LAMORINDA SERVICE PLAN

Draft Final Report

October 2015

NELSON
NYGAARD

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1 EXISTING CONDITIONS

Study Purpose

The primary purpose of this study is to identify and investigate different transportation alternatives in the Lamorinda area. While the focus of the plan is public transportation options, other alternatives will also be considered based on their ability to meet community needs in providing transportation. This study is funded by County Connection in partnership with the City of Lafayette, Orinda and the Town of Moraga. The study is guided by County Connection staff and members of the Lamorinda Program Management Committee Technical Advisory Committee (LPMC-TAC). Additional project funding resources are provided by the Contra Costa Transportation Authority, 511 Contra Costa and the Bay Area Air Quality Management District (BAAQMD).

This existing conditions report is the first component of the plan and provides a baseline of existing public and private transportation options in the area; a quantitative and qualitative review of transportation demand; and a summary of feedback and input received from area residents, transportation providers, and other organizations. The study area is comprised of the communities of Lafayette, Moraga, and Orinda. This area is shown in Figure 1-1.

Community Profile

The Lamorinda area is composed of three Contra Costa County communities: Lafayette, Moraga, and Orinda. Approximately 58,000 people live in this area. According to the Contra Costa Transportation Authority's (CCTA) 2014 Comprehensive Transportation Plan, the Lamorinda area is projected to see the slowest employment growth of any location in the county, with 25% growth by 2040 (about 1% per year); the majority of this growth will come from the service sector. Residential growth is also projected to be the slowest in the county.

Lamorinda's median income is high as compared to the rest of the county. Orinda's median is more than twice the median of the county as a whole; both Lafayette and Moraga's median incomes are more than 50% greater than Contra Costa County. A summary of demographic information is provided in Figure 1-2 below.

Despite the fact that almost all households in the area have access to at least one vehicle, there is a relatively high percentage of public transit use for commute trips (trips to and from work). Further, in each of these three communities, nearly all people who commute by public transit work outside of Contra Costa County. Similarly, among those who carpool, 48% of Lafayette residents work outside the county; 60% of Orinda residents and 77% of Moraga residents do so. In Lafayette and Moraga, those who drive primarily work within the county.

