyed composite September weekday. Also on that day, intercity routes attracted nearly 1,300 riders and 345 people boarded Oroville local routes. Total observed fixed route boardings totaled 5,900 riders. There are still areas of concern, however, as intercity Routes 31 (Paradise – Oroville) and 32 (Gridley – Chico) attracted only 15 and 12 riders, respectively, on the surveyed weekday. Oroville local routes also attracted fewer riders than in Chico by several orders of magnitude.

Maintaining consistent on-time performance continues to be a challenge for several B-Line routes. In our analysis of data from Wednesday, September 25<sup>th</sup> (provided by B-Line staff), over 50% of B-Line fixed routes were found to be running over five minutes late at some point during the route. This issue was particularly problematic for through-routed buses, as in most cases (especially Routes 24 and 27 in Oroville) delays would cascade through both routes. There may be opportunities for route and/or schedule restructuring in Oroville to improve service effectiveness and performance.

To the extent that ridership patterns can be gleaned from boarding and alighting data, it appears that local students – not only those attending CSU– regularly use several routes, including Route 7 in Chico and Route 27 in Oroville. According to B-Line staff and other on-site feedback heard during the boarding and alighting survey, Parkview Elementary students (as well as students at other schools in the district) often take B-Line rather than school buses because public transit is a cheaper option.

Bus crowding at times presents an opportunity for considering new approaches to managing peak demand. In addition to the regular crowding on the 7am Route 41 run (acknowledged by B-Line with the addition of the 6:44am Route 40 Express run), according to B-Line staff during the survey effort CSU students have increasingly begun to take Route 5 to reach Wal-Mart and Chico Mall due to crowding on Route 15S.

Overall, B-Line's performance indicators are strong. Over the past five years, B-Line has exceeded TDA farebox recovery ratio requirements for both urban and rural services, and despite difficulties surrounding two route restructuring efforts in 2010 and 2011, ridership increased 6% from FY 2008/09 to FY 2012/13. Passenger productivity has remained relatively constant while hourly costs increased a modest 15% over the past five years. Paratransit services are also performing very well, with a farebox recovery ratio increase of 27.2% over the past five fiscal years. Changes to eligibility and an increase in the service area have resulted in Paratransit ridership increases, by nearly 40% in the past five years, which is of concern to BCAG. A July 2009 fare increase in addition to recent ridership gains also contributed to a 62.2% increase in Paratransit fare revenues from FY 2008/09 to FY 2012/13.

