Moorpark City Transit Evaluation

Final Report

May 2017

NELSON
NYGAARD

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1 EXECUTIVE SUMMARY

SERVICE OVERVIEW

As one of several municipal transit providers in Ventura County, Moorpark City Transit provides fixed-route and Senior Dial-A-Ride services within its city limits. The Ventura County Transportation Commission provides intercity bus service between Moorpark, Simi Valley, Thousand Oaks, and other communities and destinations within the county. Moorpark Station is served by the 70-mile Metrolink Ventura Line, which operates between East Ventura and Los Angeles Union Station. Paratransit service within Moorpark and adjacent communities is available to passengers with disabilities.

In 2013, the City of Moorpark increased weekday service and added Saturday service as part of a demonstration project funded in large part by the Federal Congestion Management and Air Quality (CMAQ) program. Despite the City's best efforts to increase the attractiveness and availability of transit, the demonstration service underperformed in terms of ridership, indicating potential issues with the overall design of MCT service. In 2015, weekday and Saturday service levels were reduced, and in August 2016, the City ended the demonstration service.

PLAN PURPOSE AND PROCESS

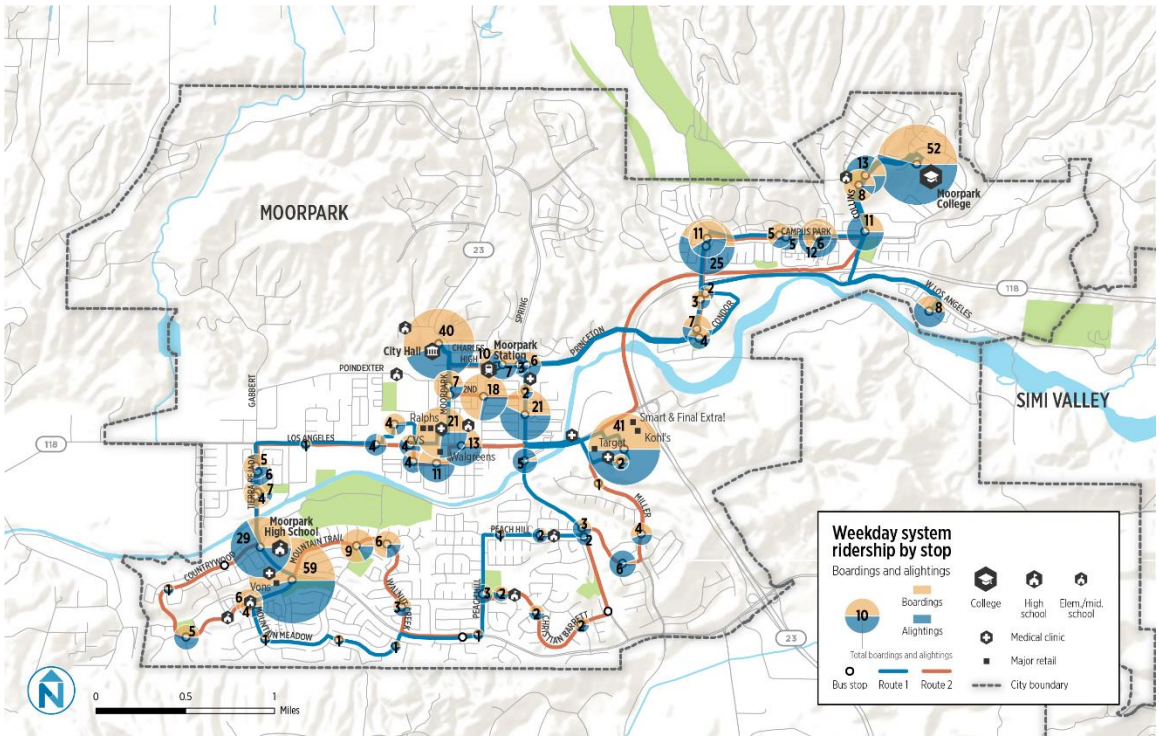
In recent years, the City of Moorpark has struggled to meet the State of California Transportation Development Act (TDA) farebox recovery (fare revenue to operating cost ratio) requirements. Failure to meet TDA farebox recovery requirements could result in a loss of state funding.

As a result, the City of Moorpark contracted with Nelson\Nygaard in April 2016 to evaluate its transit service and provide recommendations to improve the efficiency and financial sustainability of the system. The Moorpark City Transit Study included a comprehensive service evaluation, rider outreach and City Council presentation.

COMPREHENSIVE SERVICE AND MARKET EVALUATION

A comprehensive evaluation of existing service and market conditions was conducted in order to identify strengths, weaknesses, and opportunities for improved service. Boarding and alighting data for each bus stop was evaluated to measure existing ridership activity, as depicted in Figure 1. Arrival time data was reviewed to evaluate schedule reliability by time of day. Demographic, socio-economic and employment characteristics were analyzed to identify residential areas and workplaces with the highest demand for transit. The consultant team also conducted an on-board survey to understand rider characteristics. The service evaluation process also included an extensive field review.

Figure 1 Weekday System-wide Ridership Activity by Stop



Moorpark City Transit operates two loop alternating (clockwise and counter-clockwise) routes that share several corridors and provide convenient access to most educational, employment, retail and recreational destinations across the city. Major ridership destinations include:

- Moorpark High School
- Moorpark College
- Moorpark Marketplace (Target and Smart & Final Extra!)
- Moorpark Civic Center (Moorpark City Hall, City Library and Active Adult Center)

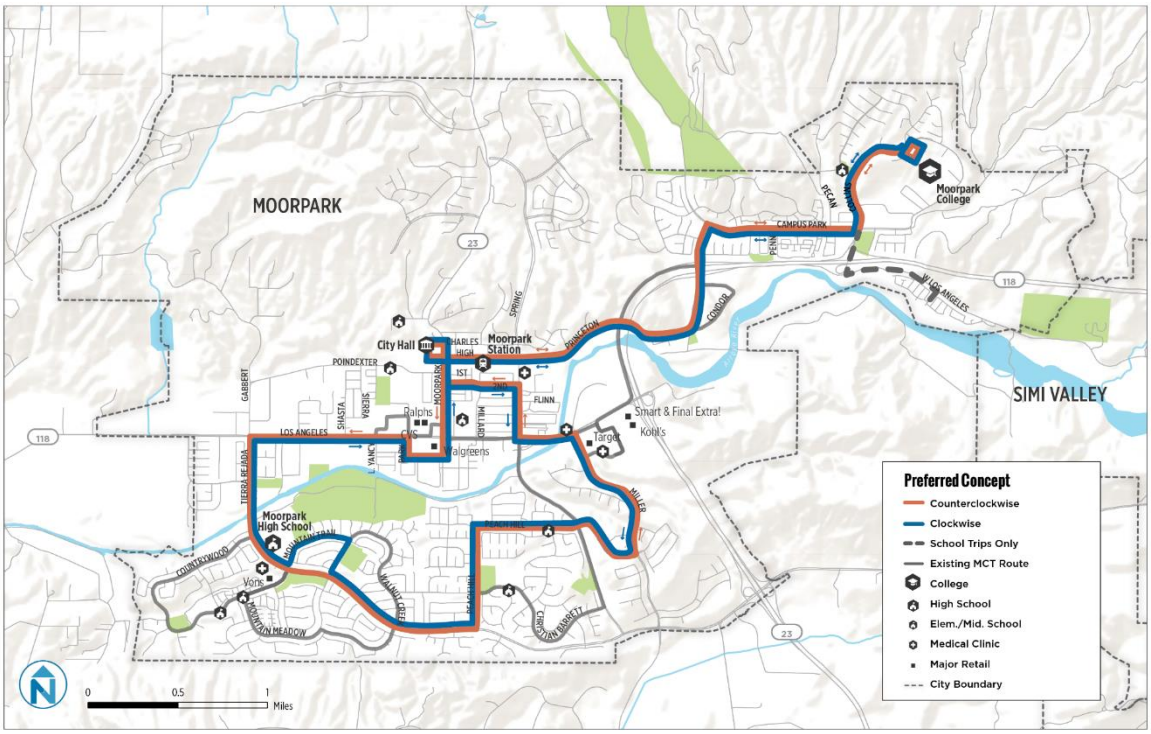
Approximately 70% of Moorpark residents live within ¼ mile of a bus stop and approximately 90% of Moorpark residents live within ½ mile of a bus stop. Despite the extensive coverage provided by Moorpark City Transit, the current route and schedule design results in several challenges for riders, most notably:

- Lack of bi-directional service throughout much of South Moorpark
- Long travel times due to indirect routing and deviations
- Inconsistent headways due to mid-route operator breaks on select trips
- Extended midday schedule gaps for select stops
- Poor connectivity with VCTC Intercity East County route

SERVICE CONCEPT DEVELOPMENT

Service and market evaluation findings were used to develop initial service concepts. Conceptual routes and schedules were shared with riders on-board buses to obtain feedback. During this process, members of the consultant team discussed the benefits and drawbacks of each scenario and answered specific questions. Rider input was subsequently used to develop a preferred service concept, depicted in Figure 2.

Figure 2 Preferred Service Concept



The recommended preferred service concept seeks to address existing challenges and in doing so, simplify Moorpark City Transit service for existing and potential riders. Specific advantages of the preferred service concept include:

- Increased bi-directional service on arterial and collector streets
- Reduced service on neighborhood streets with low ridership
- Consistent 60-minute service on both routes throughout the day
- Combined 30-minute service to/from Moorpark College
- An increase in daily trips from 20 to 22

Service simplification has proven to increase ridership over time in similar-sized transit systems. Increased ridership would improve the City's farebox revenue recovery rate and potentially allow for the reinstatement of evening service in the future.

The ability to improve connections with the VCTC Intercity East County route is dependent on both VCTC and Moorpark City Transit implementing schedule improvements and coordinating departures at Moorpark College.

MARKETING RECOMMENDATIONS

Several marketing strategies are recommended to improve information for existing and potential riders, including:

- Improved bus stop signage
- A user-friendly stand-alone website
- Google Transit implementation

Bus and shelter advertising should also be explored as a way to supplement farebox revenue and ensure that Moorpark City Transit meets TDA farebox recovery requirements.

2 EXISTING SERVICE

MCT FIXED ROUTE SERVICE OVERVIEW

Moorpark City Transit (MCT) is the local fixed-route service administered by the City of Moorpark Public Transit Division. MCT operates two routes on weekdays and one route on Saturday within Moorpark city limits. Services are contracted with Thousand Oaks Transit and operated by MV Transportation. Route characteristics are summarized in Figure 3.

Figure 3 Frequency and Span of MCT Routes

Route	Days of Service	Direction	Span	Frequency
Route 1	Monday-Friday	Counterclockwise	7:00 a.m. – 6:32 p.m.	46 - 77 Minutes
Route 2	Monday-Friday	Clockwise	5:00 a.m. – 8:00 p.m.	60 - 72 Minutes
Saturday	Saturday	East/West	8:00 a.m. – 4:52 p.m.	60 Minutes

Weekday Service

On weekdays, MCT is comprised of two routes that operate as large one-way loops covering most developed areas of the city. Routes are numbered (Route 1 and Route 2) and operate similar alignments in opposite directions. Each route serves a different set of deviations to provide additional coverage. Each route departs the Moorpark Civic Center roughly every hour. Each route has a layover of 5-8 minutes at the Civic Center to provide the bus driver with a short break. Certain trips on each route also have a mid-route layover at Moorpark Marketplace for 11-12 minutes. Route 2 is approximately 4 minutes longer than Route 1 in terms of round-trip cycle time. As a result, timed connections between the two routes are not possible. Routes 1 and 2 pass each other at different points along their alignments throughout the day.

Route 1 departs from Moorpark Civic Center and travels in a counterclockwise loop. Destinations served only by Route 1 include Moorpark Town Center, and Mission Bell Plaza. Residential areas served only by Route 1 include Mountain Meadows Drive, Walnut Creek Road, Peach Hill Road, and Villa del Arroyo Mobile Home Park. Villa del Arroyo Mobile Home Park is a scheduled stop on four trips and a flag stop on five trips, meaning that operators will only serve the stop if requested by riders on board the bus. As a result, riders waiting for the bus on designated flag stop trips will not be picked up if another rider does not request to be let off at the stop. Route 1 also allows riders to request a flag stop within the industrial/warehouse area north of Los Angeles Avenue (Goldman Avenue, Bonsai Avenue, Hertz Street, and Maureen Lane).

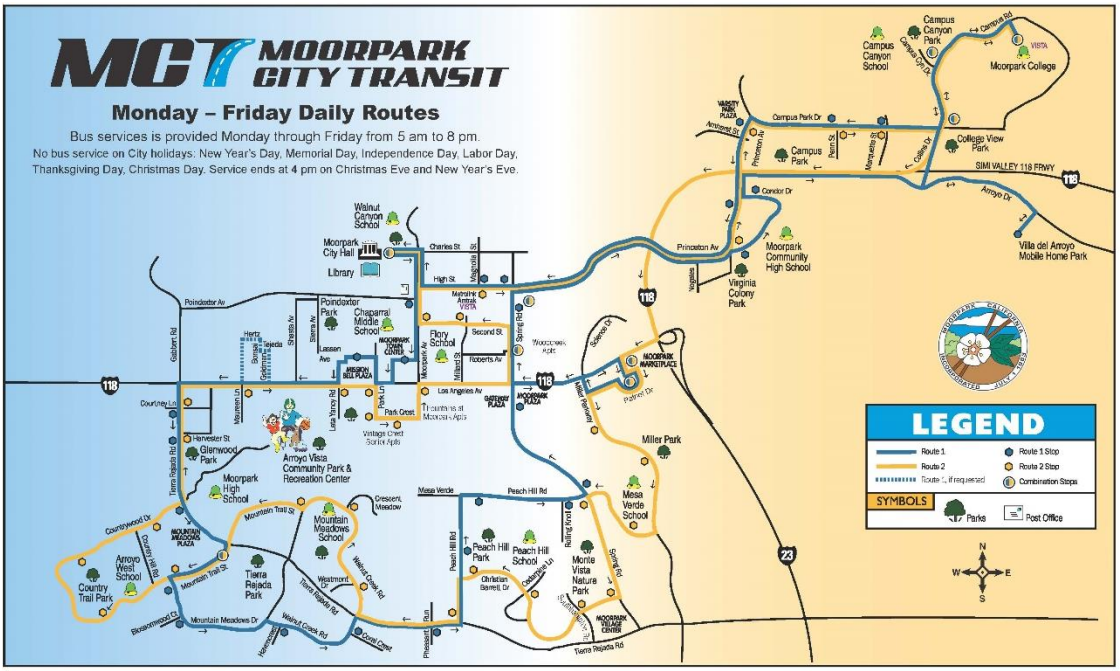
Route 2 departs from Moorpark City Hall and operates in a clockwise loop. Destinations served only by Route 2 include Mesa Verde School and Moorpark Village Center. Residential areas served only by Route 2 include Miller Parkway, Countrywood Drive, Vintage Crest Senior

Apartments, Waterstone at Moorpark Apartments, The Ranch at Moorpark Apartments, and Second Street between Spring Road and Moorpark Avenue.

Together, Routes 1 and 2 provide bi-directional service on segments of Moorpark Avenue, Los Angeles Avenue, Princeton Avenue, Tierra Rejada Road, Mountain Trail Street, Campus Park Drive, and High Street. Destinations served by both routes include the Civic Center complex (City Hall, City Library, Active Adult Center), Moorpark Metrolink Station, Moorpark Marketplace, Varsity Park Plaza, Moorpark High School and Moorpark College.

While Routes 1 and 2 provide extensive coverage across the City of Moorpark, the convoluted route alignments, unique deviations, and flag stops result in an inconsistent service that is difficult for riders to understand. Riders are further inconvenienced by the infrequent headways on most trips and extended mid-route layovers at Moorpark Marketplace.

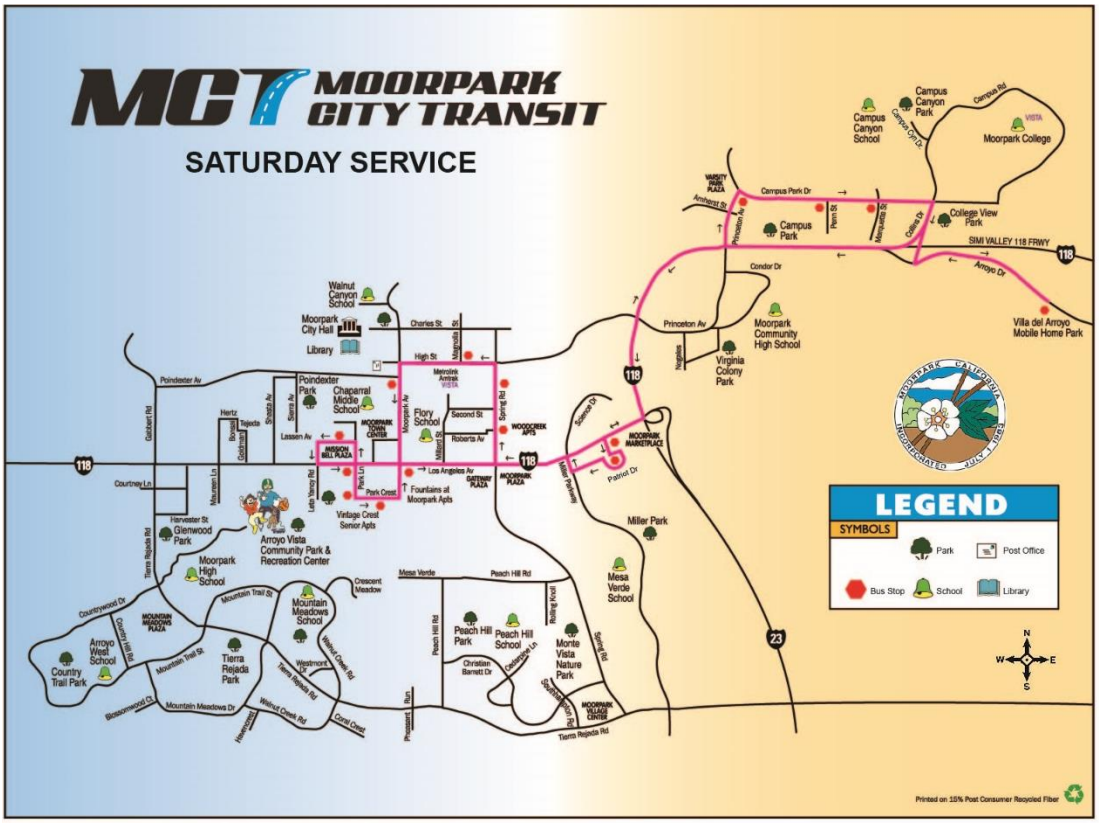
Figure 4 MCT Weekday Service Map (Routes 1 & 2)



Saturday Service

Saturday service operates an alignment that is partly bi-directional with several loops, shown in Figure 5. Service departs from the Moorpark Marketplace on the hour between 8:00 a.m. and 4:00 p.m. and operates via Patriot Drive, Los Angeles Avenue, Spring Road, High Street, Moorpark Avenue, loops around Mission Bell Plaza, deviates via Park Lane and Park Crest to serve the Vintage Crest Apartments. Saturday service then continues east to Hwy 118 and Princeton Avenue, serves Campus Park Drive and Arroyo Drive to the Villa Del Arroyo Mobile Home Park, and returns to Moorpark Marketplace via Highway 118. Saturday service covers a smaller area than weekday service, focusing on commercial areas rather than schools.

Figure 5 MCT Saturday Service Map



Since August 2013, MCT has been operating additional service funded by a Federal Congestion Mitigation and Air Quality (CMAQ) demonstration grant. The demonstration project includes early morning and evening service on Route 2 (5:00 a.m., 4:49 p.m., 6:03 p.m., and 7:04 p.m. trips) and all Saturday service. Between August 2013 and August 2015 early morning and evening service was also provided on Route 1 (three trips) but was discontinued. Saturday service and the aforementioned Route 2 trips were discontinued in August 2016.

OTHER TRANSIT SERVICES IN MOORPARK

Between mid-June and mid-August City of Moorpark operates a Beach Bus to Zuma on Tuesdays, Wednesdays, and Thursdays. The beach bus makes two outbound trips in the morning and two return trips in the afternoon and evening. There are five pickup/drop-off locations in Moorpark. Round trip fares are $5 for students/adults and $2 for seniors/disabled persons.

City of Moorpark provides Senior Dial-A-Ride service (DAR) and Disabled Paratransit to residents aged 65 and older and persons with a qualified disability regardless of age. Riders must apply to be eligible for the program, which is origin to destination service operating on weekdays between 6:00 a.m. and 6:00 p.m. Reservations for trips within Moorpark can be made same-day, at least 2 hours in advance, and cost $2.00 each way. Reservations for trips to Simi Valley, Thousand Oaks, Camarillo, Westlake Village, and Oak Park must be made at least one day in advance and cost $5.00 each way.

In addition to services operated by the City of Moorpark, Metrolink, Amtrak, Ventura County Transportation Commission (VCTC), and Thousand Oaks Transit provide regional bus and rail service in Moorpark.

VCTC operates several intercity bus routes, including the East County route, which connects Thousand Oaks, Moorpark, and Simi Valley. The East County route stops at Moorpark Station, Princeton Avenue & Campus Park Drive, and Moorpark College. Service operates roughly every hour in each direction on weekdays (5:50 a.m. – 7:45 p.m.) and Saturday (7:00 a.m. – 6:00 p.m.).

The Metrolink Ventura County Line provides commuter rail service to Downtown Los Angeles and Ventura, with eight trips per day serving Moorpark Station in each direction on weekdays. Trips are primarily in the peak with most morning trips in the eastbound direction and most afternoon trips in the westbound direction, though there is some reverse commute and midday service. Moorpark Station is also served by the Amtrak Pacific Surfliner, which connects north to San Luis Obispo and south San Diego. There are three trips in each direction per day.

Thousand Oaks Transit connects to Moorpark Station with the Metrolink Commuter Shuttle from the Thousand Oaks City Transportation Center. Trips are scheduled to meet three morning Metrolink trips and three afternoon Metrolink trips

FARES AND TRANSFERS

MCT one-way fare is $1.00 for adults and students and free for seniors and disabled persons. Customers can purchase books of 11 one-way tickets for $10, providing a 10% discount. In addition, MCT honors VCTC Red Single Ride “Agency” tickets provided to by social service agencies. Until July 2015 MCT also accepted Go Ventura smart cards, however the program was discontinued.

Metrolink ticket holders and VCTC Intercity ticket holders may transfer to MCT for free. MCT riders can transfer to the Metrolink Commuter Shuttle for $1.00 (regular fare is $2.50). Metrolink Commuter Shuttle riders can transfer to MCT for free.

As shown in Figure 6 the most common payment method is cash. MCT tickets and Go Ventura smart cards (discontinued as of July 2015) make up seven and six percent of fare payments, respectively.

In terms of fare category, most riders on all routes are adults or students. Overall, seniors, disabled persons, and children make up 17% of riders. On Saturdays a greater share of riders were seniors and disabled persons (17%) and children (11%) than on weekdays.