Figure 1-1 Study Area

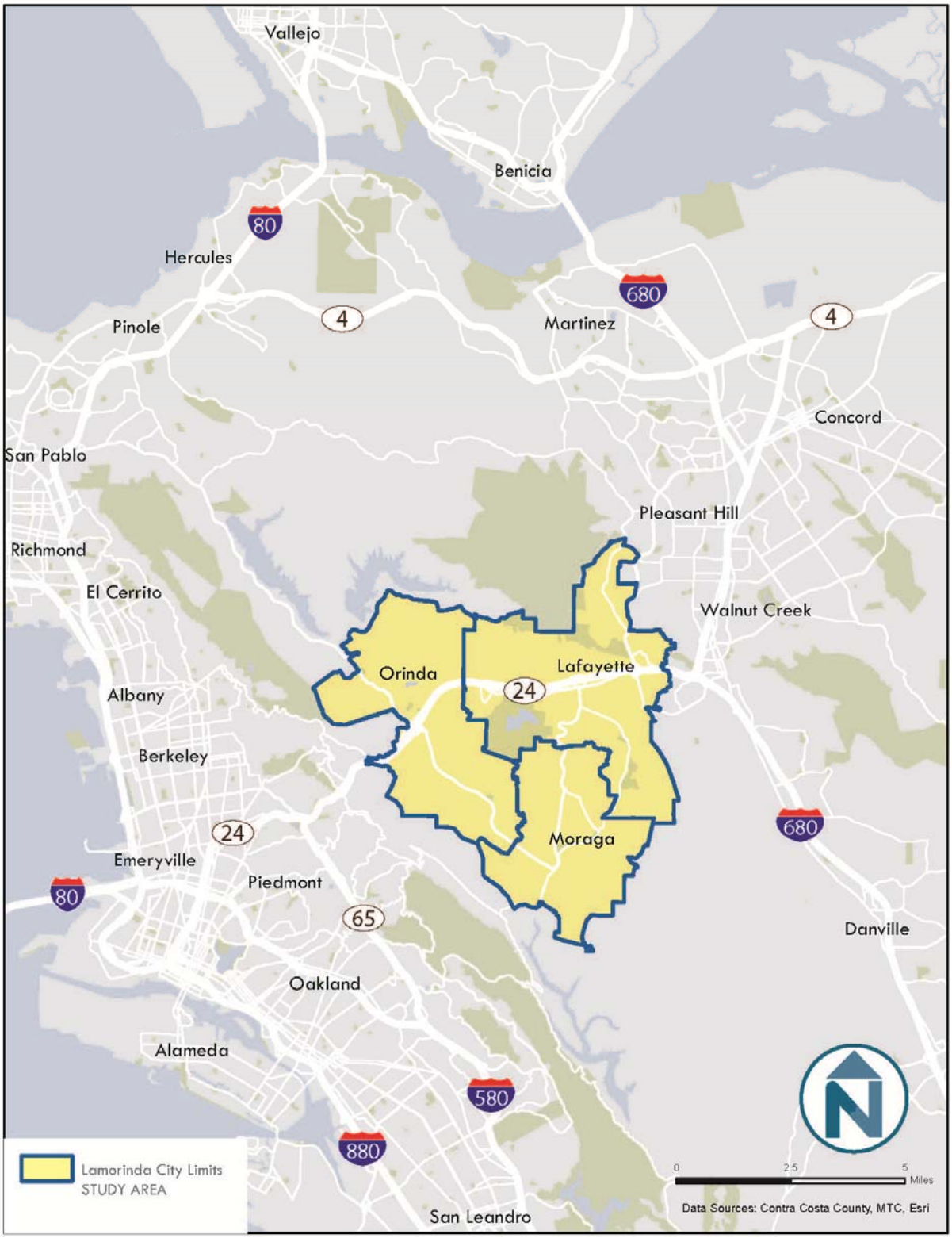

Figure 1-2 Lamorinda Demographic Summary

	Population	Median Household Income	Journey to Work
Lafayette	24,073	$136,438	Drove alone: 66.7% Carpool/vanpool: 7.0% Public transit: 14.3%
Moraga	16,167	$119,416	Drove alone: 65.2% Carpool/vanpool: 6.9% Public transit: 15.1%
Orinda	17,868	$162,267	Drove alone: 65.5% Carpool/vanpool: 5.4% Public transit: 14.5%
Contra Costa County	1,052,047	$78,187	Drove alone: 69.9% Carpool/vanpool: 12.0% Public transit: 9.2%
Source: 2012 American Community Survey 5-year estimates			

Existing Planning Efforts

Numerous planning efforts have been conducted within the study area over the past several years. Relevant findings from each of those plans are provided in this section.

CCTA Comprehensive Transportation Plan (CTP) and Lamorinda Action Plan (2014)[1]

The 2014 Lamorinda Action Plan was developed as a result of the current Comprehensive Transportation Plan for Contra Costa County. It includes a wealth of information germane to the future of Lamorinda transportation services:

- Since 1990, there has been an increase in congestion intensity and duration along CA-24
- 41% of trips through the I-680/CA-24 interchange originated in Lamorinda (2013)
- Traffic along CA-24 is expected to increase by 2040, with most of the increase being from trips that originate in Oakland and Central Contra Costa County
- Telecommuting is growing in popularity in the Lamorinda Area
- BART's current load factor[2] for westbound AM trips at Lafayette is 1.47, eastbound PM trips at Orinda station is 1.26 and (both less than the target of 1.5 set in the 2014 Lamorinda Action Plan)
- While Lamorinda is projected to be a slow-growth area of the county, by far the fastest growing demographic group in the area will be seniors, whose population is projected to increase by 54% by 2040; the adult and youth population is projected to remain constant

[1] http://lafayette.granicus.com/MetaViewer.php?view_id=2&clip_id=1526&meta_id=19671

[2] Load factor of 1.0 means 100% of seats are full. A Load factor greater than 1.0 means that some riders are standing.

- Paratransit ridership in Lamorinda (on County Connection LINK and the Spirit Van) increased about 10% between 2010 and 2012

This Lamorinda Transit Plan satisfies one high-priority action identified in the 2014 Lamorinda Action Plan. Lamorinda jurisdictions came to consensus on several additional efforts relevant to this study, which include the following potential transportation enhancements:

- Expansion of BART seat capacity through the corridor, parking capacity east of Lamorinda, and headway reduction
- Bus headway reductions on routes providing service to BART
- Altered (staggered) school start times along Pleasant Hill Road to reduce peak commute load
- Improved pedestrian and bicycle facilities to/from Lamorinda BART stations and adjacent communities
- Pedestrian and bicycle improvements around schools and trailheads
- Potential road expansion including bypass options and added person-trip capacity on regional freeways to divert traffic from Pleasant Hill Road

The following enhancements identified in the Lamorinda Action Plan are most relevant to this study.