Figure 6 Fare Payment Type (FY 2015)

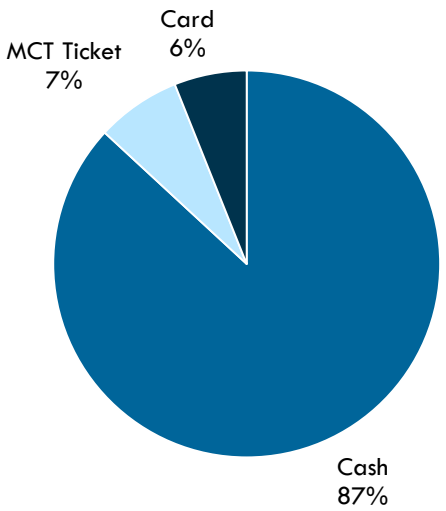
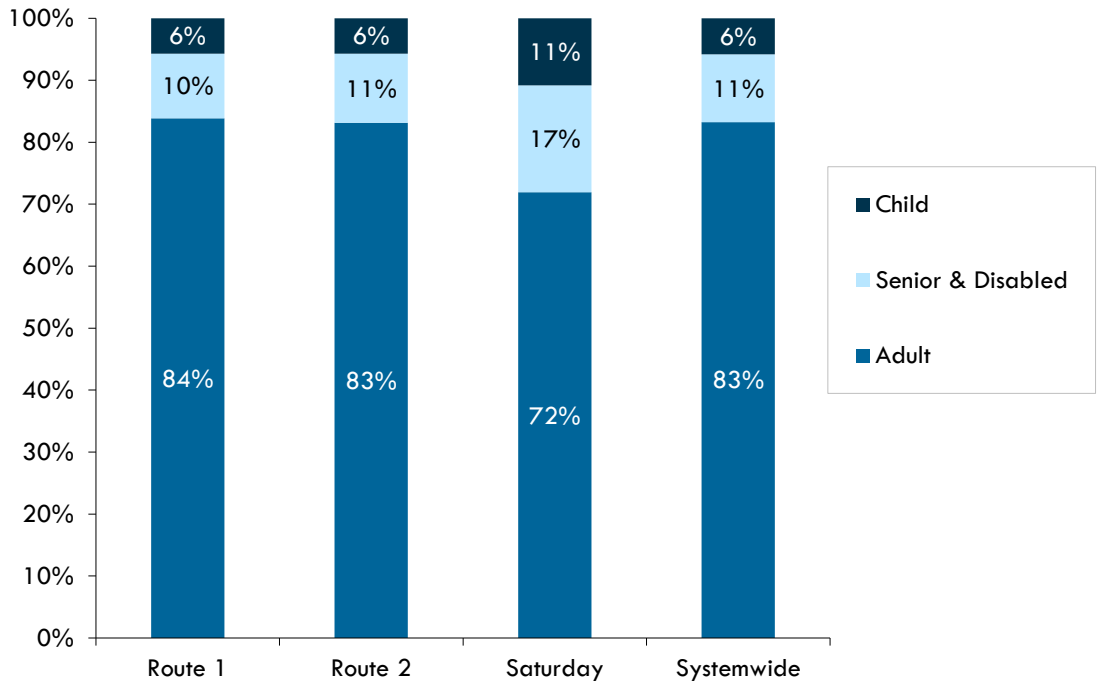


Figure 7 Rider Fare Category by Route (FY 2015)



PERFORMANCE CHARACTERISTICS

Data used in this section is from Fiscal Year 2015 and includes the demonstration grant service on Route 1, which provided early morning, and evening service (discontinued in August 2015). Route 2 is more productive than Route 1, carrying one more passenger per revenue hour on average as shown in Figure 8. Saturday service carries 3.2 passengers per hour.

Ridership on Routes 1 and 2 follow a similar pattern throughout the year, shown in Figure 9. Ridership is highest in September and October, which can be explained in part by the lack of holidays and thus more days of service. In addition, the pattern may indicate that new students try out MCT service at the beginning of the school year but opt to use other modes after several months. Ridership is lowest in July and December, most likely due to student ridership, which is reduced during school breaks.

Figure 8 Service Characteristics by Route (FY 2015)

Route	Average Daily Boardings	Daily Revenue Hours	Productivity
Route 1	128	15.0	8.6
Route 2	144	15.0	9.6
Saturday	27	8.4	3.2

Figure 9 Weekday Ridership by Route by Month (FY 2015)

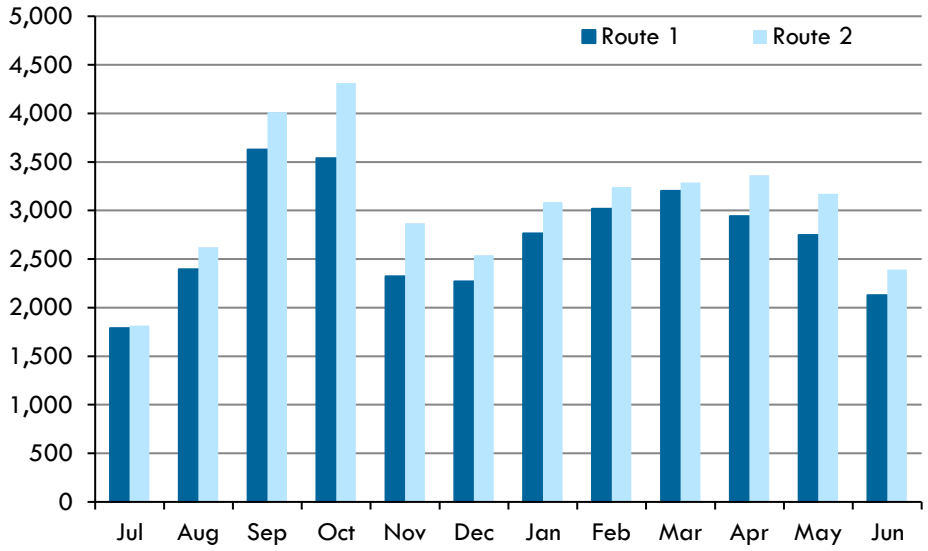
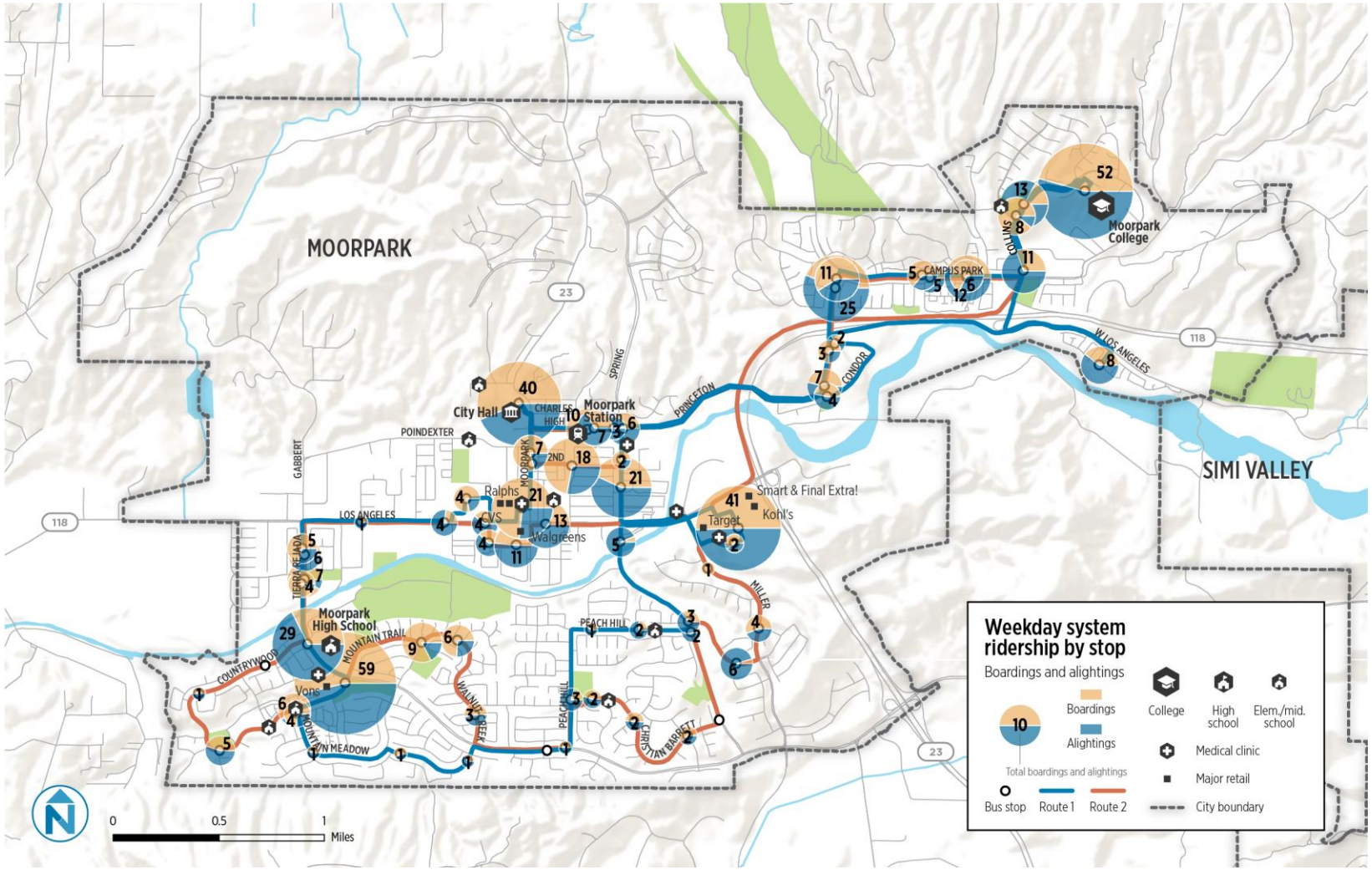


Figure 10 Weekday System-wide Ridership Activity by Stop



HISTORICAL TRENDS

Between 2011 and 2015 annual ridership increased by 9% while annual revenue hours increased by 43%, as shown in Figure 12. This led to an overall decrease in system productivity from 11.1 passengers per hour to 8.8 passengers per hour. The demonstration project, which added Saturday service and early morning and evening weekday service in FY 2014 increased revenue hours, but did not operate as productively as existing service. This is not surprising given that the demonstration service operated outside the hours of peak demand. Farebox revenue increased by 14% over the 5 year period, however farebox recovery was cut in half due to increases in operating costs.

The 130% increase in operating cost is driven by MCT's contracted cost per hour. The various rates that have been contracted over the 5-year period are shown in Figure 11. The operating cost per passenger more than doubled, in part due to the increased cost per hour, as well as the decrease in productivity.

Figure 11 Contracted Cost per Hour between FY 2011 and FY 2015

Month Year	Contracted Hourly Rate
Jul 2010	$33.77
Oct 2010	$31.52
May 2011	$28.37
Aug 2012	$43.18
Aug 2013	$43.81
Jul 2014	$51.00

Figure 12 Historical Operating Trends

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2011-FY 2015
Operating Data						
Ridership	65,033	66,480	61,922	68,178	70,874	9%
Revenue Hours	5,676	5,654	5,588	7,874	8,089	43%
Operating Costs	$179,145	$160,404	$234,448	$348,434	$412,518	130%
Farebox Revenue*	$55,619	$61,869	$56,260	$62,571	$63,221	14%
Performance Indicators						
Cost Effectiveness						
Operating Cost per Passenger	$2.75	$2.41	$3.79	$5.11	$5.82	111%
Farebox Recovery Ratio	31%	39%	24%	18%	15%	-51%
Service Efficiency						
Passengers per Revenue Hour	11.5	11.8	11.1	8.7	8.8	-24%

*Note: Farebox includes off-board MCT pass sales and debit from VCTC

ROUTE PROFILES

This section contains a detailed review of the operating characteristics of each of MCTs routes. Stop-level ridership and schedule adherence data was collected on all trips between April 25 and May 7, 2016 and was averaged to create a representation of typical daily performance.

Route 1

As of August 2015, Route 1 no longer operates early morning and evening service. Thus, data presented in this section does not include the three trips that were discontinued. Please note that these trips were included in the Fiscal Year 2015 data summarized in previous sections of this document.

Ridership by Trip and Stop

Route 1 carries on average 125 daily boardings and 12 passengers per service hour. As shown in Figure 13, ridership is highest in the morning and afternoon, likely corresponding to school bell times. Ralph's grocery store has the most boardings on Route 1 while the stop at Tierra Rejada & Countrywood (serving Moorpark High) has the most alightings (shown in Figure 14). Ridership is low along Mountain Meadows Drive and Walnut Road, with one or fewer boardings per day at each stop.

Route 1	
Daily Boardings	125
Service Hours	10.4
Boardings per Hour	12.0
On-Time Percentage	95%

On-Time Performance

As shown in Figure 16, Route 1 arrives on time at all major stops on most trips. Two early arrivals were observed at Civic Center. The 12:27 p.m. arrival at Moorpark College arrived late on average (more than 5 minutes after the scheduled arrival time).

Figure 13 Route 1 Weekday Ridership and Max Load by Trip

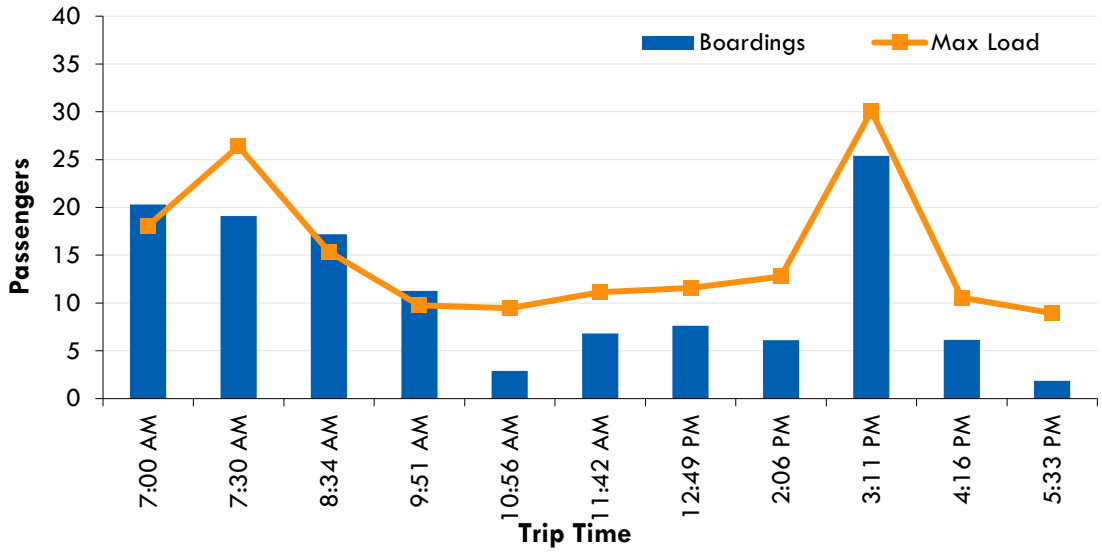


Figure 14 Route 1 Weekday Boardings and Alightings by Stop

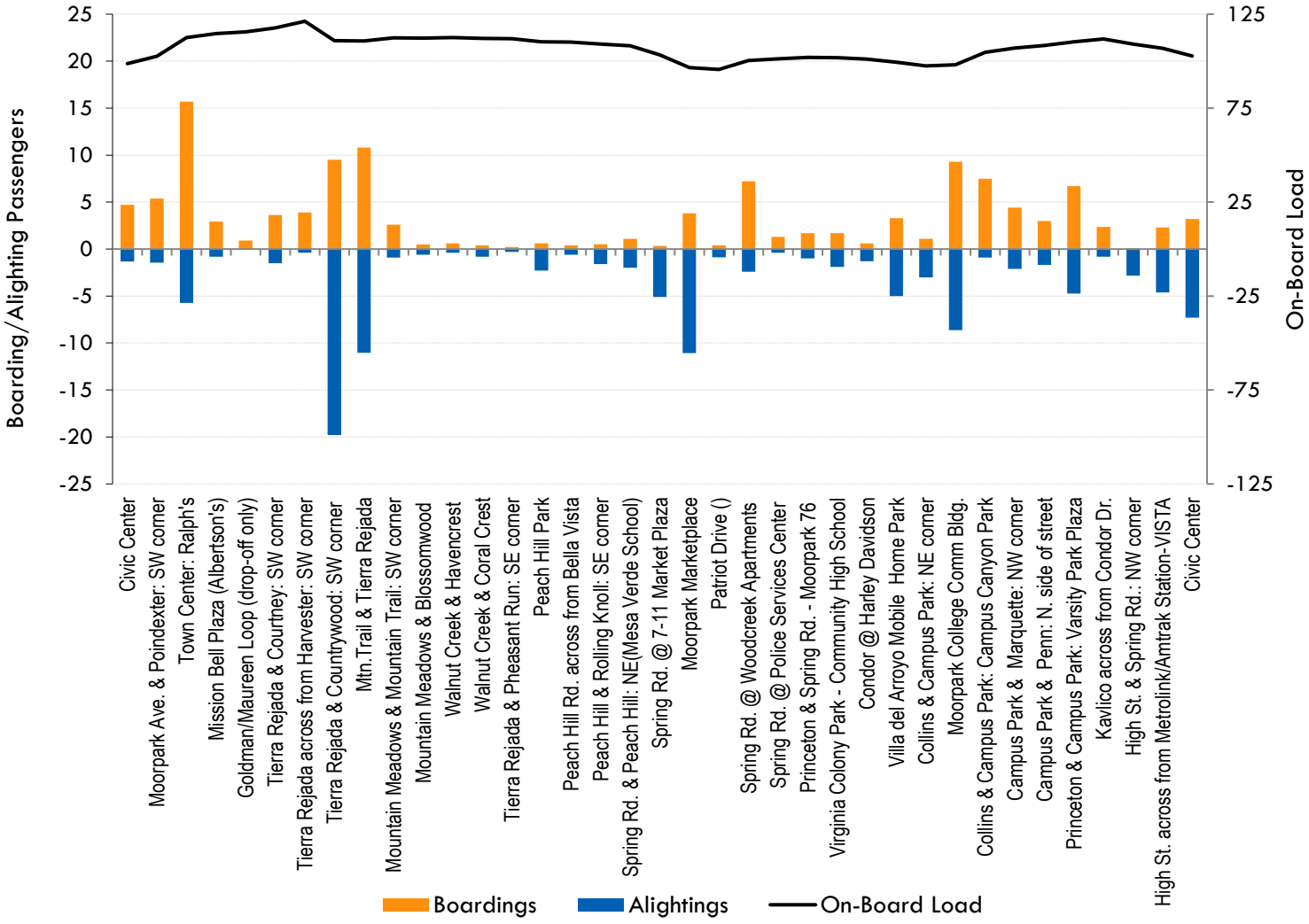


Figure 15 Route 1 Weekday Ridership Activity by Stop

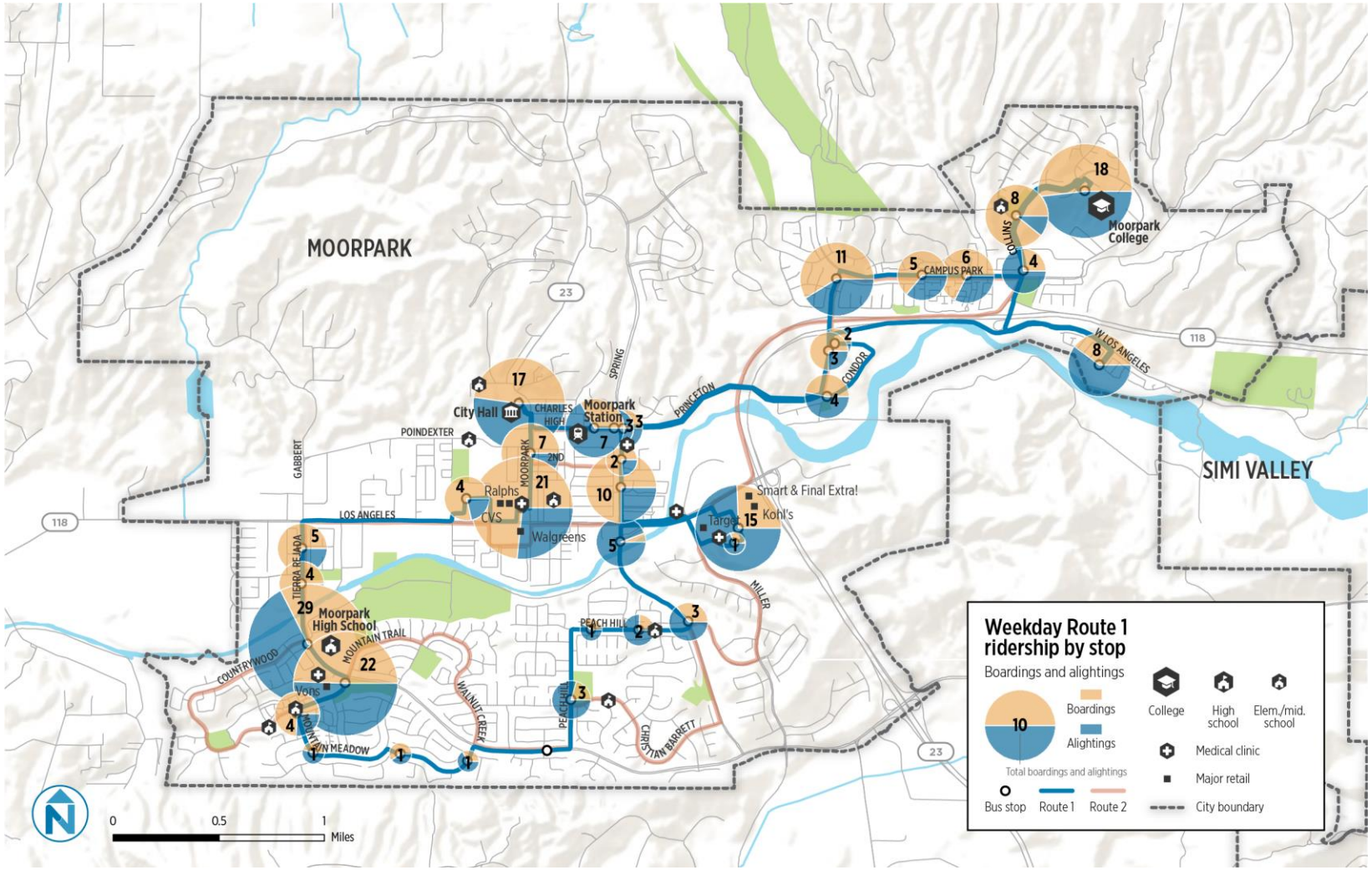


Figure 16 Route 1 Weekday Schedule Adherence at Major Stops

Civic Center		Mtn.Trail & Tierra Rejada		Peach Hill Park		Moorpark Marketplace		Moorpark College Comm Bldg.		Civic Center	
Scheduled	Status	Scheduled	Status	Scheduled	Status	Scheduled	Status	Scheduled	Status	Scheduled	Status
						7:00 AM	On Time	7:14 AM	On Time	7:28 AM	On Time
7:30 AM	On Time	7:42 AM	On Time	7:48 AM	On Time	7:56 AM	On Time	8:15 AM	On Time	8:29 AM	On Time
8:34 AM	On Time	8:46 AM	On Time	8:52 AM	On Time	9:00 AM	On Time	9:29 AM	On Time	9:43 AM	On Time
9:51 AM	On Time	10:03 AM	On Time	10:09 AM	On Time	10:17 AM	On Time	10:34 AM	On Time	10:48 AM	Early
10:56 AM	On Time	11:08 AM	On Time	11:15 AM	On Time	11:22 AM	On Time	--	--	11:34 AM	On Time
11:42 AM	On Time	11:54 AM	On Time	12:00 PM	On Time	12:08 PM	On Time	12:27 PM	Late	12:41 PM	On Time
12:49 PM	On Time	1:01 PM	On Time	1:07 PM	On Time	1:15 PM	On Time	1:44 PM	On Time	1:58 PM	On Time
2:06 PM	On Time	2:18 PM	On Time	2:24 PM	On Time	2:32 PM	On Time	2:49 PM	On Time	3:03 PM	On Time
3:11 PM	On Time	3:23 PM	On Time	3:29 PM	On Time	3:37 PM	On Time	3:54 PM	On Time	4:08 PM	On Time
4:16 PM	On Time	4:28 PM	On Time	4:34 PM	On Time	4:42 PM	On Time	5:11 PM	On Time	5:25 PM	On Time
5:33 PM	On Time	5:45 PM	On Time	5:51 PM	On Time	5:59 PM	On Time	6:18 PM	On Time	6:32 PM	Early

Route 2

Ridership by Trip and Stop

Route 2	
Daily Boardings	171
Service Hours	13.7
Boardings per Hour	12.4
On-Time Percentage	97%

Route 2 carries 171 passengers per day and 12.4 passengers per hour on average. Ridership is highest on the 2:35 trip, likely corresponding with school bell times. Most trips have between 10 and 20 passengers, though ridership is lower on the first trip of the day and the last three trips of the day, as shown in Figure 17. The stops at Moorpark College and Mountain Trail & Tierra Rejada have the most ridership activity, as shown in Figure 18. Ridership between Mountain Meadows School and Moorpark Marketplace is low, with one or two daily boardings at each stop, mapped in Figure 19.

On-Time Performance

All but two trips arrived on-time at all major stops (Figure 20).

Figure 17 Route 2 Weekday Ridership and Max Load by Trip

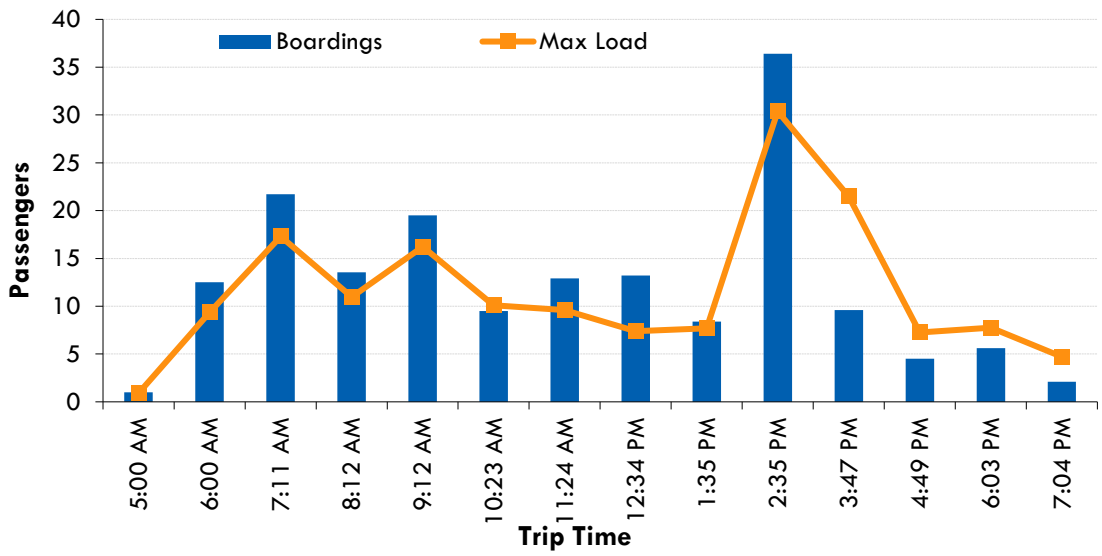


Figure 18 Route 2 Weekday Boardings and Alightings by Stop

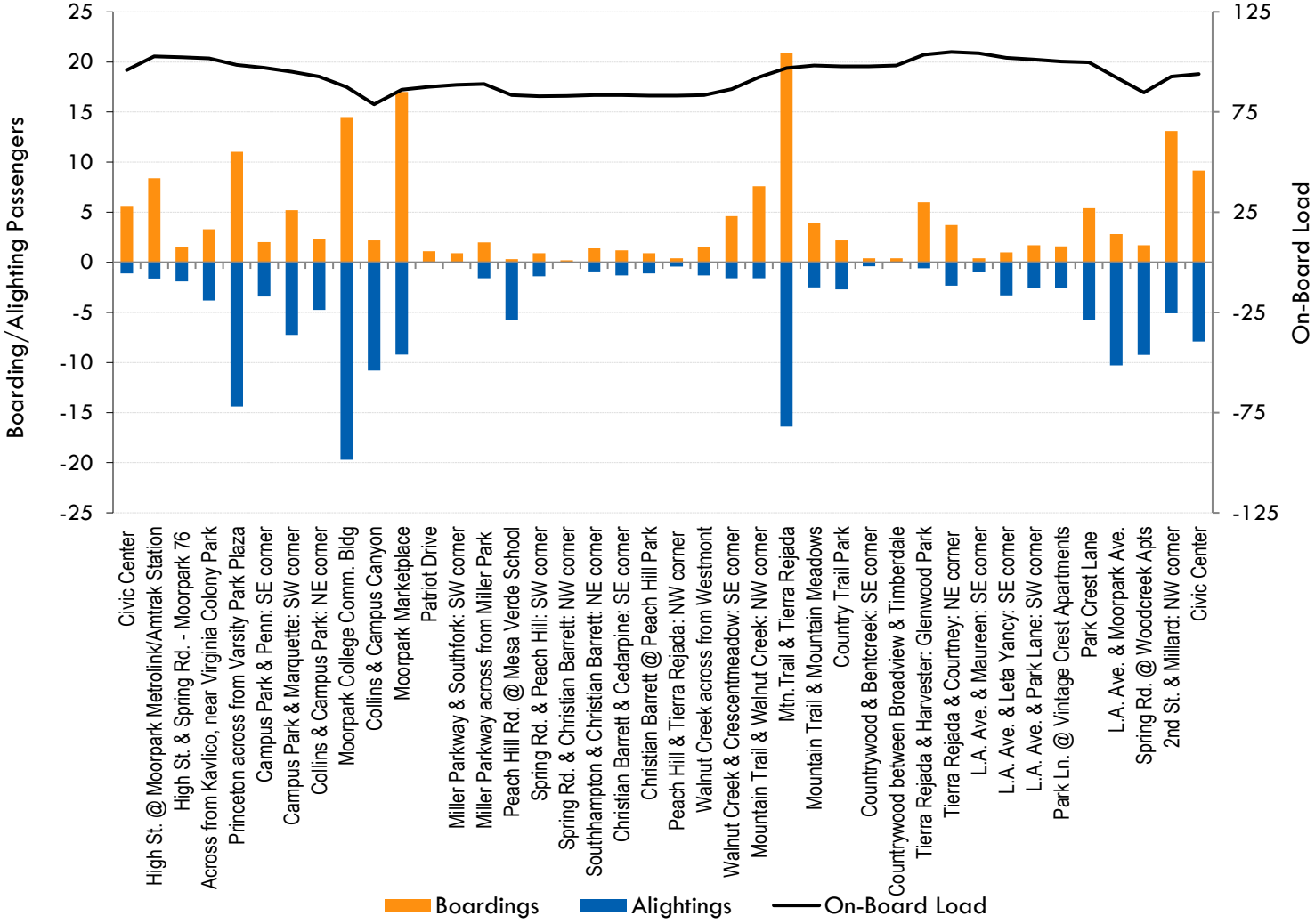


Figure 19 Route 2 Weekday Ridership Activity by Stop

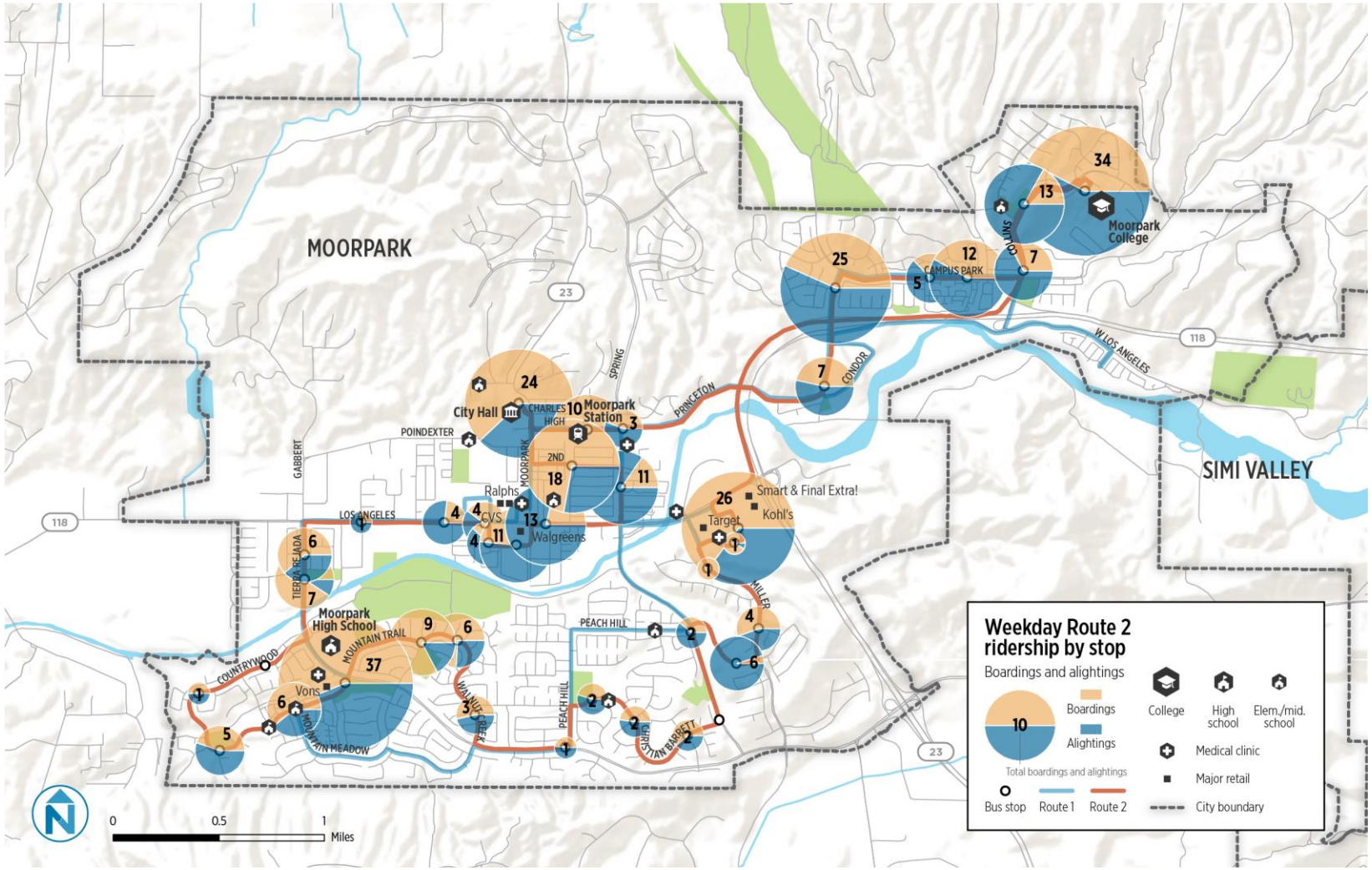


Figure 20 Route 2 Weekday Schedule Adherence at Major Stops

Civic Center		Moorpark College Comm. Bldg		Mtn.Trail & Tierra Rejada		Spring Rd. @ Woodcreek Apts		Civic Center	
Scheduled	Status	Scheduled	Status	Scheduled	Status	Scheduled	Status	Scheduled	Status
5:00 AM	On Time	5:12 AM	On Time	5:36 AM	On Time	5:49 AM	On Time	5:55 AM	On Time
6:00 AM	On Time	6:13 AM	Early	6:47 AM	On Time	7:00 AM	On Time	7:06 AM	On Time
7:11 AM	On Time	7:24 AM	On Time	7:48 AM	On Time	8:01 AM	On Time	8:07 AM	On Time
8:12 AM	On Time	8:24 AM	On Time	8:48 AM	On Time	9:01 AM	On Time	9:07 AM	On Time
9:12 AM	On Time	9:25 AM	On Time	9:59 AM	On Time	10:12 AM	On Time	10:18 AM	On Time
10:23 AM	On Time	10:36 AM	On Time	11:00 AM	On Time	11:13 AM	On Time	11:19 AM	On Time
11:24 AM	On Time	11:36 AM	On Time	12:00 PM	On Time	12:13 PM	On Time	12:19 PM	On Time
12:34 PM	On Time	12:47 PM	On Time	1:11 PM	On Time	1:26 PM	On Time	1:30 PM	On Time
1:35 PM	On Time	1:47 PM	On Time	2:11 PM	On Time	2:24 PM	On Time	2:30 PM	Late
2:35 PM	On Time	2:48 PM	On Time	3:22 PM	On Time	3:36 PM	On Time	3:42 PM	On Time
3:47 PM	On Time	3:59 PM	On Time	4:25 PM	On Time	4:38 PM	On Time	4:44 PM	On Time
4:49 PM	On Time	5:02 PM	On Time	5:39 PM	On Time	5:52 PM	On Time	5:58 PM	On Time
6:03 PM	On Time	6:15 PM	On Time	6:39 PM	On Time	6:52 PM	On Time	6:58 PM	On Time
7:04 PM	On Time	7:17 PM	On Time	7:41 PM	On Time	7:54 PM	On Time	8:00 PM	On Time

Saturday

Ridership by Trip and Stop

Saturday service carries 24 passengers per day and 3.2 passengers per service hour on average. The 11:00 a.m. and 3:00 p.m. trips have the most ridership, each with 5 boardings, shown in Figure 21. Moorpark Marketplace, Princeton & Varsity Park Plaza, and Mission Bell Plaza have the most ridership activity. Overall, this level of ridership activity may be better served by a demand responsive service. Saturday service was discontinued in August 2016.

Saturday	
Daily Boardings	24
Service Hours	7.4
Boardings per Hour	3.2
On-Time Percentage	85%

On-Time Performance

As shown in Figure 24 Saturday service arrives on-time at 85% of major stops. All other arrivals were early.

Figure 21 Saturday Ridership and Max Load by Trip

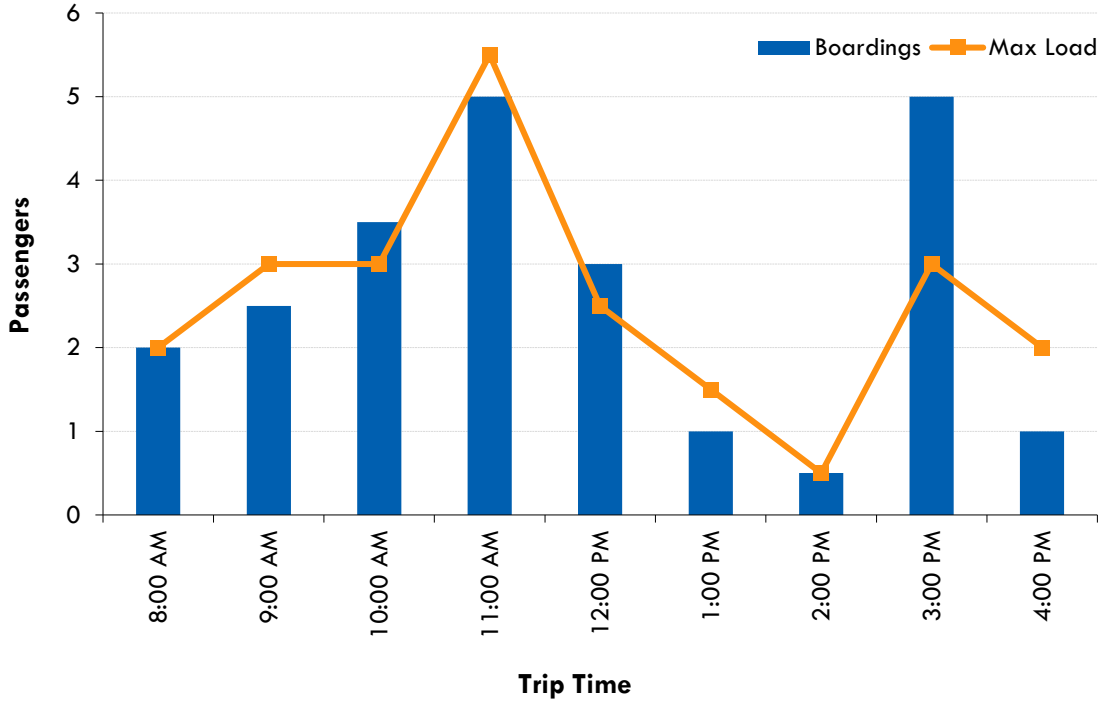


Figure 22 Saturday Boardings and Alightings by Stop

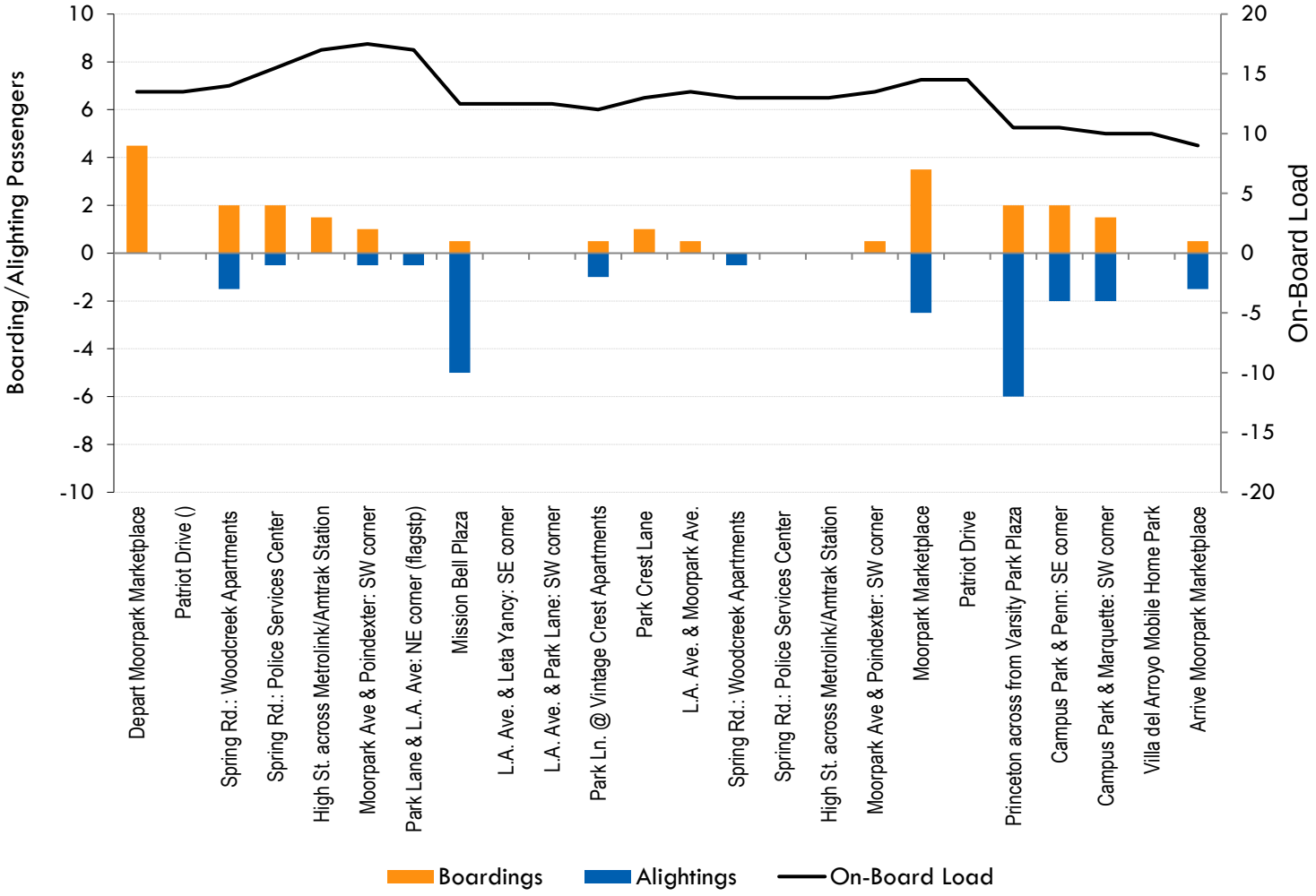


Figure 23 Saturday Ridership Activity by Stop

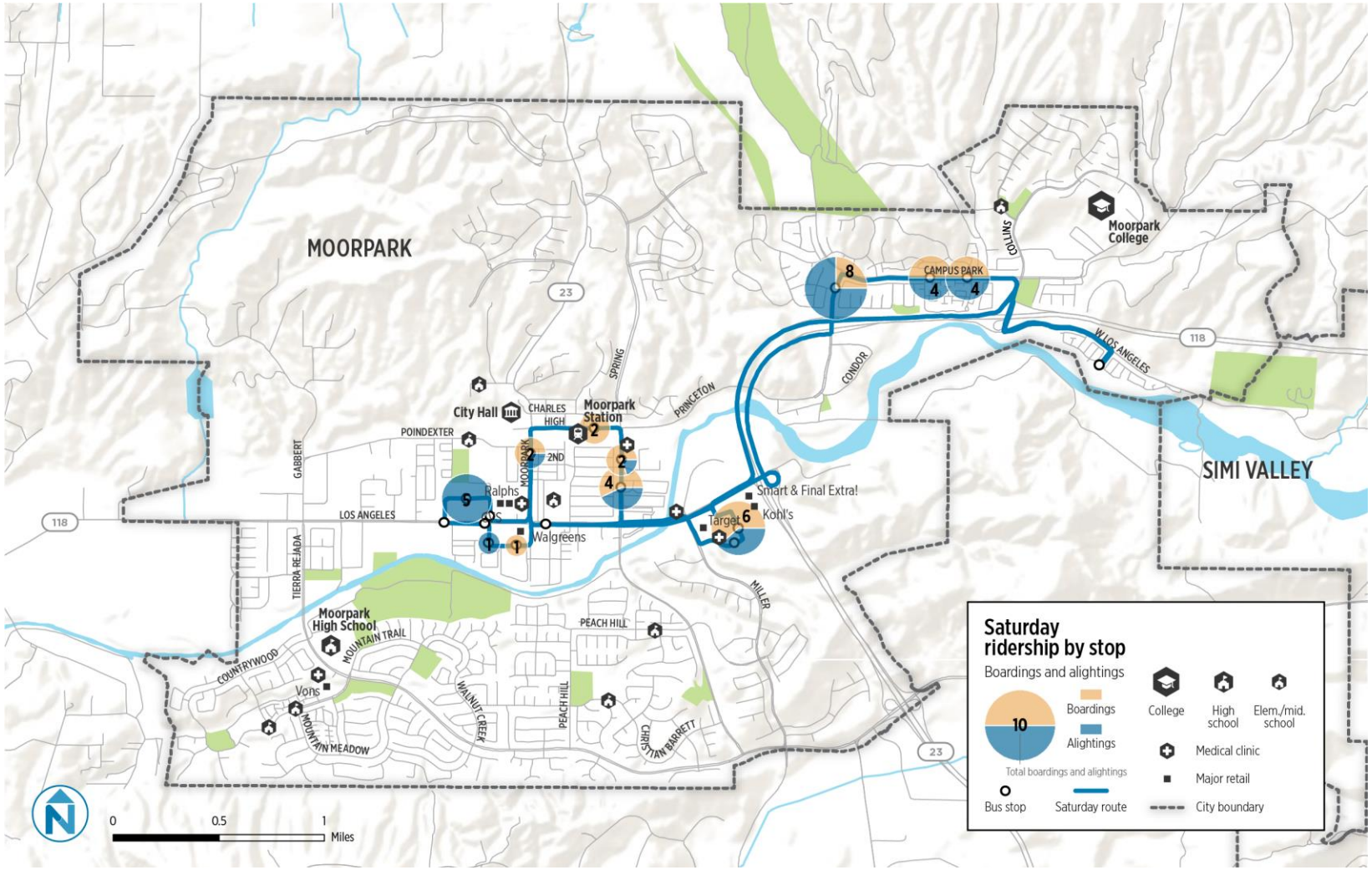


Figure 24 Saturday Schedule Adherence at Major Stops

Moorpark Marketplace		Spring Rd. @ Woodcreek Apts		Moorpark Marketplace	
Scheduled	Status	Scheduled	Status	Scheduled	Status
8:00 AM	On Time	8:20 AM	On Time	8:52 AM	On Time
9:00 AM	On Time	9:20 AM	On Time	9:47 AM	On Time
10:00 AM	On Time	10:20 AM	On Time	10:52 AM	Early
11:00 AM	On Time	11:20 AM	On Time	11:47 AM	Early
12:00 PM	On Time	12:20 PM	On Time	12:47 PM	On Time
1:00 PM	On Time	1:20 PM	On Time	1:47 PM	On Time
2:00 PM	On Time	2:20 PM	On Time	2:52 PM	Early
3:00 PM	On Time	3:20 PM	On Time	3:47 PM	On Time
4:00 PM	On Time	4:20 PM	Early	4:52 PM	On Time

3 MARKET ANALYSIS

This section describes the demographic, socio-economic and employment characteristics that affect transit usage in Moorpark. It includes an analysis of the following indicators:

- Population density
- Youth population density (ages 0 to 17)
- Older adult population density (age 65 and over)
- Disabled population density
- Low income population density
- Vehicle Availability
- Renter-occupied housing density
- Transit demand
- Employment density
- Low wage employment density
- Live-work employment density
- Employment inflows and outflows

The sources for the market analysis include the 2014 American Community Survey 5-year estimates, the 2010 Census, and the Longitudinal Employer Household Dynamics (2014) program.