- Subscription bus service (flex van) to BART stations and high volume ridership locations such as St. Mary's College
- Promotion of ridesharing and transit to Lamorinda high schools
- Direct service to important employment centers (e.g. Pleasanton and Bishop Ranch)

Central Contra Costa Transit Authority's FY2013-14 through FY2022-23 Mini Short Range Transit Plan[3]

CCCTA is a joint powers agency of 11 jurisdictions in Contra Costa County and operates County Connection, a fixed-route bus service. This plan was adopted by the CCCTA Board of Directors in September 2014. As of this time, County Connection is not planning any major service expansions. The plan's only potential effects on the Lamorinda study area are through two countywide planned projects: Access Improvements and Mobility Management. Access Improvements cover projects that improve access and safety at bus stops; this project will rank all County Connection projects by need for improvement. The Mobility Management project will create an inventory of existing transportation services for seniors and people with disabilities in Contra Costa County; it recommends a plan for improving coordination among these services.

City of Lafayette General Plan (2012)[4]

The General Plan's goals are consistent with those of this study. The Circulation Element states, "Alternatives to the single-occupant vehicle, such as increased use of public transit and carpools, and reducing the travel demand through better land use planning are important locally and countywide." The plan includes an explicit goal of reducing automobile travel demand through advocating public transit, promoting carpooling and vanpooling, encouraging telecommuting and

[3] Central Contra Costa Transit Authority's Mini Short Range Transit Plan, available at http://countyconnection.com/wp-content/uploads/2010/06/FY14-SRTP-Final-Approved.pdf

[4] City of Lafayette General Plan, Circulation Element, available at http://www.ci.lafayette.ca.us/Modules/ShowDocument.aspx?documentid=1932

compressed work weeks, providing shuttle buses to transit facilities, providing incentives and rewards for bicycling, walking, and telecommuting, and offering preferred parking for carpools. This study fulfills Program C-8.1.3 of the Circulation Element, which is to conduct a study of ways to enhance local access to the City's BART station.

City of Lafayette Downtown Specific Plan (2012)

The Specific Plan, a component of the General Plan's Circulation Element, states that seven major downtown intersections are projected to operate at unacceptable level-of-service measures by 2030, which increases the need for increased use of non-drive alone modes.

City of Lafayette Bikeways Master Plan (2006)[5]

This plan was last updated in 2006. It includes goals specifically encouraging adults and youth to bicycle as transportation.

City of Lafayette Walkways Master Plan (2014)

This plan was adopted in 2014. It includes a list of planned new walkways and sidewalks as well as enhancements to existing walkways. Important destinations, such as the BART station, are highlighted as are several streets that connect to Mount Diablo Boulevard (where transit currently operates).

City of Orinda Circulation Element (1987)[6]

This plan does not place an emphasis on alternatives to the automobile; however, one guiding policy includes expanding bicycle and pedestrian paths to encourage the use of those modes.

City of Orinda Bicycle, Trails, and Walkways Master Plan (2011)[7]

This plan "envisions a future Orinda where residents and visitors can easily, safely and efficiently travel by bicycle or by foot between and within residential areas, and to public transportation, schools, community amenities, parks, City and regional trail systems and the downtown areas."

Livable Moraga Road Project (2014)[8]

"The Livable Moraga Road project is a community-based planning effort for Moraga Road, looking at ways to improve the function, character and livability of the corridor between Campolindo High School and St. Mary's Road." In October 2014, the Planning Commission, Design Review Board, and Park and Recreation Commission gave preliminary approval to a multi-use path, sidewalks, and bike lanes for Moraga Road between Corliss and Donald Drives. The final plan will be brought to Town Council in January 2015.