DEMOGRAPHIC AND SOCIO-ECONOMIC CHARACTERISTICS

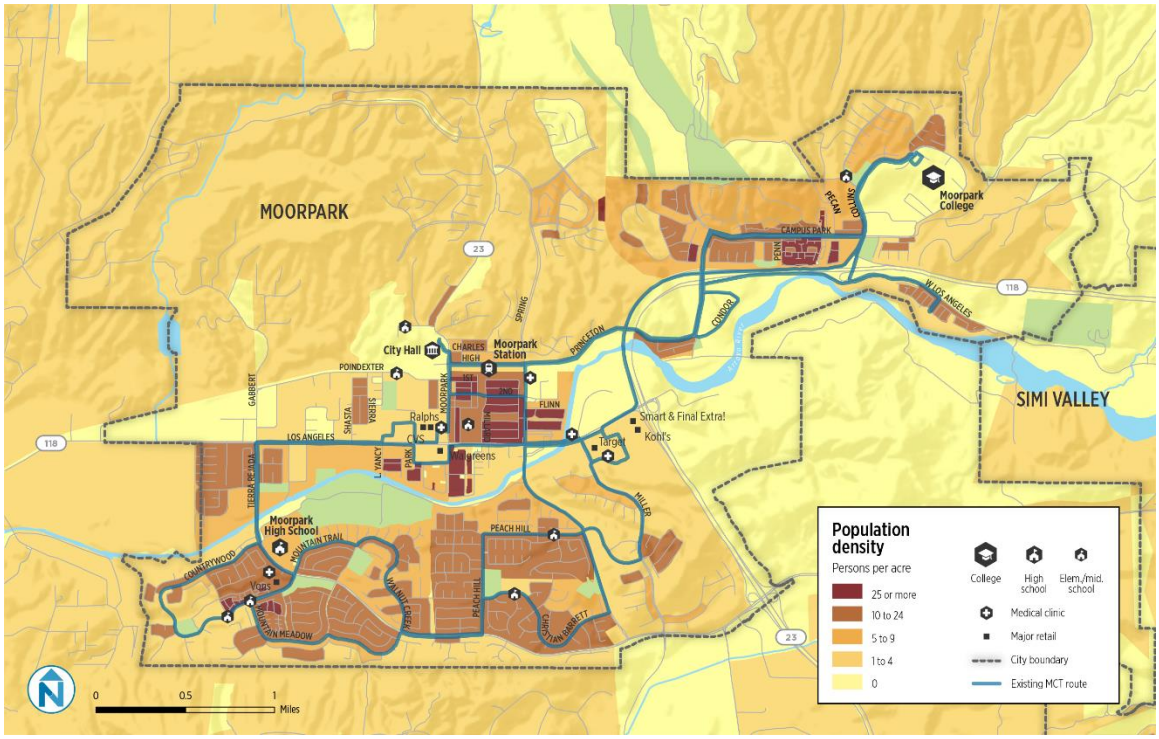
Population Density

High population densities allow transit service to operate at higher frequencies. Several neighborhoods within Moorpark have population densities above 10 person per acre, and some have population densities above 25 persons per acre. Figure 25 presents population densities in Moorpark.

Areas of contiguous high density include:

- The neighborhood bounded by High Street to the north, Spring Road to the east, Los Angeles Avenue to the south, and Moorpark Avenue to the west.
- Apartments communities in the vicinity of Los Angeles Avenue and Moorpark Avenue.
- The Park Springs Condominiums subdivision east of Spring Road at Roberts Avenue.
- The neighborhood south of Campus Park Drive between Penn Street and Marquette Street.
- The neighborhood located immediately east, west, and north of the intersection of Mountain Meadow Drive and Mountain Trail Street.

Figure 25 Population Density



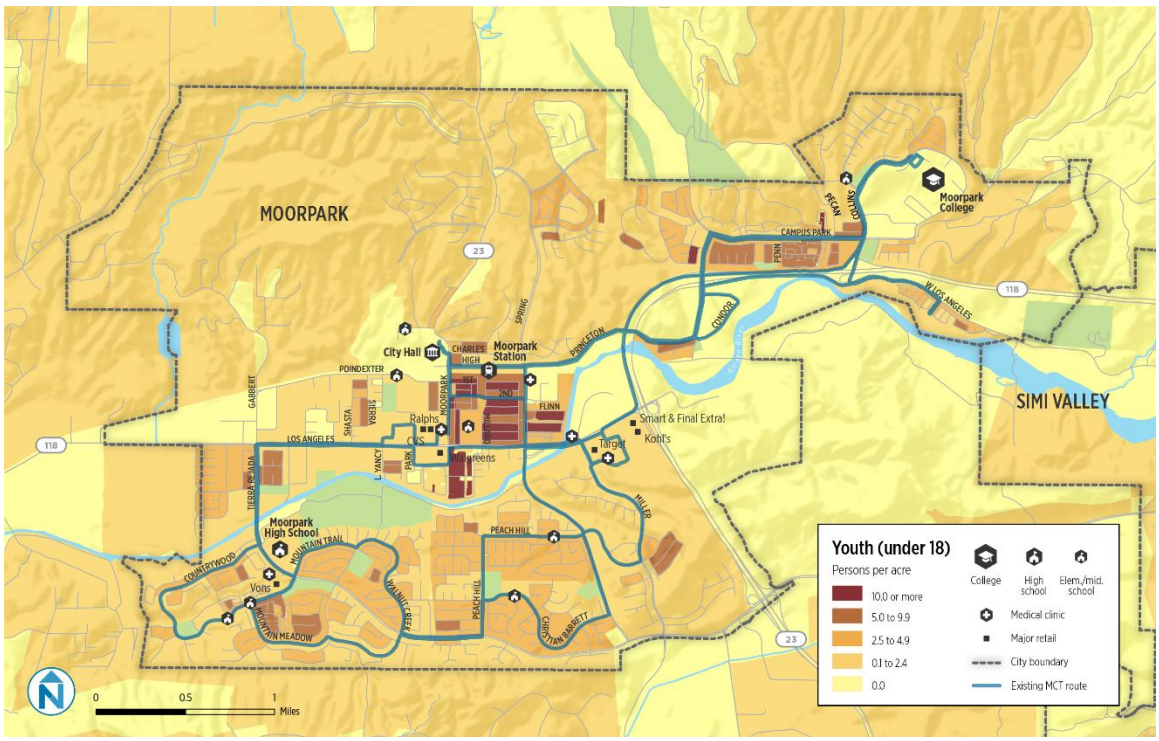
Youth Population Density

The concentration of people under 18 is similar to that of the population as a whole. High densities of youth are especially prevalent in the following areas:

- The neighborhood bounded by High Street to the north, Spring Road to the east, Los Angeles Avenue to the south, and Moorpark Avenue to the west.
- Apartment communities in the vicinity of Los Angeles Avenue and Moorpark Avenue.
- The Park Springs Condominiums subdivision east of Spring Road at Roberts Avenue.

Figure 26 presents youth population density in Moorpark.

Figure 26 Youth Population Density (Under 18)

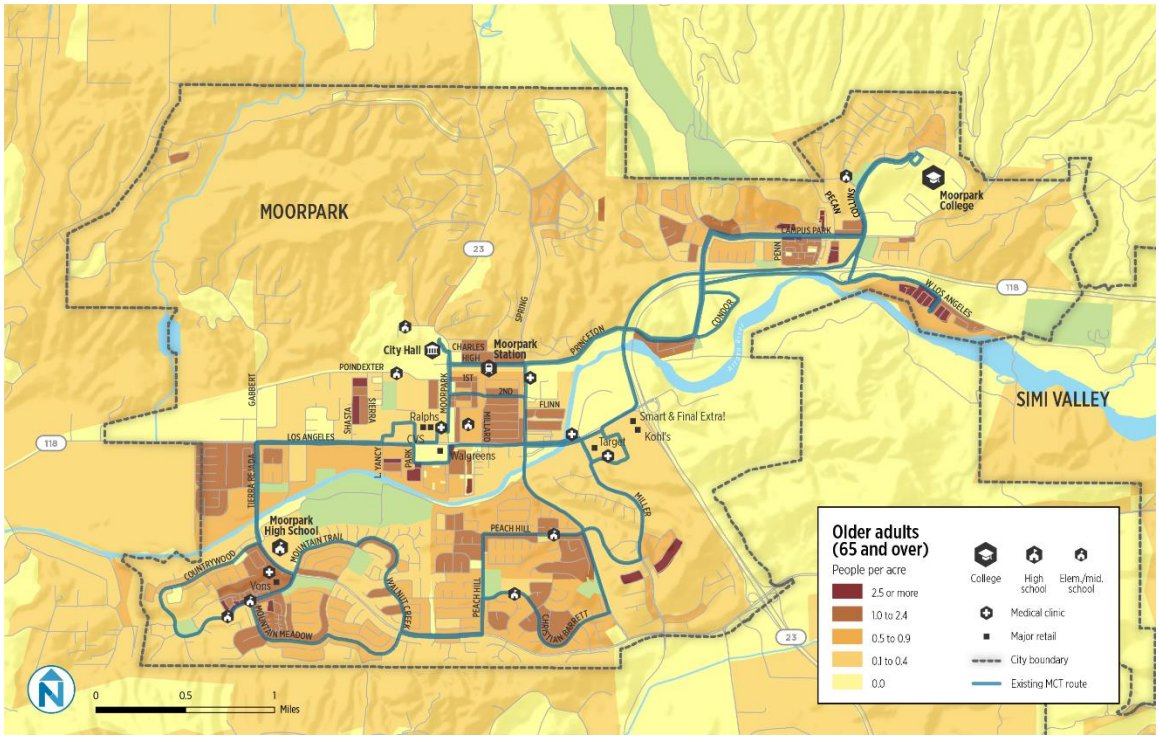


Older Adult Population Density

The population of adults aged 65 or over is distributed across Moorpark. However, as Figure 27 illustrates, some parts of the city have more than two older adults per acre. In particular:

- The neighborhood located immediately east, west, and north of the intersection of Mountain Meadow Drive and Mountain Trail Street.
- The neighborhood east and south of Shasta Avenue between Poindexter Avenue and Los Angeles Avenue.
- Certain pockets south and southwest of the intersection of Moorpark Avenue and Los Angeles Avenue.
- Certain blocks south of Peach Hill Road east of Spring Road.
- The Villa Del Arroyo trailer park.
- Certain blocks west of Collins near Campus Park Drive.

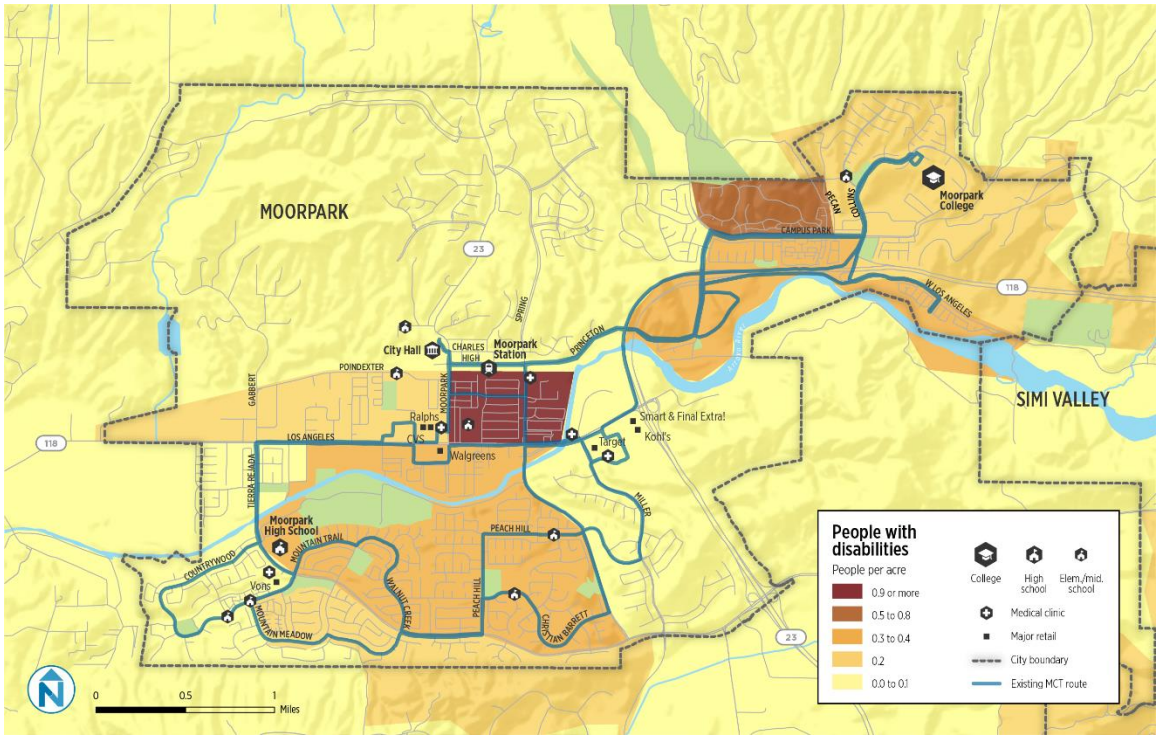
Figure 27 Population Density of Older Adults (65 and Over)



Disabled Population Density

The population with a disability is most concentrated in the neighborhood bounded by High Street to the north, the Arroyo Simi to the east, Los Angeles Avenue to the south, and Moorpark Avenue to the west. Similarly, the area north of Campus Park Drive and west of Pecan Avenue has a slightly high concentration of people with a disability. Figure 28 presents the density of people with a disability in Moorpark.

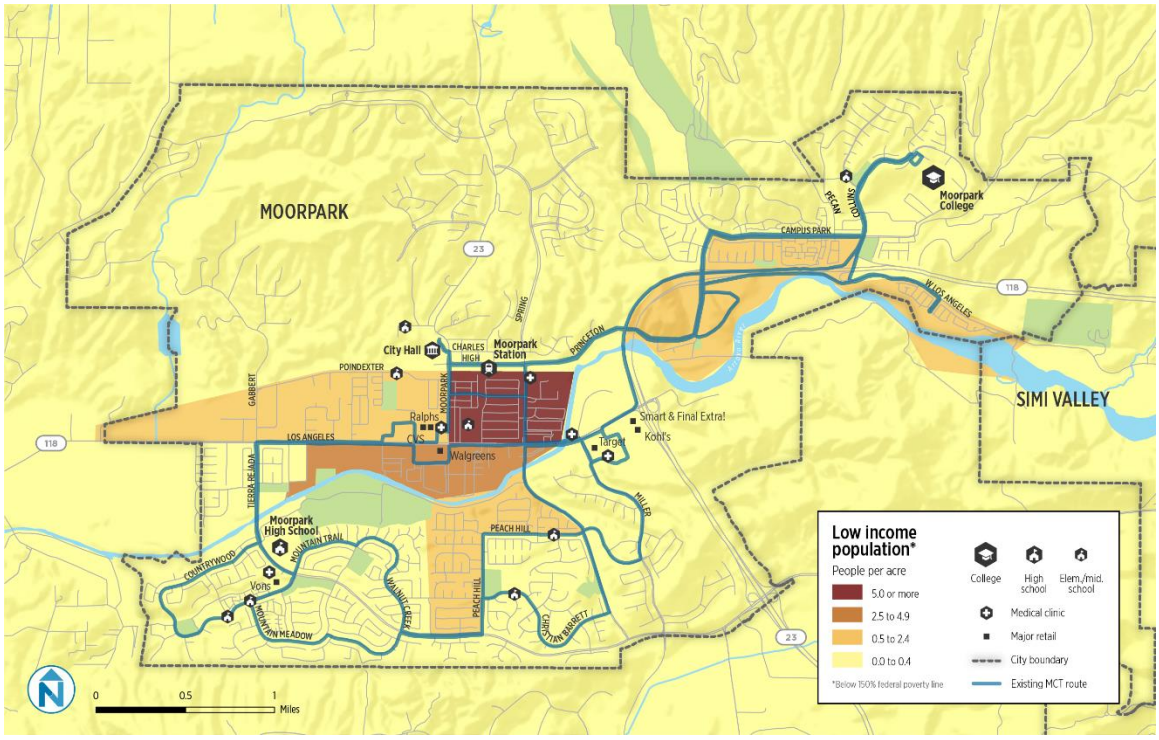
Figure 28 Density of People with a Disability



Low Income Population

The low-income population is most concentrated in the neighborhood bounded by High Street to the north, the Arroyo Simi to the east, Los Angeles Avenue to the south, and Moorpark Avenue to the west. The area south of Los Angeles Avenue, north of the Arroyo Simi and east of Maureen Lane also has a higher-than-average low-income population. Figure 29 presents low-income population density in Moorpark.

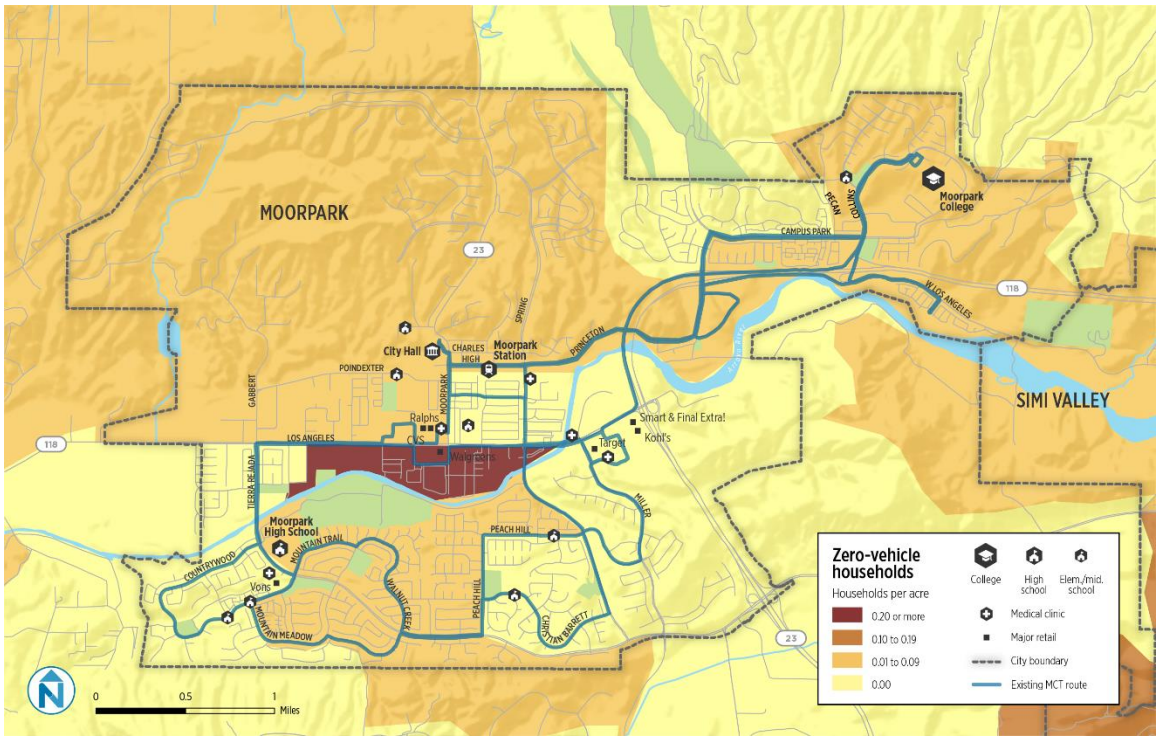
Figure 29 Low Income Population Density



Vehicle Availability

The population without access to a vehicle is most concentrated in the area south of Los Angeles Avenue, north of the Arroyo Simi and east of Maureen Lane. Nonetheless, the population without access to a vehicle is very small for all of Moorpark. Figure 30 presents the density of zero-vehicle households in Moorpark.

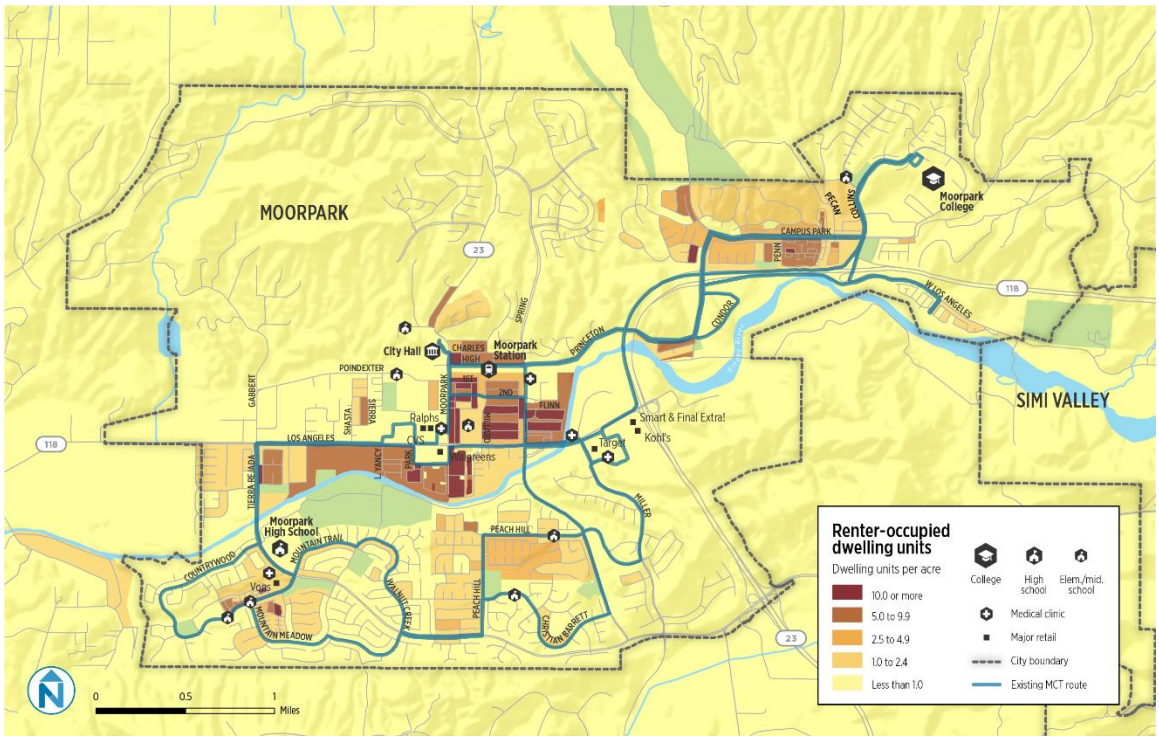
Figure 30 Density of Households without Access to a Vehicle



Renter Population

Renter-occupied units are most densely concentrated in the areas immediately east of Moorpark Avenue, from Charles Street to the north to the Arroyo Simi to the south. Several blocks east and west of Spring Road between High Street and Los Angeles Avenue also have clusters of renter-occupied units. Figure 31 displays the density of renter-occupied housing units in Moorpark.

Figure 31 Density of Renter-Occupied Housing Units



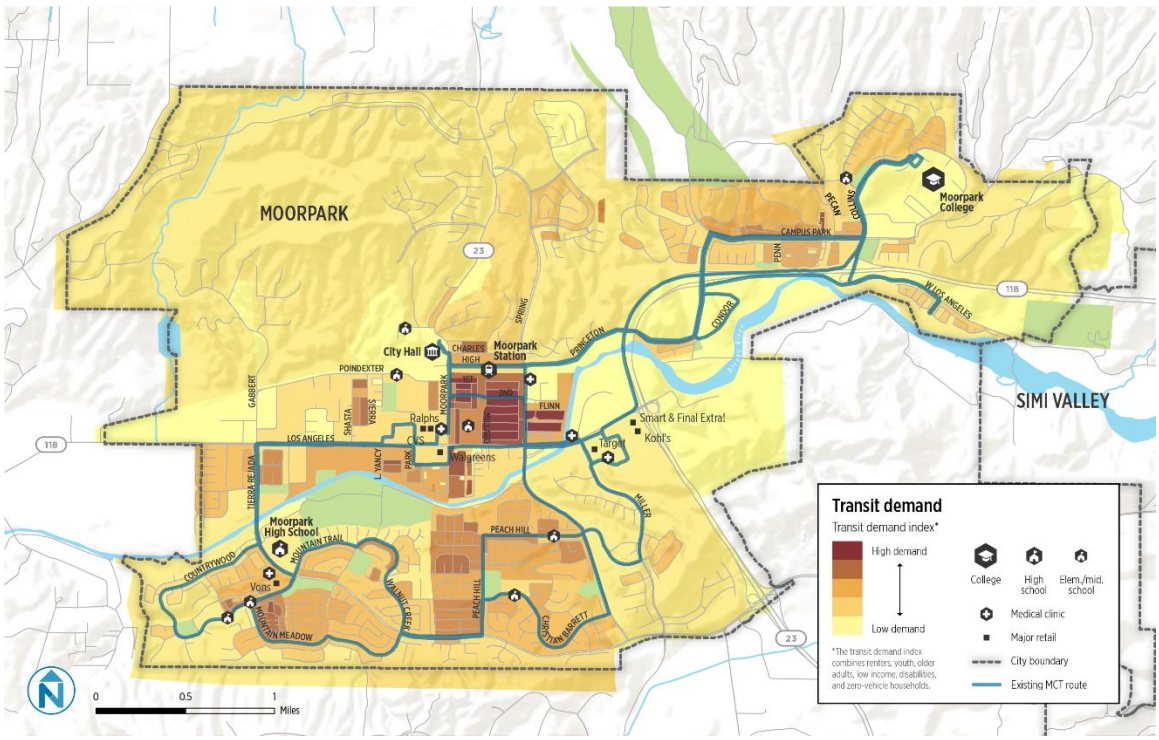
Transit Demand

The transit demand index combines demographic indicators typically associated with high transit ridership: densities of youth, older adults, low-income persons, car-free households, and renters. Figure 32 shows that transit demand is highest in:

- The neighborhood bounded by High Street to the north, the Arroyo Simi to the east, Los Angeles Avenue to the south, and Moorpark Avenue to the west.
- The neighborhood south of Los Angeles Avenue, west of Millard Street, north of the Arroyo Simi, and east of Leta Yancy Road.
- Certain blocks east and west of the intersection of Mountain Meadow Drive and Mountain Trail Street.
- Certain blocks flanking Campus Park Drive to the north and south.
- The neighborhood formed by Shasta Avenue and Sierra Avenue.
- Certain blocks west of Peach Hill Road between Mesa Verde Drive and Williams Ranch Road.

Note that the transit demand index reflects trip origins only. Destination density, e.g., density of jobs, shopping, special events, etc., also affects ridership.

Figure 32 Transit Demand Index



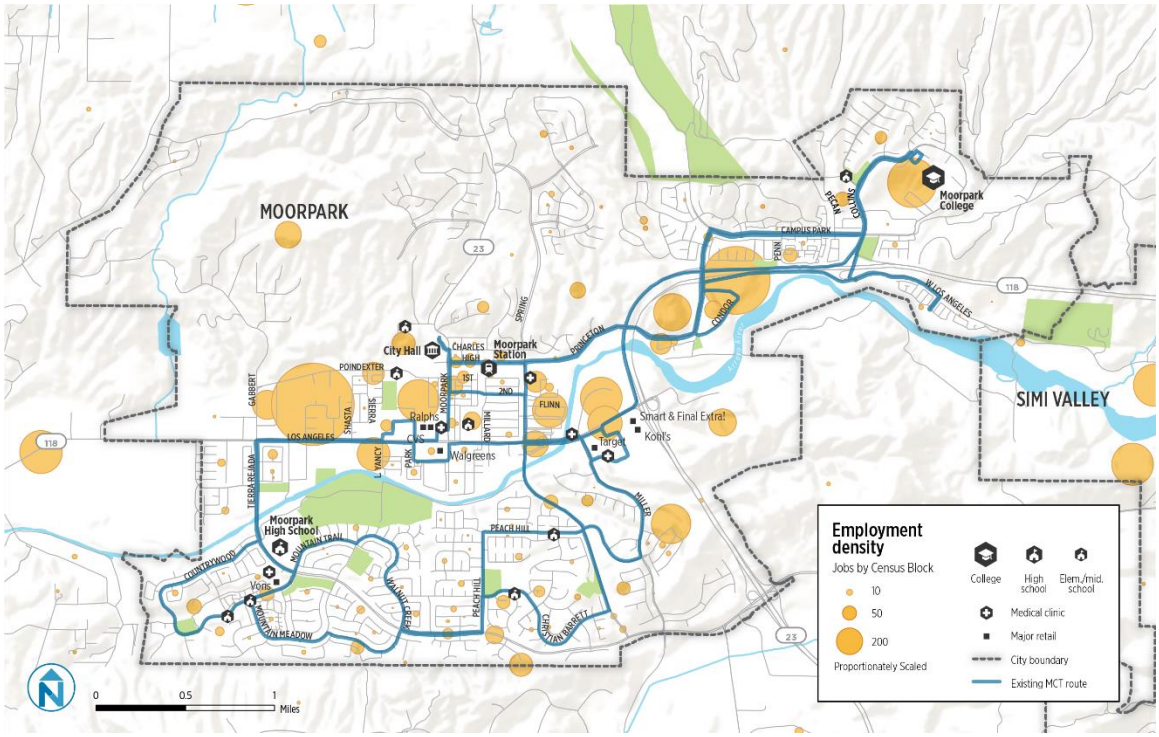
EMPLOYMENT CHARACTERISTICS

Employment Density

Employment density is an important factor associated with transit ridership. Areas within Moorpark with significant employment include (Figure 33):

- The industrial and office area south of Poindexter Avenue, west of Shasta Avenue, north of Los Angeles Avenue, and east of Gabbert Road. This area includes the Moorpark Unified School District (MUSD) Administration Office at 5297 Mauren Lane, which appears to be the registered address for all 869 MUSD jobs.
- Moorpark College
- The area along Condor Drive and Princeton Avenue south of SR-118. Moorpark's largest employer, PennyMac, is located in this area (1,279 jobs).

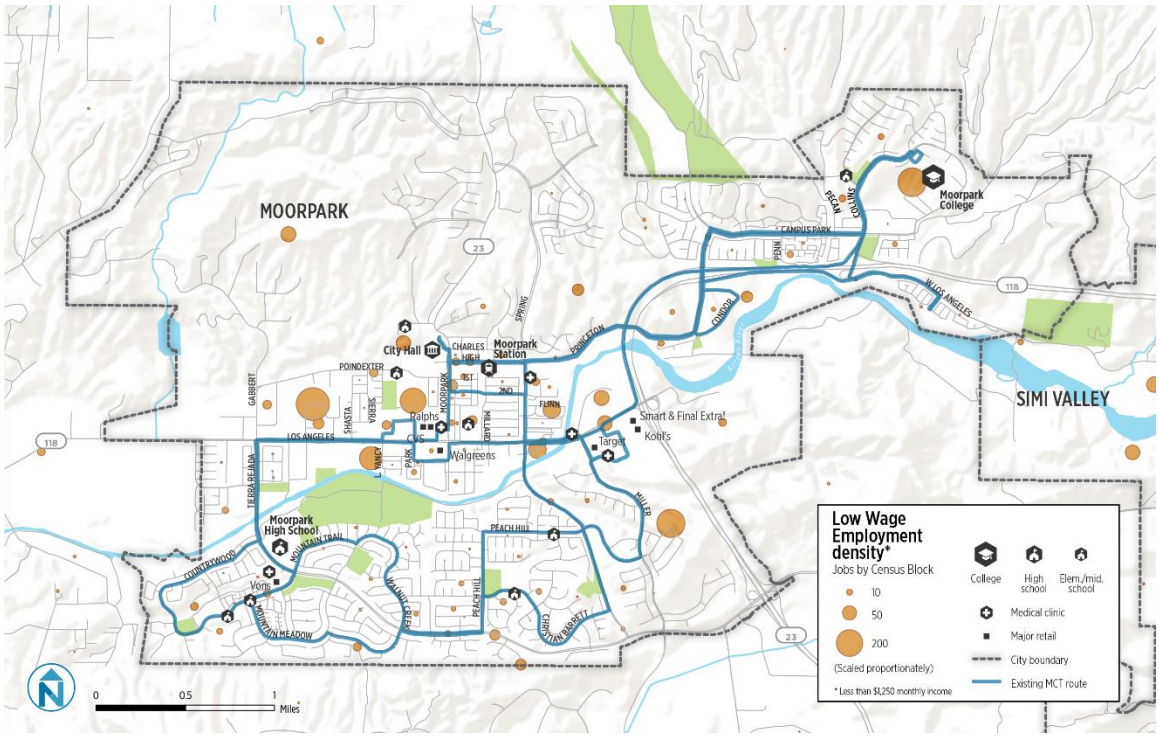
Figure 33 Employment Density



Low Wage Employment

Low wage employment (less than $1,250 per month) is concentrated in downtown Moorpark, in the retail between W Los Angeles Avenue and Poindexter Avenue on the west end of town, and at Moorpark College. Figure 34 presents low wage employment density.

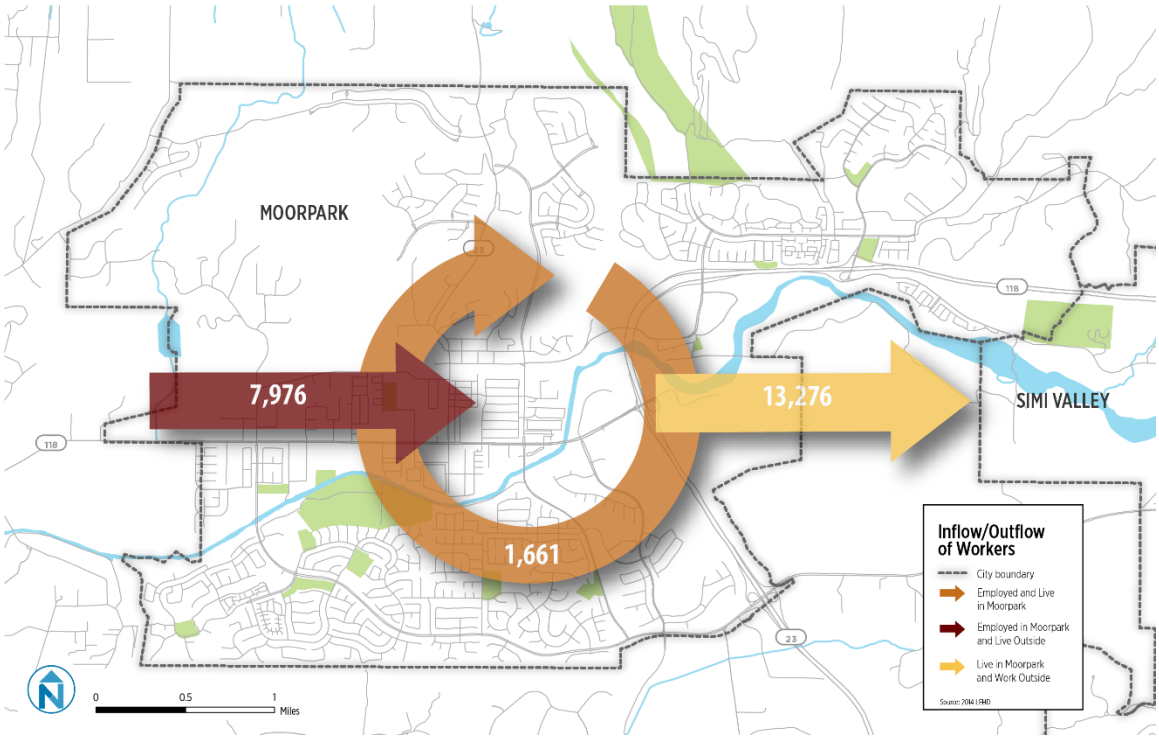
Figure 34 Low-Wage Employment Density



Employment Inflows and Outflows

Figure 35 illustrates the overall inflows and outflows (not the directionality) of employment in Moorpark. Nearly 8,000 people live outside of Moorpark and work in the city, and 13,276 Moorpark residents commute out of the city for work. Just 1,661 people live and work in Moorpark.

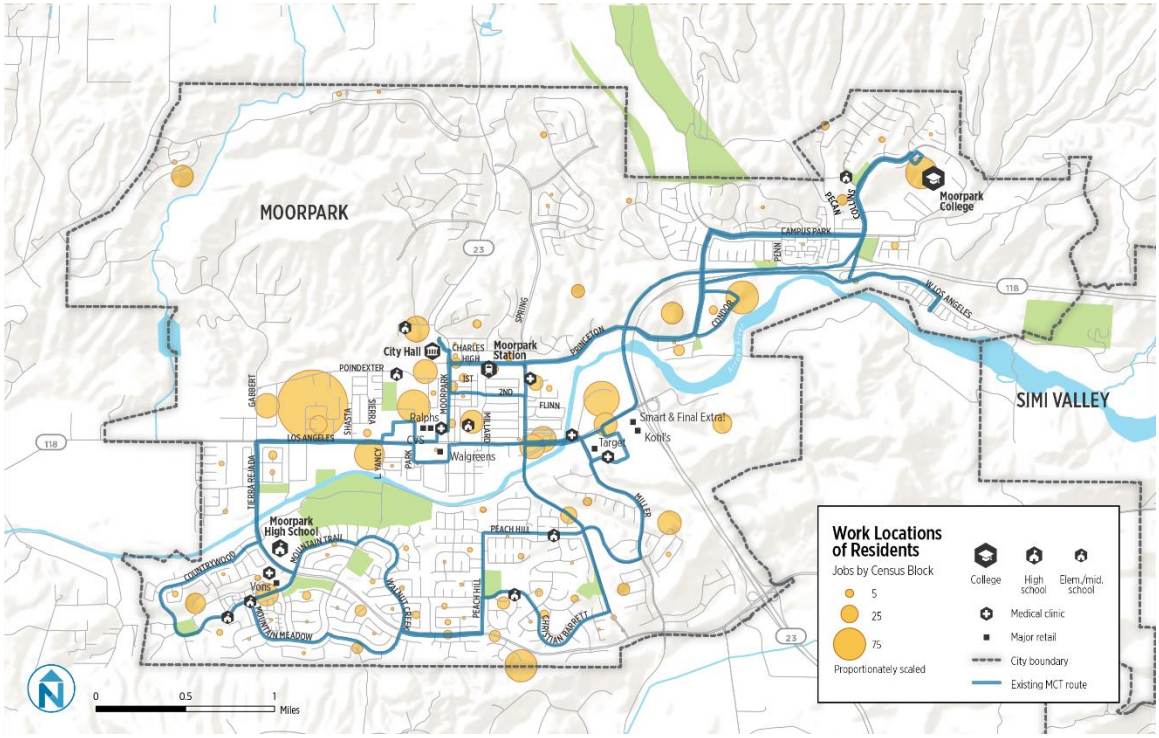
Figure 35 Employment Inflows and Outflows



Live-Work Employment Density

The work locations of those Moorpark residents who both live and work in the city are shown in Figure 36. Their workplace locations mirror the pattern of employment in Moorpark, with the highest densities of local jobs located along Los Angeles Avenue, on the Condor Avenue loop, and at Moorpark College. Many of the employment locations shown in southwest Moorpark's residential neighborhoods are likely the registered address of a company and do not necessarily indicate the presence of in-person workers.

Figure 36 Work Locations of Moorpark Residents



4 RIDER FEEDBACK

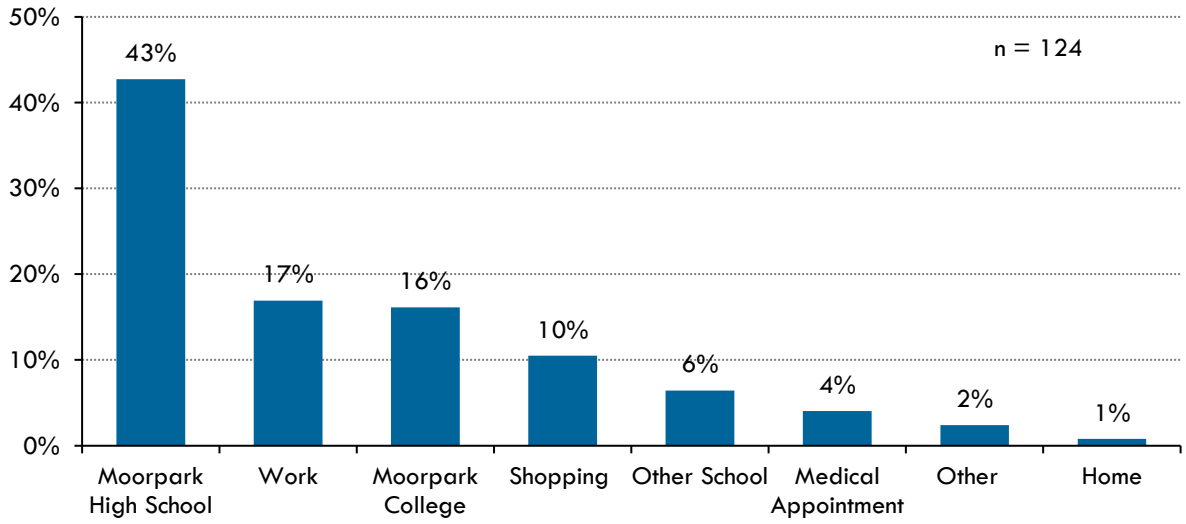
ON-BOARD SURVEY

On Wednesday, May 18, 2016, the Moorpark City Transit on-board passenger survey was conducted on all routes to better understand the experience of customers. A total of 143 surveys were collected. Surveyors on Route 1 yielded a total of 74 surveys, and Route 2 passengers filled out 69 surveys. All but three bus trips at or before 7:00 a.m. were surveyed. This chapter displays results for surveys collected for each route.

Trip Profile

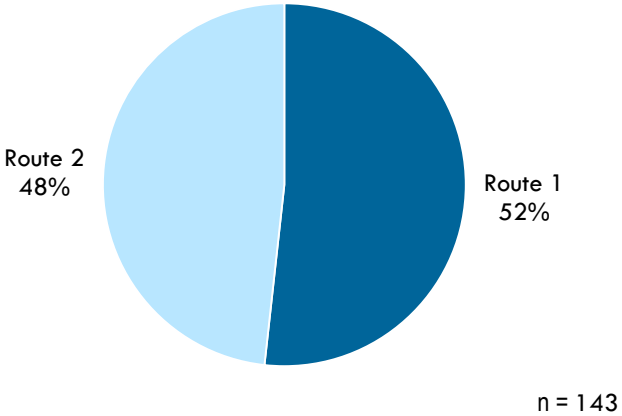
A majority (90%) of trips completed via Moorpark City Transit were home based trips. For 43% of these trips, the origin or destination was Moorpark High School. Work and Moorpark College were the destination for 17% and 16% of trips respectively. Only 14 respondents were not on a home based trip when completing the survey.

Figure 37 Home Based Trip Purpose



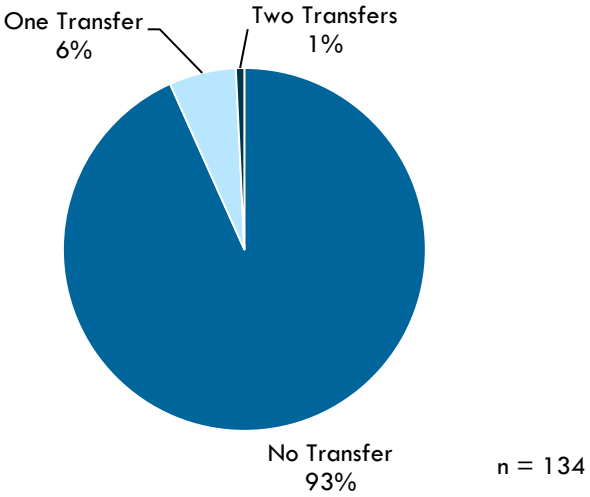
Respondents were near evenly split between Route 1 and Route 2, though more (52%) surveys came from Route 1 passengers. Due to the circular and complementary route alignments, it is likely that passengers use one route to get to their destination, and the other for their return trip.

Figure 38 Respondents by Route



Only nine transfers were recorded in surveys as a majority of respondents completed their round trips without transferring. One passenger reported transferring twice, once during the ingress trip, and once during the egress trip.

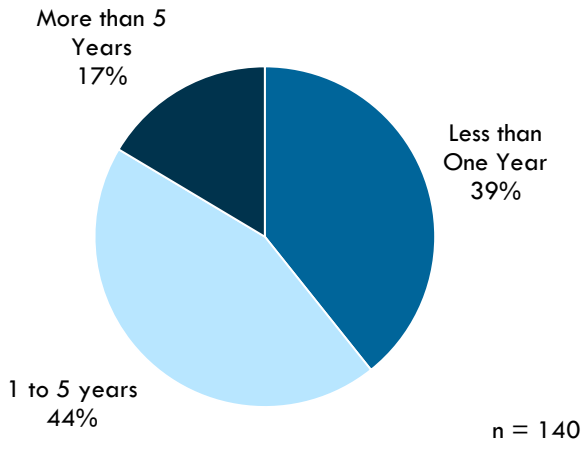
Figure 39 Respondent Round Trip Transfer Rate



Most passengers have ridden Moorpark City Transit for one to five years (44%) or for less than one year (39%). This suggests that more than a third of respondents represent new ridership, possibly largely a result of younger high school students using the service to get to school.

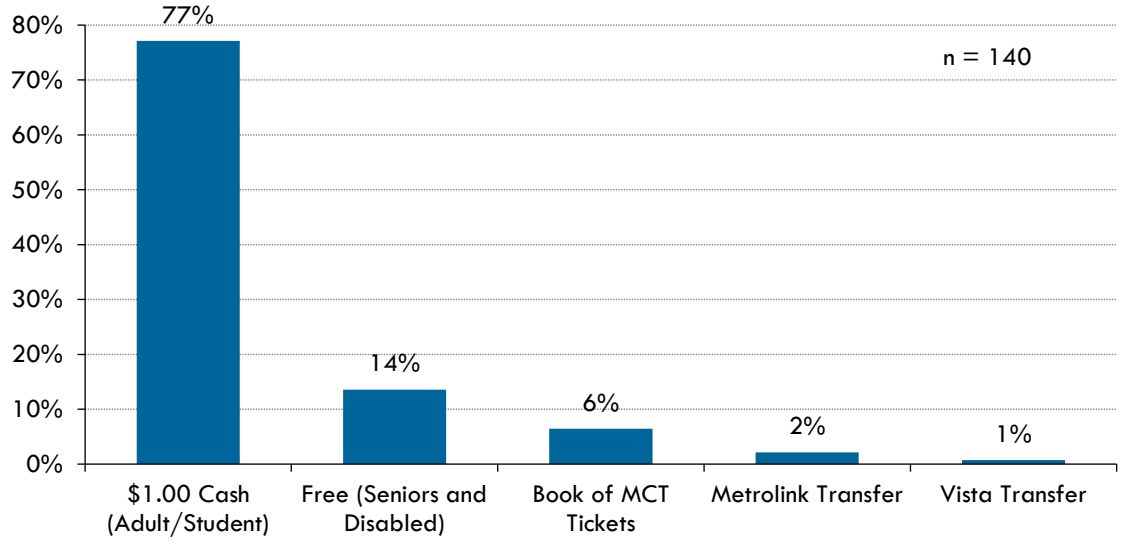
Rider Profile

Figure 40 Longevity of Moorpark City Transit Use



Cash is the most commonly used medium for fare payment, used by 77% of passengers. MCT ticket books were only used by 6% of passengers. Fourteen percent of respondents ride free, as they are seniors or disabled.

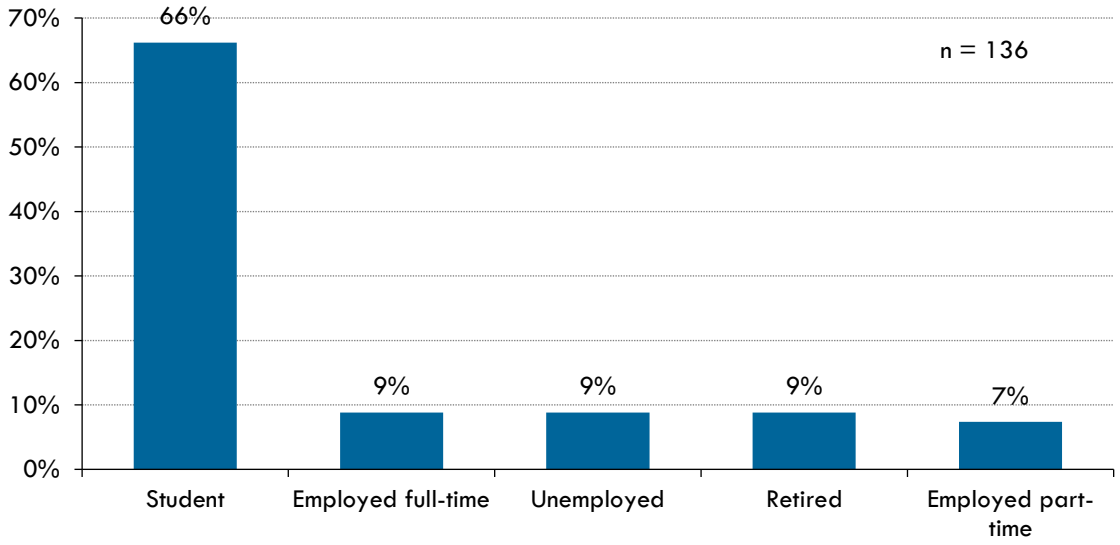
Figure 41 Fare Type Used



Respondent Demographics

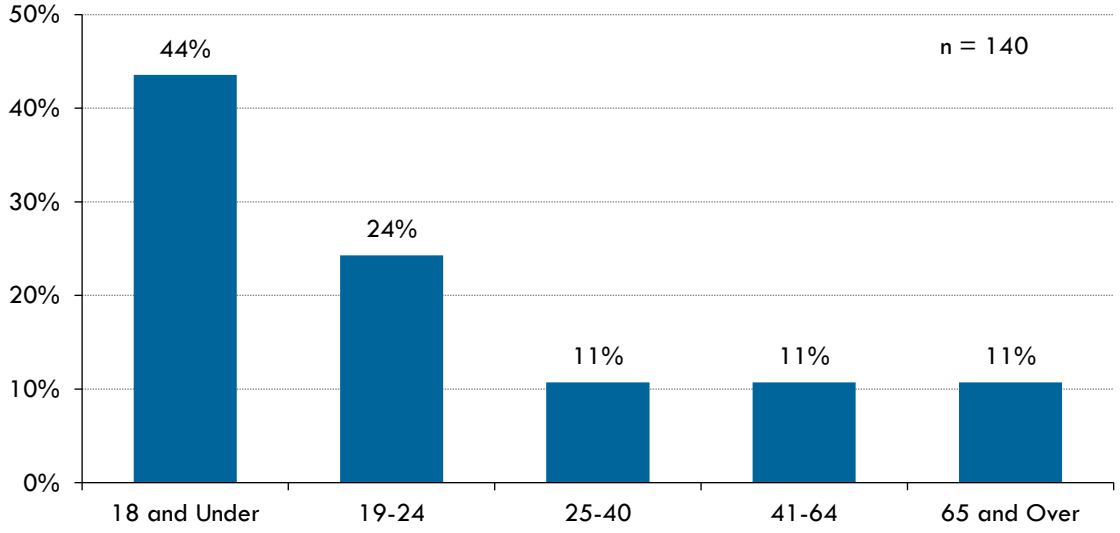
A majority of respondents (66%) were students. Respondents were employed full-time, unemployed, or retired at a rate of 9% each. The remaining 7% of respondents were employed part-time.

Figure 42 Respondent Employment Status



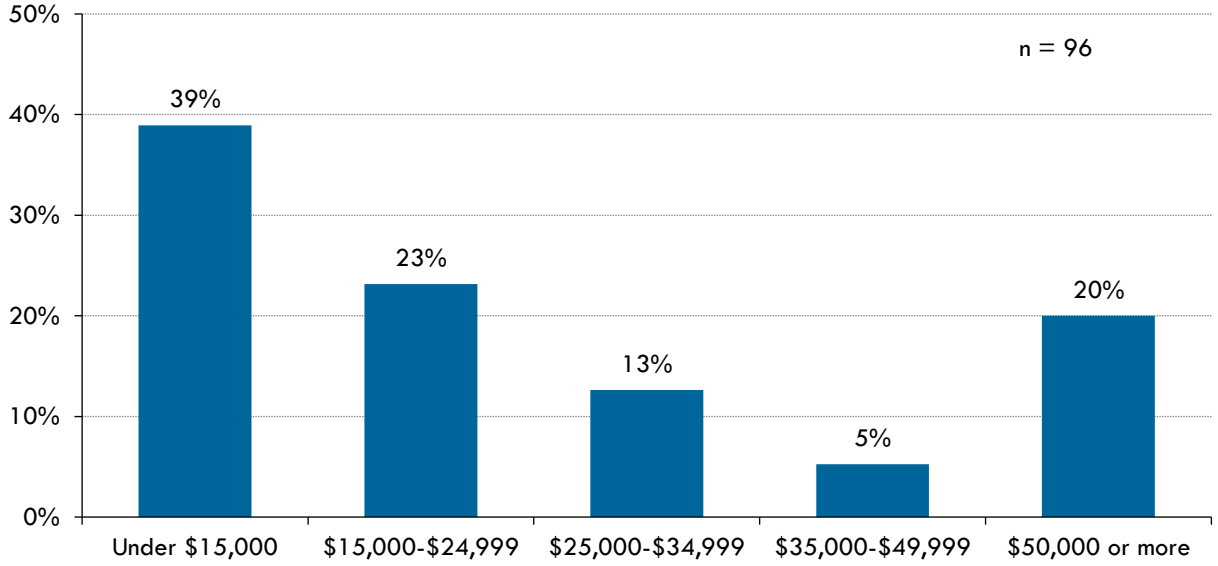
As expected from a student heavy ridership, most passengers were either 18 years old or younger (44%), or between the ages of 19 and 24 (24%), representing populations of high school and college students. Other age groups accounted for 11% of respondents each.

Figure 43 Respondent Age



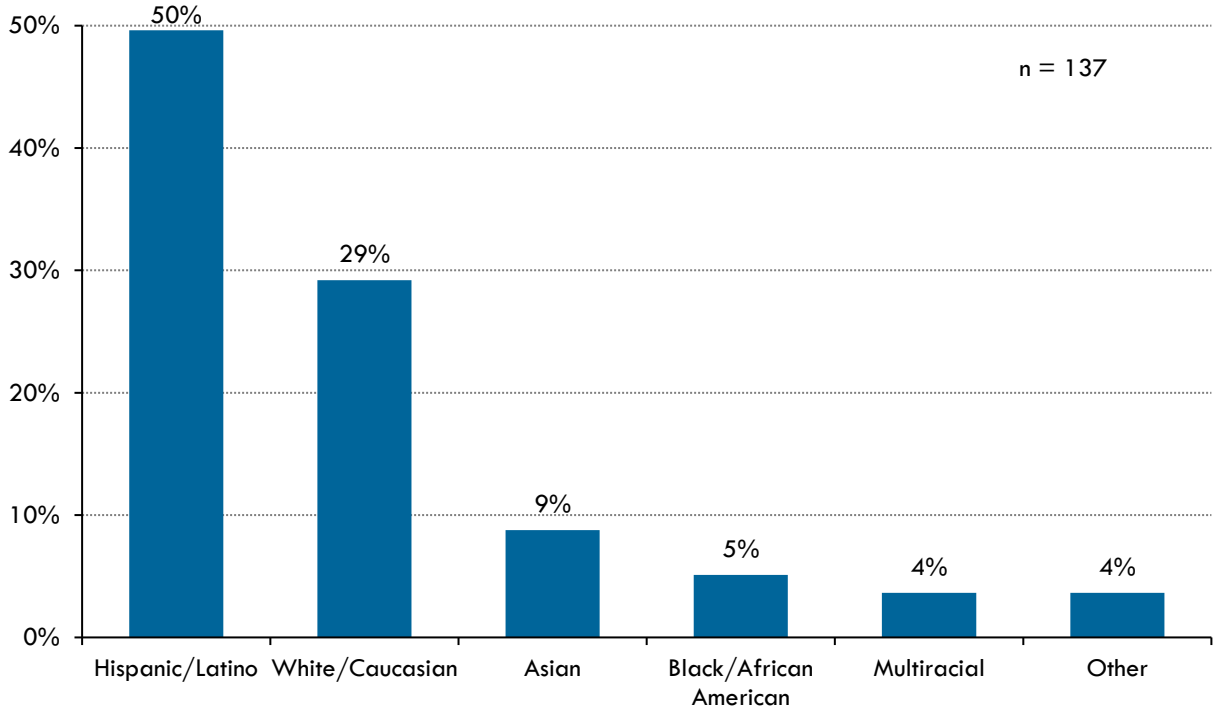
Nearly 40% of respondents live in households with incomes of under $15,000. Fewer respondents are represented in higher household income brackets, with the exception of households over $50,000. It should be noted that of respondents identifying household incomes over $50,000, 68% were students, likely reflecting parental income.

Figure 44 Respondent Household Income



Half of all respondents self-identify as Hispanic or Latino. Those identifying as White/Caucasian accounted for an additional 29% of respondents. No other ethnic group accounted for more than 9% of respondents.

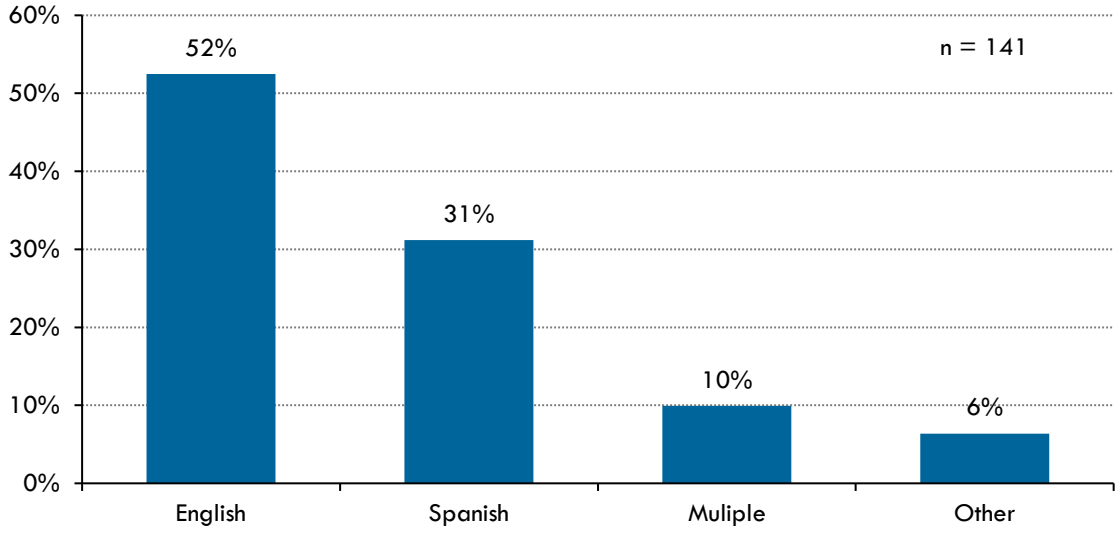
Figure 45 Respondent Ethnicity Self Identification



English is the primary language spoken in 52% of respondent households. Spanish, or multiple languages were noted as primary languages in 31% and 15% of languages spoken respectively.

Nine respondents wrote in a different language in the space provided for "Other." Nearly half of these write-ins (4), stated Filipino as the primary language spoken at home.

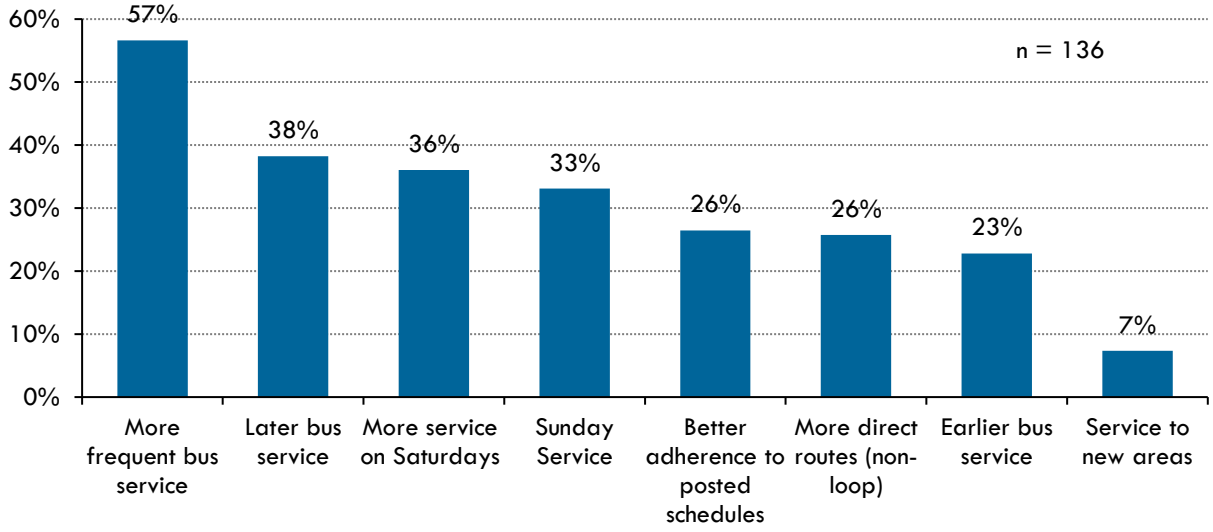
Figure 46 Primary Language Spoken in Respondent Household



Preferred Improvements and Comments

Respondents were asked to select up to three transit improvements that most appealed to them from a list of 8. More frequent bus service was preferred by most (57%) respondents. Later bus service and expanded Saturday service appealed to 38% and 36% of respondents respectively. Service to new areas was the least preferred improvement, appealing to only 7% of respondents.

Figure 47 Preferred Transit Improvements



Thirty four respondents provided additional comments in addition to the survey. Comments were categorized into specific types. The largest proportion of comments fell under the "Other," category, which included recommendations for layover locations, requests for wifi integration on

board, and fare recommendations. These comments are outlined in detail in Figure 49. General praise and operator praise were contained in 21% and 18% of comments respectively. It should be noted that some comments were categorized under multiple types.

Figure 48 Open-Ended Comments

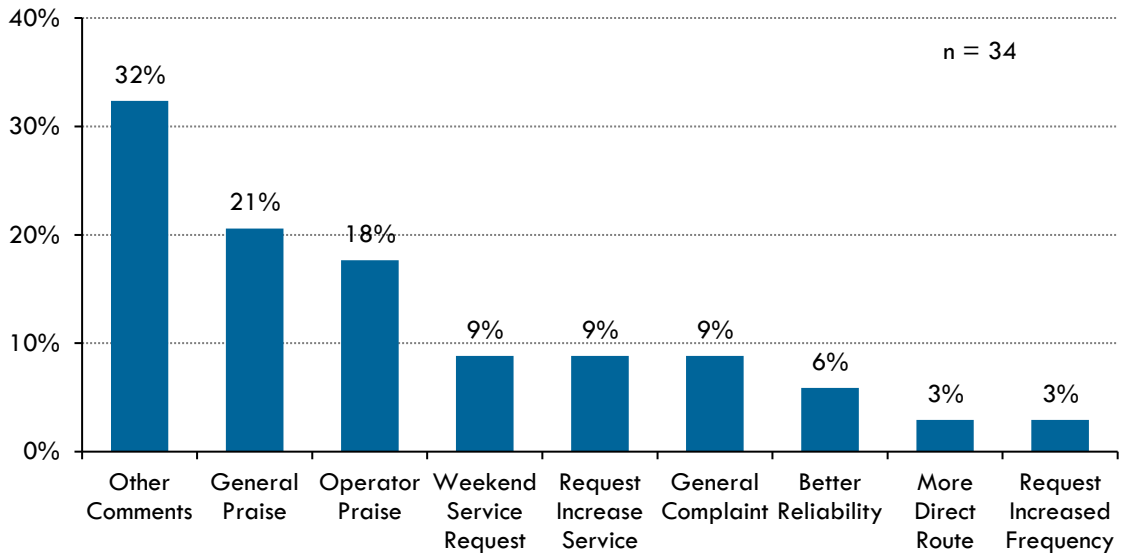


Figure 49 Respondent Comments Classified as "Other"

Comments
A TV and more seating
Air conditioning!
For students, it should be free to ride the bus to school.
Have bus drivers wait at least 5 min so students/athletes after school can make it home.
I think you should get more seats so when the bus is full you won't have to stand up.
I would life if the drive made sure all passengers who are leaving had left before closing the doors.
I would like to see bus service to Moorpark College on Saturdays and the time corrected on the display on the front inside of the bus.
No stopping at Target for a 10-minute break
Not so many flag stops to the Villa Del Arroyo Mobile Home Park
Seat belts

SERVICE ALTERNATIVES FEEDBACK

Initial Service Concepts

After the development of initial service alternatives, the project team conducted direct outreach on August 31, 2016 at Moorpark College and on-board MCT with current riders. The project team showed community members each of the three initial service concepts (A, B, and C) using maps and explained the benefits and tradeoffs of each option. Community members identified their preferred concept, shown in Figure 50. Throughout the day, the project team reached about 75 people.

Figure 50 Tally of Preferred Service Concept

Preferred Service Concept	Number of Respondents	Percent of Respondents
Concept A – Civic Center Hub	27	36%
Concept B – Crosstown	16	21%
Concept C – Refined Loops	32	43%

The following summarizes major themes from discussions with riders surrounding the service concepts:

- Concept A
  - 40-minute headways was an appealing benefit, even with one-way service on the South route, which could cause out of direction travel.
  - About half of people the project team spoke to were concerned about the need to transfer between routes, while others were fine with transferring as long as there was no additional fare.
- Concept B
  - Riders were less supportive of Concept B due to the lengthened travel time caused by service to Moorpark Marketplace in both directions
  - Riders disliked the loss of coverage in south Moorpark, even if they did not live in that area, indicating a perception that there is a need for service in that area.
- Concept C
  - Respondents noted that the bi-directional loop results in shorter travel times once on board, even if the gaps between trips are long (70 minutes)
  - Some felt that 70 minutes between trips is too long to wait.
- General Comments and Observations
  - The majority of riders were taking the bus to the high school or the college and often stated a strong desire for any changes to continue to have schedules that line up with high school bell times particularly in the morning.
  - Few riders were taking the bus to work.
  - Many riders were under the impression that the bus comes hourly, even though under the existing schedule headways range from 60-77 minutes.
  - Riders generally expressed satisfaction with the existing service, though some indicated that there are issues with schedule reliability (buses running early and late).

Figure 51 Direct Outreach

Preferred Concept Refinements

Service concepts were presented to Moorpark City Council on October 19 and December 7, 2016, recommending an initial preferred concept that is a refined version of Concept C, which would operate every 60 minutes and not serve Villa Del Arroyo. At the request of Council, staff conducted outreach between the October and December meetings in order to receive feedback from residents of the Villa Del Arroyo, Christian Barrett Drive, and Second Street. The following outreach efforts were conducted:

- Posted advertisement in the Moorpark Acorn
- Mailed 241 letters to Villa Del Arroyo
- Mailed 443 letters to homes on or near Christian Barrett Drive
- Mailed 252 letters to homes on or near Second Street
- Posted notices on all City buses and at each proposed bus stop to be eliminated
- Posted a survey for the public to complete and submit
- Updated the City's website with all information related to the proposed changes.

Staff received 13 comments as a result of these outreach efforts, eight of which were in opposition to the proposed service change. However, the neighborhoods targeted as part of these outreach efforts were those that would have decreased access to service because of the change, so these results are not representative of the community's support for the service changes. As a result of the outreach process, the following refinements were considered when finalizing the preferred alternative, described in Chapter 5.

- Maintain limited service to Villa Del Arroyo for school transportation
- Deviate clockwise route to Mountain Trail to provide safe access and egress to the High School
- Maintain neighborhood service in central Moorpark to provide access to Flory Academy of Sciences and Technology.

5 SERVICE CONCEPTS

Based on the assessment of the route structure, ridership patterns, market analysis, and input from the on-board survey, three service concepts were developed. Each concept differs in terms of the balance between frequency, coverage, and travel time; however, several key objectives were common to all three, described below.

- Maintain service to MCT's two strongest ridership markets: Moorpark High School and Moorpark College.
- Identify consistent start and endpoints for each route and schedule layover at those locations only.
- Develop services with identical alignments in both directions.
- Remove flag stops or convert to regularly scheduled stops in order to serve all stops on all trips.
- Operate consistent headways throughout the day.

The purpose of these key objectives is primarily to create a service that is easy to understand and reliable to use for all members of the community.

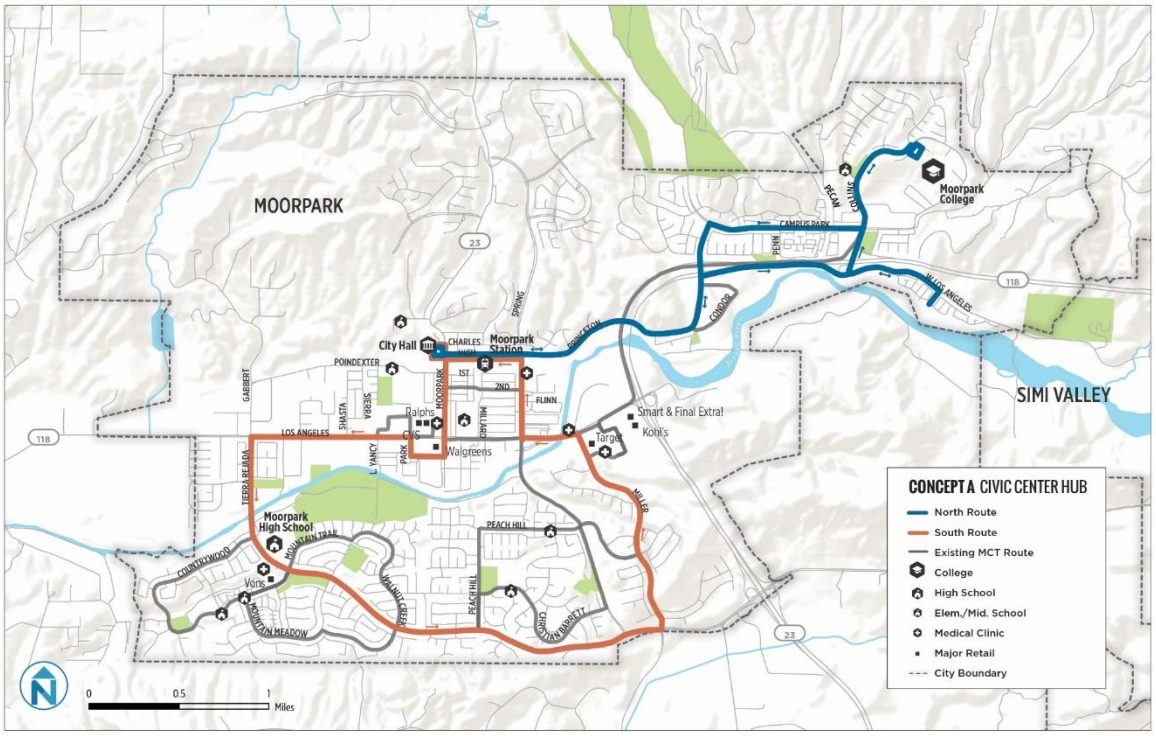
CONCEPT A: CIVIC CENTER HUB

Concept A consists of two routes, which would meet for timed transfers at the Civic Center. As shown in Figure 52, the North route would depart from the Civic Center, travel along High Street and Princeton Avenue to Hwy 118 East, exiting at Arroyo Drive to serve the Villa Del Arroyo Mobile Home Park. The North route would then travel via Collins Drive to Moorpark College and return to the Civic Center via Campus Park Drive, Princeton Avenue, and High Street. The South route would depart from the Civic Center and operate in a counter-clockwise loop using Moorpark Avenue, Park Crest Lane, West Los Angeles Avenue, Tierra Rejada Road, Miller Parkway, New Los Angeles Avenue, Spring Road, and High Street. Routes would depart from the Civic Center every 40 minutes with one vehicle operating on each route.

Concept A presents the most frequent level of service of the three concepts, an improvement of 20-30 minutes over the existing schedule. Villa Del Arroyo would be served on every trip rather than as a flag stop with only three scheduled trips as it has today. In addition, with two separate routes, MCT would potentially have the flexibility to adjust service levels on the South Route in conjunction with the high school calendar.

Two potential tradeoffs associated with this concept are the need to transfer and the loss of bi-directional service in south Moorpark. Currently, transfers are not necessary to get from one end of the city to the other, but under Concept A, a transfer may be required. In order to minimize the uncertainty of making a scheduled transfer, the North and South routes could be interlined in order to provide a one-seat ride to anyone traveling across town. The loss of bi-directional service on Tierra Rejada would require anyone traveling from the Civic Center to Moorpark Marketplace to ride the loop most of the way around, causing a long travel time in one direction. However, the frequency improvement associated with Concept A would reduce wait times.

Figure 52 Concept A: Civic Center Hub



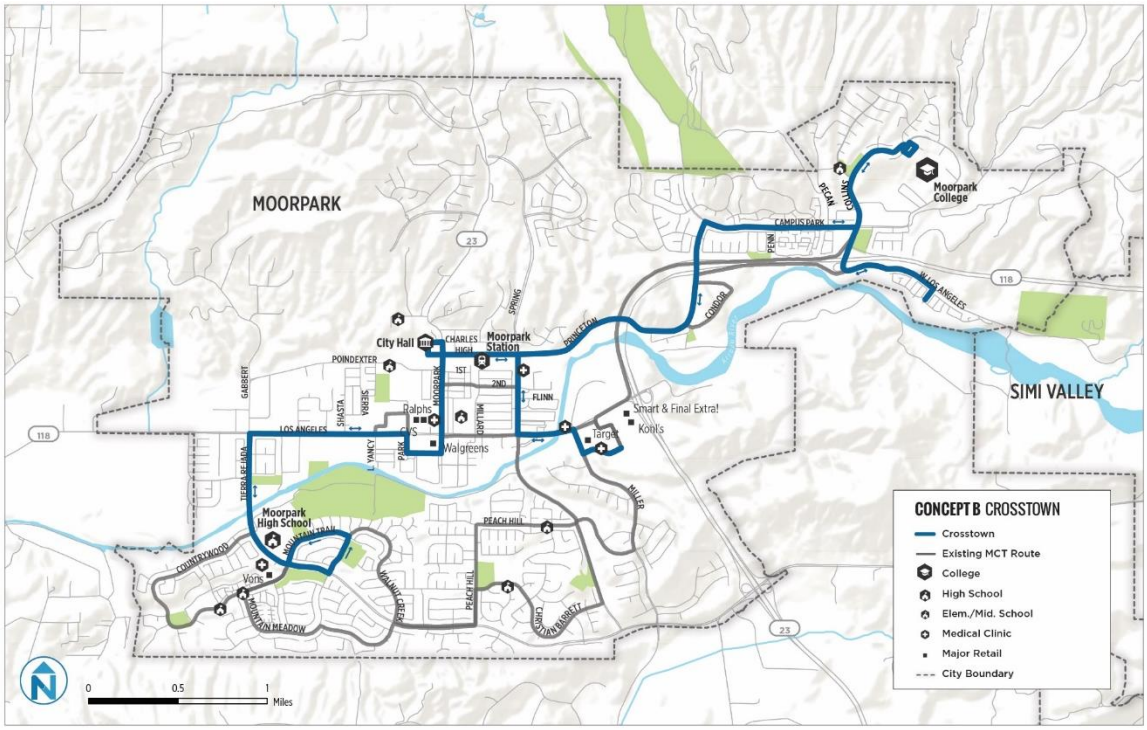
CONCEPT B: CROSSTOWN

Concept B, as shown in Figure 53, is a single crosstown route operating between Moorpark College and Moorpark High School. The Crosstown route would depart from Moorpark College and travel via Collins Drive, Campus Park Drive, Princeton Avenue, Spring Road, New Los Angeles Street, Miller Parkway, and Patriot Drive to the Moorpark Marketplace. The crosstown would turn back to the Civic Center Spring Road and High Street, and then continue to Moorpark High School via Moorpark Avenue, Park Crest Lane, Los Angeles Avenue, and Tierra Rejada, using Mountain Meadow Drive and Mountain Trail Street to turn around and travel the identical pattern in the opposite direction to Campus Park Drive, at which point the route would travel via Collins Drive to the Villa del Arroyo Mobile Home Park and then return to Moorpark College. Two vehicles would be required to operate this route every 50 minutes, and would layover at Moorpark College.

With the exception of the terminal loop at Moorpark High School, all segments of the Crosstown are served in both directions. By traveling on all surface streets and not using Hwy 118, Concept B provides the most opportunity to pick up and drop off passengers along its route. In addition, by serving the deviation to Moorpark Marketplace in both directions, there would be a more frequent connection between multifamily housing on Spring Road and Moorpark Marketplace. Villa Del Arroyo would be served on every trip.

Concept B presents a significant reduction in coverage on parts of Tierra Rejada Road, Peach Hill Drive, Christian Barrett, and Miller Parkway. However, Concept B provides improved frequency while maintaining bi-directional service on the proposed route alignment.

Figure 53 Concept B: Crosstown



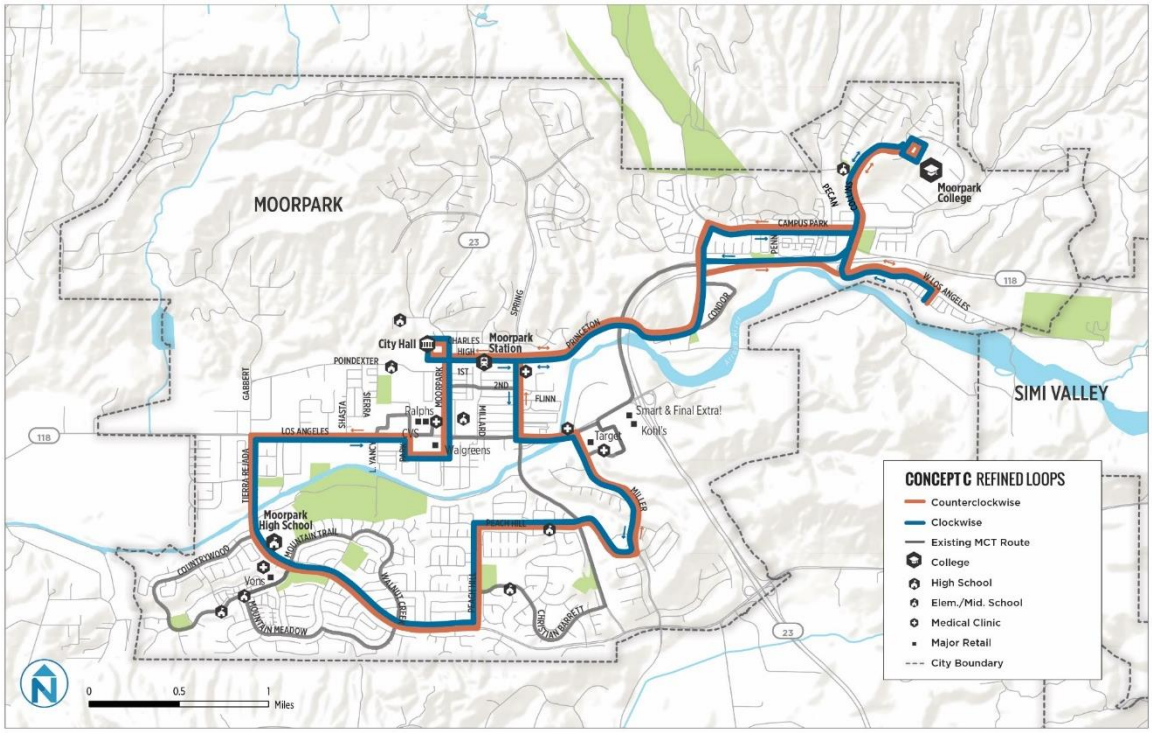
CONCEPT C: REFINED LOOPS

Concept C is the most similar to MCT's existing service, structured as a bi-directional loop, shown in Figure 54. Unlike the existing service, however, Concept B operates along the same alignment in both the clockwise and counterclockwise directions. The clockwise route would depart from Moorpark College, travel to Villa Del Arroyo Mobile Home Park via Collins Drive, and then use Hwy 118 West to Princeton Avenue and turn south on Spring Road, operating a loops via Miller Parkway, Peach Hill Road, Tierra Rejada Road, Los Angeles Avenue, Park Crest Lane, and Moorpark Avenue to the Civic Center. The clockwise route would return to Moorpark College via High Street, Princeton Avenue, Campus Park Drive, and Collins Drive. The counterclockwise route would operate the identical alignment in the opposite direction. Each route would require one vehicle and provide service every 70 minutes in both directions. Buses would depart from Moorpark College every 35 minutes, operating loops in alternating directions.

Concept C introduces consistency into the MCT system while maintaining bi-directional service to a large number of existing destinations. By scheduling the system with evenly spaced departures at Moorpark College, students would benefit from increased frequency to destinations in central and south Moorpark. Under the existing service structure, Routes 1 and 2 depart within 10 minutes or less of each other at most times of day.

Compared to the other service concepts, Concept C has the least frequent service. The existing service frequency is variable, with some trips 60 minutes apart and others 70 minutes apart. Under proposed Concept C, the schedule would remain an even 70 minute headway all day. While Concept C provides the most coverage of all of the service concepts, several route segments that are served under the existing system, such as Christian Barrett Drive, Mountain Trail Street, Mountain Meadow Drive, and Countrywood Drive would not be served directly.

Figure 54 Concept C: Refined Loops



PREFERRED CONCEPT

As described in Chapter 4, service concepts were presented to the community and City Council in order to collect feedback and refine the recommendations into a preferred concept. The preferred concept is similar to Concept C, which had the most support from existing riders, with several alterations:

- Service to Villa Del Arroyo is provided only on school trips (one morning and one afternoon). This shortens the route compared to Concept C and allows the service to operate every 60 minutes while still serving school trips.
- On the Clockwise route, service to the High School is deviated from Tierra Rejada to Mountain Trail in order to ensure safe access and egress for students.
- Service operates on Second Street in both directions, in order to provide better access to the Flory Academy of Sciences and Technology and the surrounding neighborhood.

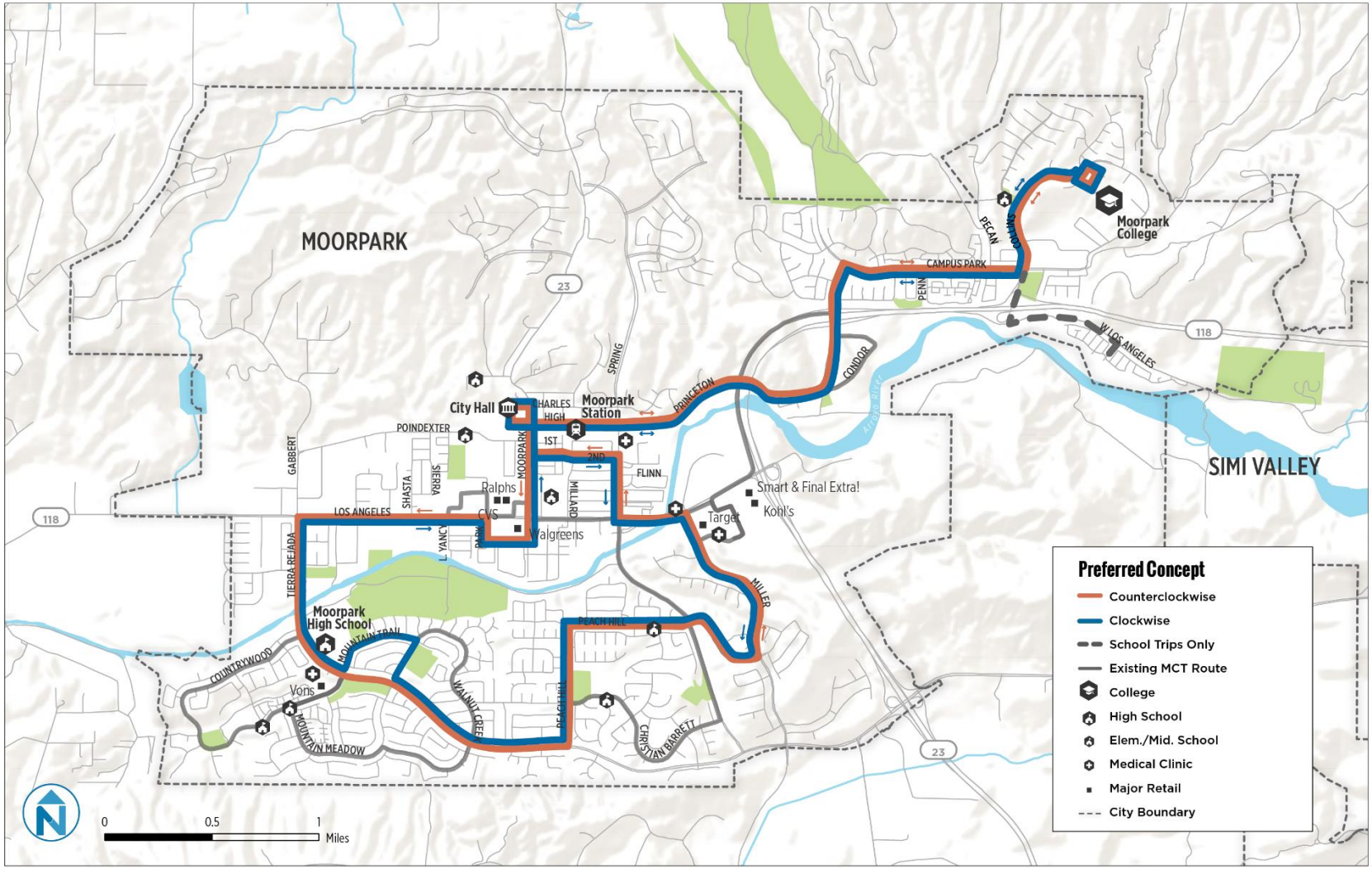
Compared to MCT's existing service, the preferred concept achieves goals of providing simplified routing, fewer deviations, bi-directional service and operating a consistent headway.

Removal of deviations to Mission Bell Plaza and Moorpark Town Center will improve speed and reliability of the service and support the provision of service that is easy to understand.

Neighborhood streets including Countrywood Drive, Mountain Meadows, Walnut Creek, and Christian Barrett would no longer be served directly by MCT, however the land uses and existing ridership patterns show that these streets have low ridership potential. The ability to provide two-way service on arterial and collector streets such as Campus Park Drive, Peach Hill, 2nd Street, and Park Crest Lane, where there is higher density housing and stronger existing ridership markets outweighs the loss of service on neighborhood streets.

The clockwise and counterclockwise routes are scheduled to depart from Moorpark College every 60 minutes for each route, offset by 30 minutes, effectively serving Campus Park Drive, Princeton, and High Street every 30 minutes. Based on existing ridership data, these corridors generate one third of systemwide ridership and would be served twice as frequently as they are today. Both routes would operate nine consecutive trips per day at even headways (the first nine of eleven trips on the clockwise route and the middle nine of eleven trips of the counterclockwise route), making a consistent, user-friendly schedule. Combined, both routes would operate 22 trips per day, compared to 20 trips under the existing route structure, all at no additional cost.

Figure 55 Preferred Service Concept



EVALUATION OF SERVICE CONCEPTS

Using stop-level ridership data, each of the service concepts was evaluated to determine the percent of existing riders that would continue to have access to transit (defined as a stop within ¼ mile of the existing stop), and have access to bi-directional transit service. The preferred concept represents a significant increase in bi-directional service while maintaining coverage to 96% of existing riders.

Figure 56 Evaluation of Service Concepts

Service Concept	Existing Riders within ¼ mile	Existing Riders with Bi-Directional Service
Existing	100%	61%
Concept A	94%	47%
Concept B	93%	93%
Concept C	94%	94%
Preferred Concept	96%	90%

IMPLEMENTATION

This section describes a process for implementing the preferred alternative, as well as future service changes.

Civic Center Bus Stop Improvements

One key component to the successful implementation of the preferred concept will be routing through the Civic Center complex. Currently, MCT vehicles turn around by reversing into the loading zone outside of the City Administration building. This maneuver is time consuming, and impacts the ability of the preferred concept to operate a 60-minute headway.

City of Moorpark has procured funding to redesign pedestrian access around the Active Adult Center and Library so that there are sidewalks and pedestrian paths connecting each of the buildings. As part of this redesign, a bus stop will be constructed on the northwest side of the library parking lot, allowing MCT buses to serve the Civic Center complex in a counter clockwise loop from Charles Street, through the parking lot to High Street.

Service Change Checklist

In addition to the implementation of the preferred concept, service changes allow an opportunity to modify route alignments due to changes in infrastructure or development, adjust schedules based on actual running times, and add or remove bus stops. A service change checklist is provided in Figure 57.

Figure 57 Service Change Checklist

Phase	Action(s)
Proposal Development	□ Service & ridership analysis □ Review of rider input □ Cost estimates □ Service equity analysis □ Route and schedule concepts □ Rider outreach □ Public meetings □ Proposal revisions □ City Council approval
Implementation Preparation	□ Schedule development □ Driver work assignments □ Marketing and communication materials □ Capital upgrades (bus stop signage and amenities, supporting infrastructure, etc.) □ IT updates (Nextbus, Google Transit, etc.)
Implementation	

6 PERFORMANCE MONITORING

This section outlines performance monitoring strategies to ensure service quality on an ongoing basis. Continuous performance monitoring allows the City of Moorpark to evaluate trends and make adjustments. Three performance metrics are recommended for Moorpark City Transit.

Schedule Reliability

Schedule reliability is a measure of how well a particular route adheres to its schedule. It suggests whether a customer can count on a bus being there when the schedule says it will be. For most systems, buses are considered on-time if they depart a designated timepoint between zero and 5 minutes later than the scheduled departure time. Buses should never depart a timepoint ahead of schedule unless operators are given explicit permission to do so (such as at the last stop on a trip that will go out of service).

Potential factors impacting on-time performance include inadequate running times, traffic conditions, or construction. A high number of boardings on a particular trip or at a specific stop (school pickup/dropoff for example) may also affect schedule reliability if recovery time is insufficient to absorb the added time.

Trips Departing Between Zero and Five Minutes of Scheduled Time ÷ Total Daily Trips

Passenger Loads

Managing passenger loads is crucial in maintaining customer satisfaction, schedule reliability, and safe operations. Automated passenger counting systems (APC's) provide the capability to record the size of the maximum load on each trip in the system. Since MCT currently does not have APCs, driver logs or regularly scheduled ridechecks can provide this information. Passenger load data can highlight where capacity issues are creating routine standing loads or pass-by situations, and where seating capacity is going unused.

Load factors reflect the ratio of passengers to total seated capacity. Load factors vary by route type and time of day. Average peak load factor is the average of all peak loads divided by the average seated capacity of buses employed on a route. The peak load is the maximum number of passengers on-board at any point in a trip. For example, if the average peak load of all daily trips is 30 and the average vehicle capacity is 40, the average peak load factor is 75%.

Average Peak Load ÷ Seating Capacity

Overcrowding on buses often indicates the need for improved headways or increased capacity. Appropriate load factors vary by time of day. During peak periods it is generally acceptable for some passengers to be expected to stand for part of the trip.

Farebox Recovery

Farebox Recovery is the portion of the total operating cost that is recovered through the farebox. This includes transit pass sales, revenue generated from agreements with schools, universities, or major employers, and advertising revenue. In order to receive Transit Development Act (TDA) funding, MCT must maintain a 20% farebox recovery ratio. As of 2016, MCT has a 15% farebox recovery ratio, which must be increased. Ongoing monitoring of this metric is crucial.

Farebox Revenue ÷ Operating Cost

7 SERVICE EXPANSION

While the preferred concept may be implemented at no increase in cost over MCT's existing operating budget, there are two additional investments in transit service that should be considered if additional funds become available, evening service and Saturday service

EVENING SERVICE

It is recommended that MCT extend service span by three hours in the evening until 8:40 p.m. Under the preferred concept, service would end at 5:40 p.m. which is sufficient to serve school and extracurricular activity trips but in most cases will not serve employees of service industry or retail jobs. Extending service into the evening will strengthen the all-day market for transit by expanding the types of riders who can use the service for trips taken on a regular basis. Each route would operate three additional trips.

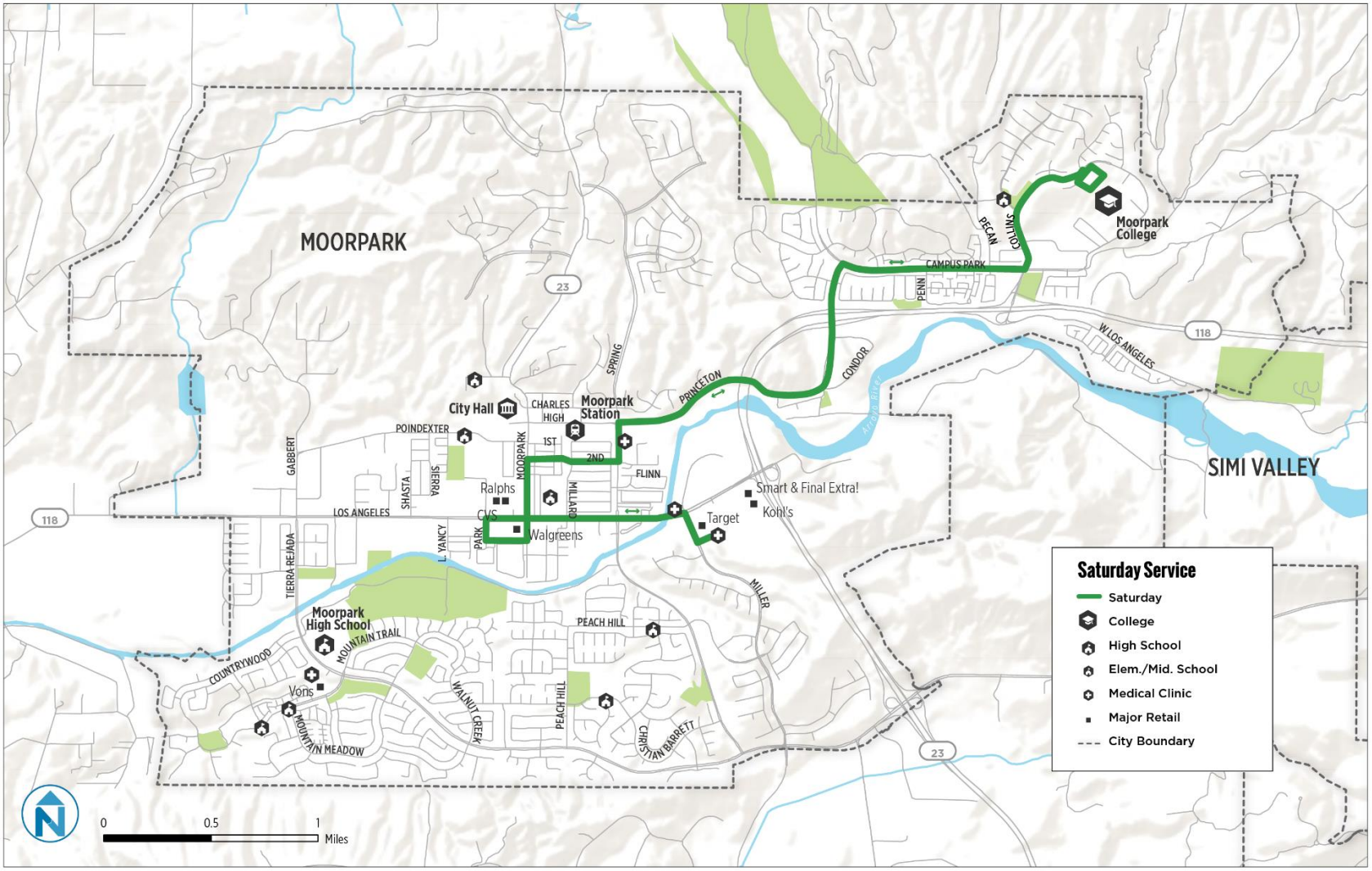
In 2016 MCT reduced the span of service due to reduction in funding that had been available as part of a demonstration project. While ridership data indicated low usage of the trips that were discontinued, it is important to consider the overall effect that increased span can have on ridership. While later evening trips may not carry large numbers of riders, ridership on daytime trips may increase due to flexibility to plan return trips later in the evening.

SATURDAY SERVICE

The proposed Saturday service includes one vehicle operating every 60 minutes between 8:00 a.m. and 6:00 p.m. As shown in Figure 58, the proposed route would operate bi-directionally between Moorpark Marketplace and Moorpark College, serving Park Crest Lane, Moorpark Avenue, Second Street, Princeton Avenue, and Campus Park Drive. Though Moorpark College classes do not meet on weekends, service to the college will connect with VCTC Intercity service, and also provides a safe location for layover and to turn the vehicle around. Proposed Saturday route serves Moorpark's densest neighborhoods, taking into account that service to neighborhoods in south Moorpark is not warranted on weekends due to the absence of school ridership.

While Saturday service previously operated by MCT carried few riders, the provision of Saturday service expands the types of trips that can be made on transit. Though weekend service is typically less productive than weekday service, it can add value to the system as a whole by providing increased flexibility for transit riders. Service industry and retail workers who have weekday and weekend shifts are more likely to use transit if they can rely on it for all shifts rather than just those on weekdays. Similar to evening service, Saturday has the potential to strengthen the weekday ridership market by increasing the overall access to transit.

Figure 58 Saturday Service Concept



SUMMARY OF FIXED-ROUTE RECOMMENDATIONS

The following figures summarize the resources necessary to implement the preferred service concept as well as weekday evening and Saturday service additions.

Figure 59 Current Resource Requirements

Route	Annual Hours	Peak Vehicles
Route 1	2,678	1
Route 2	3,060	1
Total	**5,738**	**2**

Figure 60 Phase 1: Implement Preferred Service Concept

Route	Recommendation	Annual Hours	Peak Vehicles
Counterclockwise	Implement new route	2,805	1
Clockwise	Implement new route	2,805	1
Total		**5,610**	**2**

Figure 61 Phase 2: Operate Evening Service

Route	Recommendation	Annual Hours	Peak Vehicles
Counterclockwise	Operate service until 8:10 p.m.	3,570	1
Clockwise	Operate service until 8:40 p.m.	3,570	1
Total		**7,140**	**2**

Figure 62 Phase 3: Operate Saturday Service

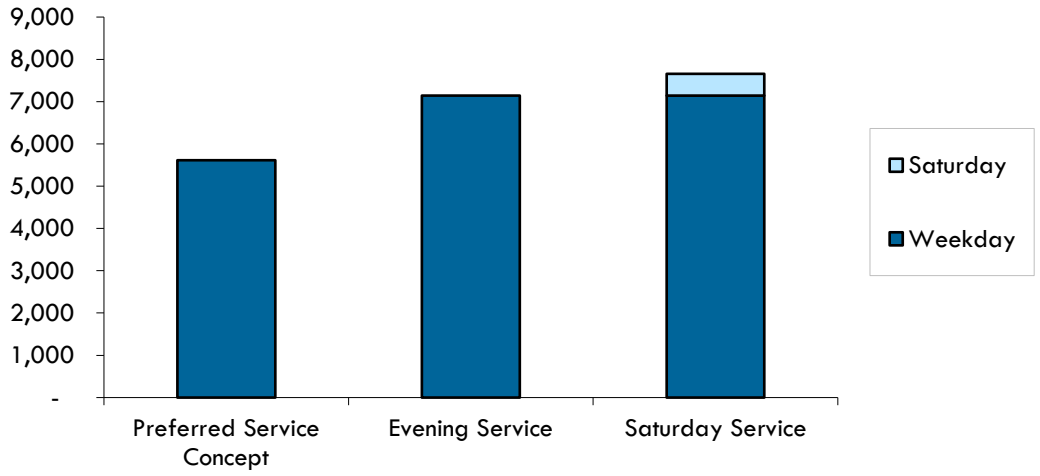
Route	Recommendation	Annual Hours	Peak Vehicles
Counterclockwise	No change	3,570	1
Clockwise	No change	3,570	1
Saturday	Implement new route	520	1
Total		**7,660**	**2**

A summary of annual hours and peak vehicle requirements for Phases 1-3 for the MCT system is provided in Figure 63.

Figure 63 Summary of Phase 1-3 Recommendations

Phase	Recommendation	Annual Hours	Peak Vehicles
1	Implement Preferred Service Concept	5,610	2
2	Operate Evening Service	7,140	2
3	Operate Saturday Service	7,660	2

Figure 64 Service Hours for Phase 1-3 Recommendations



8 FARE RECOMMENDATIONS

The recommended changes to MCT's routes are intended to increase ridership by making service easier to understand and more convenient. Increased ridership will likely lead to increased fare revenue, which should improve farebox recovery since the preferred concept can be implemented at no additional cost. This section discusses potential strategies and best practices for generating additional fare revenues to improve farebox recovery and facilitate connections to other transit providers.

SENIOR/DISABLED FARES

Seniors and persons with disabilities currently are not charged a fare on MCT fixed route service. While other transit providers in Ventura County charge discounted fares to these populations, MCT is the only transit provider that charges no fare. In order to improve farebox recovery and bring MCT's policies in line with other Ventura County operators, Moorpark should consider charging a fare of $0.50 to seniors and persons with disabilities. Though no increases are planned for regular adult fares currently, it is recommended that senior and disabled fares continue to be set at one-half the regular adult fare should it change in the future.

Though charging a fare will have some impact on ridership, it will not have any negative impact on farebox revenue since currently there is none generated by those populations. About 10% of MCT's riders were seniors or persons with disabilities based on FY 2015 data. Assuming that 25% of senior and disabled riders would stop using MCT due to the institution of a $0.50 fare, MCT would still generate about $2,800 of fare revenue annually (based on FY 2015 ridership numbers). This would improve the FY 2015 farebox recovery ratio from 15.3% to 16.0%.

Figure 65 Senior and Disabled Fares Charged by Ventura County Operators

Transit Operator	Senior (65+) Fare Percent of Fixed Route Fare	Disabled Fare Percent of Fixed Route Fare
Moorpark City Transit	0%	0%
VCTC Intercity	50%	50%
Simi Valley Transit	50%	50%
Thousand Oaks Transit	50%	50%
Ojai Trolley	50%	25%
Gold Coast Transit	50%*	50%

*Gold Coast Transit is free for persons 75+

FARE AGREEMENT WITH MOORPARK COLLEGE

Fare agreements between institutes of higher education and transit agencies (often referred to as U-Pass programs) typically allow students to ride for free in exchange for an annual payment by the college or university to the transit agency's operating budget. Fare agreements can benefit both transit agencies and colleges/universities for the following reasons:

- By subsidizing the cost of transit, colleges/universities can improve access to education for low income students
- Transit agencies have a revenue stream that is more reliable and consistent than individual fares and still counts toward fare revenue
- Transit service can alleviate capacity issues on parking constrained campuses

Moorpark College is the second largest generator of existing MCT riders with about 25 boardings per day at the college. Currently, there is no fare agreement with MCT, but Moorpark College does contribute to VCTC intercity service, which also serves the college. According to September 2013 data, 1,250 Moorpark College students live in Zip code 93021, which roughly covers the City of Moorpark. May 2016 ridership levels (25 boardings per day) indicate that about 2% of Moorpark College students who live in Moorpark are using MCT to get to and from campus. If a fare agreement were instituted that allowed Moorpark College students to ride MCT free, more students who are Moorpark residents are likely to use the service. MCT should explore opportunities to develop of a fare agreement with Moorpark College. The following figures demonstrate estimates of existing fare revenues from Moorpark College Students and potential fare revenues that could be generated by an agreement with Moorpark College.

These estimates include the following assumptions:

- On average, 25 students travel to and from Moorpark College on transit each weekday for 10 months of the year, generating $10,000 annually in farebox revenue ($2 per student per day).
- If MCT services were provided free to Moorpark College students, ridership at the college would increase by 50%, from a 2% mode-share to a 3% mode-share for students who are Moorpark residents. This would result in 37.5 students making a roundtrip on MCT each day for 10 months of the year.
- In lieu of student fares, Moorpark College would contribute $400 per student per year to MCT. This reflects the cost of roundtrip fare on weekdays for 10 months of the year. It is recommended that a fare agreement allow students to ride year-round for free to increase the attractiveness of the program.

Figure 66 Estimated Existing and Potential Fare Revenue from Moorpark College Students

Estimated Existing	
Average Daily Riders	25
Annual Farebox Revenue*	$10,000
Fare Agreement Revenue	$0.00

Estimated Potential	
Average Daily Riders	37.5
Annual Farebox Revenue	$0.00
Fare Agreement Revenue	$15,000

*This is an estimate based on ridership date only. This does not reflect actual farebox revenue from Moorpark College students.

Assuming that free fares induce an increase in MCT ridership and that an agreement is in place for Moorpark College to reimburse MCT, a fare agreement could result in an additional $5,000

annually in fare revenue. Based on FY 2015 data, this represents an increase in farebox recovery from 15.3% to 16.5%.

Fare agreements can be funded in a variety of ways including a contribution directly from the University operating budget or a student fee that is assessed to all enrolled students. In the example above, a $15,000 contribution to MCT would cost each enrolled Moorpark College student approximately $1.00 annually.

Fare agreements can be structured based on actual usage (fee per student user), as described in the example above, or can be a lump sum that is negotiated in advance. The example provided here is meant to illustrate one potential structure, and the impact it could have on improving farebox recovery.

FARE COORDINATION

Regional fare coordination is an important consideration in integrating local transit services like MCT into a network of transit systems. Transfer or revenue-sharing agreements between operators or specific services make it easier for customers to rely on transit for end-to-end trips.

Currently, MCT has an agreement with VCTC Intercity services, which allows VCTC ticket holders to ride MCT free. The Metrolink Commuter Shuttle operated by Thousand Oaks Transit offers free transfers for riders transferring to MCT, and $1.00 transfers for MCT riders transferring to the Metrolink Commuter Shuttle. These policies should be maintained and updated as fare structures change with neighboring providers.

Simi Valley Transit does not currently connect with MCT services, though it is recommended that if MCT and Simi Valley Transit routes connect in the future, that an agreement that promotes easy transfers between the two agencies be developed. This could include free transfers between systems for riders and revenue sharing agreements between agencies that distribute a portion of fare revenue to the connecting operator based on the number of transfers.

9 MARKETING RECOMMENDATIONS

One key factor to the successful implementation of the preferred service concept is marketing its improvements to existing and potential riders.

RIDER INFORMATION

For people to be able to use transit, they must first know that it is there and be able to understand how to use it. This means that it is extremely important for transit systems to provide clear and concise information about their available services.

Successful small municipal transit systems similar to Moorpark City Transit provide a wide array of printed and online information. The predominant types of information that are widely distributed include:

- **Bus stops** that include signage with basic route, destination and contact information, and a unique stop identification number. High activity bus stops typically also include route/system maps and schedule information.
- Stand-alone **website** that serve as an initial point of access for potential riders. At a minimum, stand-alone websites include the same information as ride guides, as well as service updates and links to social media sites.
- Web and app-based **real-time arrival information** that provides projected arrival times at stops. Major stops often include maps on a digital screen that display the actual location of transit vehicles.
- **General Transit Feed Specification (GTFS)** for sharing route, stop, and schedule information and Google Transit implementation.

Bus Stops

In addition to providing essential service information, bus stops also act as marketing signage for transit service. Therefore, it is important that bus stops are attractive and easy to understand. An example of a typical Moorpark City Transit bus stop is provided in Figure 67.

Figure 67 Typical Moorpark City Transit Bus Stop

Implementation of the preferred service concept will require new signage at all bus stops. This large-scale replacement serves as an opportunity to redesign bus stops to include the following:

- Route number served (e.g. Route 1) to eliminate any confusion
- Unique stop identification number for real-time arrival applications
- Americans with Disabilities Act (ADA) compliant logo

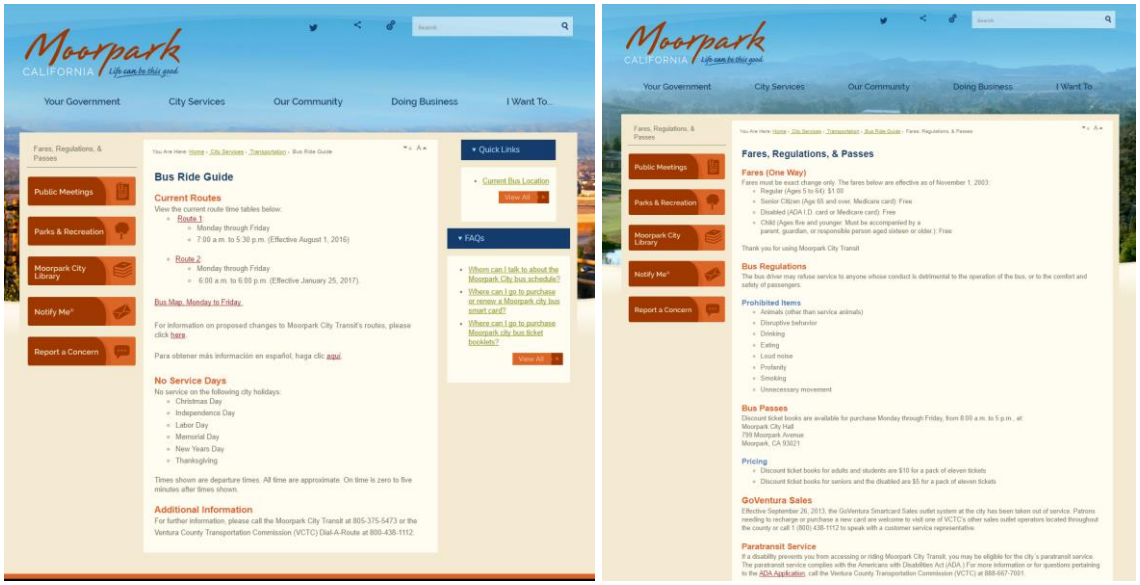
Bus stops with high ridership activity such as Moorpark College, Moorpark Civic Center and Moorpark Marketplace should also include a large system map within the shelter walls.

Website

While some riders prefer to obtain information from printed materials, a growing percentage of riders prefer mobile devices. As a result, transit system websites have become the primary source of information for existing and potential riders.

Extensive information regarding Moorpark City Transit routes, schedules, fares/passes, contact information, service changes proposals, and regulations are available on the transit page of the City's website. The Moorpark City Transit webpage, depicted in Figure 68, also has translation capability.

Figure 68 Existing Moorpark City Transit Webpage



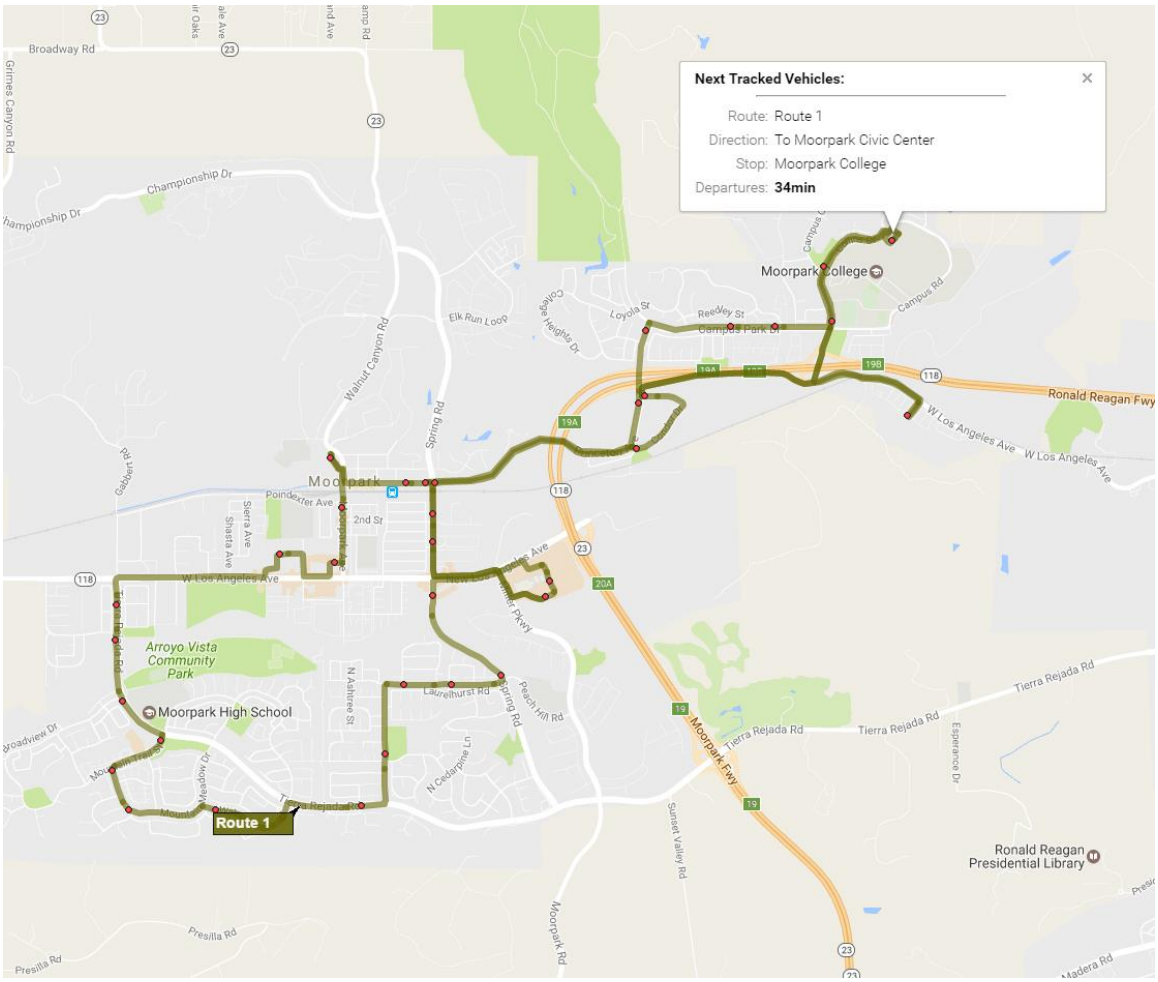
The creation of a simple, stand-alone website with a memorable address is recommended to market the preferred service concept. The following features would provide added value:

- Interactive system map
- Additional information regarding complimentary paratransit service
- Mobile device capability
- Instructional video on how to board a bicycle
- Link to real-time arrival information website
- Links to social media accounts such as Twitter and Facebook that can provide service alerts and updates on transit initiatives

Real-Time Arrival Information

Real-time arrival information is available for Moorpark City Transit and all other transit providers in Ventura County via the Nextbus website and application. Real-time arrival information eases potential concerns about buses not showing up and is particularly attractive to choice riders and college students.

Figure 69 Moorpark Nextbus Real-Time Arrival Information



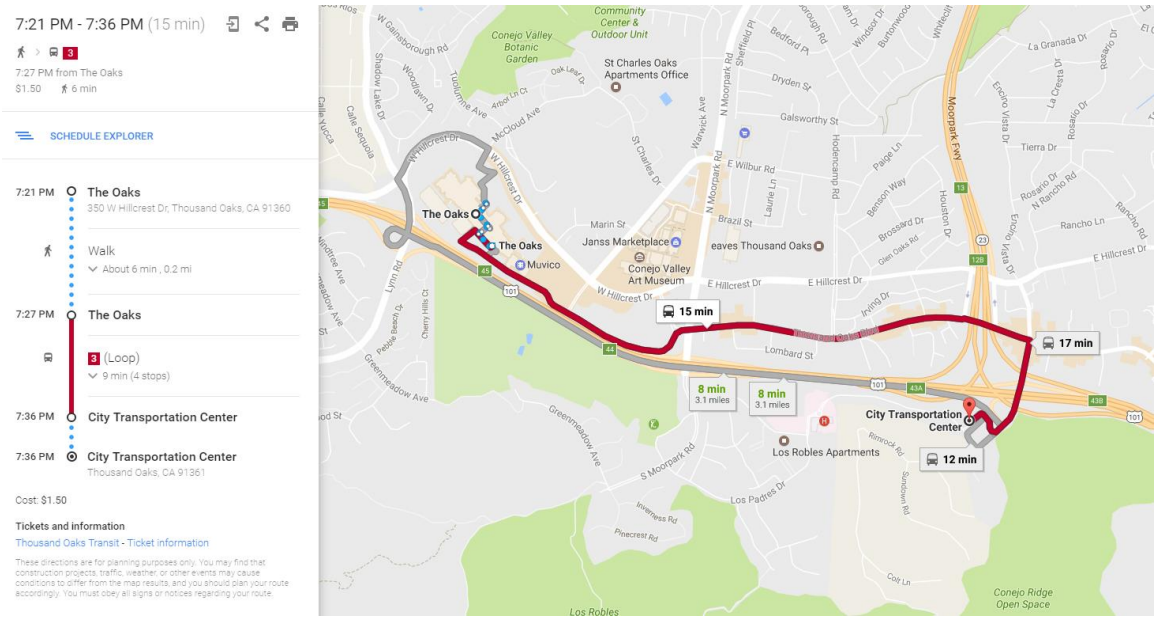
Moorpark City Transit should market the Nextbus tool on its website and future social media accounts. The City should also seek county funding for the installation of a digital display at Moorpark College.

General Transit Feed Specification

General Transit Feed Specification (GTFS) data consists of route, schedule, fare, stop, trip, transfer, and calendar information in a consolidated digital file. The creation of a GTFS allows easy import into Google Transit, which allows transit users to plan local trips and regional trips between multiple transit providers.

Moorpark City Transit should create and import GTFS data into Google Transit.

Figure 70 Thousand Oaks Transit trip planned in Google Transit



BUS AND SHELTER ADVERTISTING

Many transit systems contract with advertising agencies to display ads on buses and shelters in exchange for revenue. While bus and shelter advertising is not also favored by transit management and city leaders, it could provide critical funding for the City of Moorpark.

The California Transportation Development Act (TDA) allows transit providers to classify advertising revenue as "local support" and add it to fare revenue when calculating farebox recovery ratio as described in the California Code of Regulations Section 6611.3.

Bus and shelter advertising revenues range in value depending on the size, location and exposure. Single buses in suburban markets typically generate $5,000-10,000 per year. The lesser amount was doubled (two revenue vehicles) and applied to the current operating costs and farebox revenue to estimate the projected farebox revenue with bus advertising in Figure 71. The result is an increase in the farebox recovery ratio from 15% to 18%.

Figure 71 Potential Farebox Recovery Ratio with Bus Advertising

	FY 2015	Projected
Operating Costs	$412,518	$412,518
Farebox Revenue	$63,221	$63,221
Local Support (Advertising Revenue)	0	$10,000
Adjusted Farebox Revenue	$63,221	$73,221
Farebox Recovery Ratio	15%	18%