Town of Moraga Circulation Element (2002)[9]

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[5] City of Lafayette Bikeways Master Plan, available at http://www.ci.lafayette.ca.us/modules/showdocument.aspx?documentid=860

[6] City of Orinda Circulation Element, available at https://cityoforinda.app.box.com/generalplan/1/645878301/15693247942/1

[7] City of Orinda Bicycle, Trails, and Walkways Master Plan, available at http://www.altaprojects.net/files/2813/1464/1886/Orinda_BTW_Master_Plan_04-21-2011.pdf

[8] Livable Moraga Road, available at http://www.moraga.ca.us/livablemoragaroad

[9] Town of Moraga General Plan, available at http://www.moraga.ca.us/dept/planning/docs/GenPlan/GeneralPlan_Complete.pdf

Includes a goal to encourage "Moragans" to walk, bike, take transit, or rideshare as a means of reducing traffic trips, improving environmental quality, and maintaining a healthy lifestyle.

Moraga Bicycle and Pedestrian Master Plan Update (2014)[10]

In late 2014, the Town of Moraga began the process of updating its 2004 Bicycle and Pedestrian Master Plan (MBPP). The MBPP will guide the design and implementation of bicycle and pedestrian facilities within the town and provide improved access to key destinations such as shopping and employment centers, schools, and recreational opportunities. The planning process is expected to kick off in early 2015.

Moraga Center Specific Plan (2010)[11]

The Specific Plan sets the stage for infill development in Moraga Center. It considers several topics relevant to the Lamorinda Service Plan. Increased development considered for downtown Moraga will increase the need for added transit service between downtown, St. Mary's College, and the Rheem Shopping Center. The plan also increases opportunities for bicycle and pedestrian trail connections to, from, and within central Moraga.

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[10] Town of Moraga Request for Proposals, available at http://www.moraga.ca.us/dept/planning/docs/BikePedMasterPlanRFP.pdf

[11] Town of Moraga Moraga Center Specific Plan, available at http://www.moraga.ca.us/dept/planning/docs/MCSP012710.pdf

EXISTING TRANSPORTATION SERVICES

The Lamorinda area is served by local bus and regional rail service in addition to a few specialized services focused on seniors and students. County Connection operates Routes 6 and 25 (traditional fixed-routes), several school tripper routes, and American Disabilities Act (ADA) demand-response services (known as LINK) in the area. Lafayette and Moraga fund the Lamorinda Spirit Van, which is oriented to meeting senior trip needs. The Lamorinda School Bus Program is a subscriber-based service for school age children in the area. Saint Mary's College in Moraga also contracts with County Connection for evening and late-night shuttle service to and from its campus to the Orinda and Lafayette BART stations. A number of local businesses, including retirement communities and hotels, also offer shuttle services to their residents and patrons. Finally, numerous taxi providers serve the area including Taxi Bleu, Orinda Taxi, and the Lamorinda Tipsy Taxi (a student-run taxi service to prevent adolescent drinking and driving).

Public Transportation

Bay Area Rapid Transit (BART)

The backbone of the public transit network in the Lamorinda area is BART. Along its "C" line[12], stations in Orinda and Lafayette connect people to major job centers in Walnut Creek, Oakland and San Francisco. In addition, passengers have direct access to San Francisco International Airport. BART service on the C line runs between 4 a.m. and 1:30 a.m. on weekdays with service every 5 to 10 minutes in the peak period and every 15 to 20 minutes off-peak. On Saturdays, BART operates between 6 a.m. and 1:30 a.m. and on Sundays between 8 a.m. and 1:30 a.m.

Orinda Station

The Orinda Station is a lower-ridership station in the BART system with just over 3,000 daily boardings (3,033 in September 2014). Among those traveling to the Orinda Station, 49% arrive from Orinda, followed by 25% from Moraga, 9% from El Sobrante, and 4% from Lafayette. The station itself is bounded within the median of CA-24 which limits any parking expansion and also presents challenges for pedestrian and bicycle access due to wide roads, fast moving traffic, and highway on and off-ramps.[13]

To the north and south, it is surrounded by low-density housing, with offices and retail developments in walking distance of the station. The station is home-origin oriented—80% of weekday riders originate from home. The majority of these riders access the station by automobile. Transit trips (County Connection) account for 7% of arriving passengers, while 14% walk or bike to the station.

Parking at the Orinda Station is highly used during weekdays. On a typical weekday, BART indicates the parking lot's 1,361 parking spaces are full by 8:40 a.m[14], however information gathered for the community for this planning process indicates lots fill up closer to 7 or 7:30 a.m. (see Community Input). This poses access issues for those arriving later in the morning who wish to take BART. Parking options at the station include reserved and first-come, first-served spaces.

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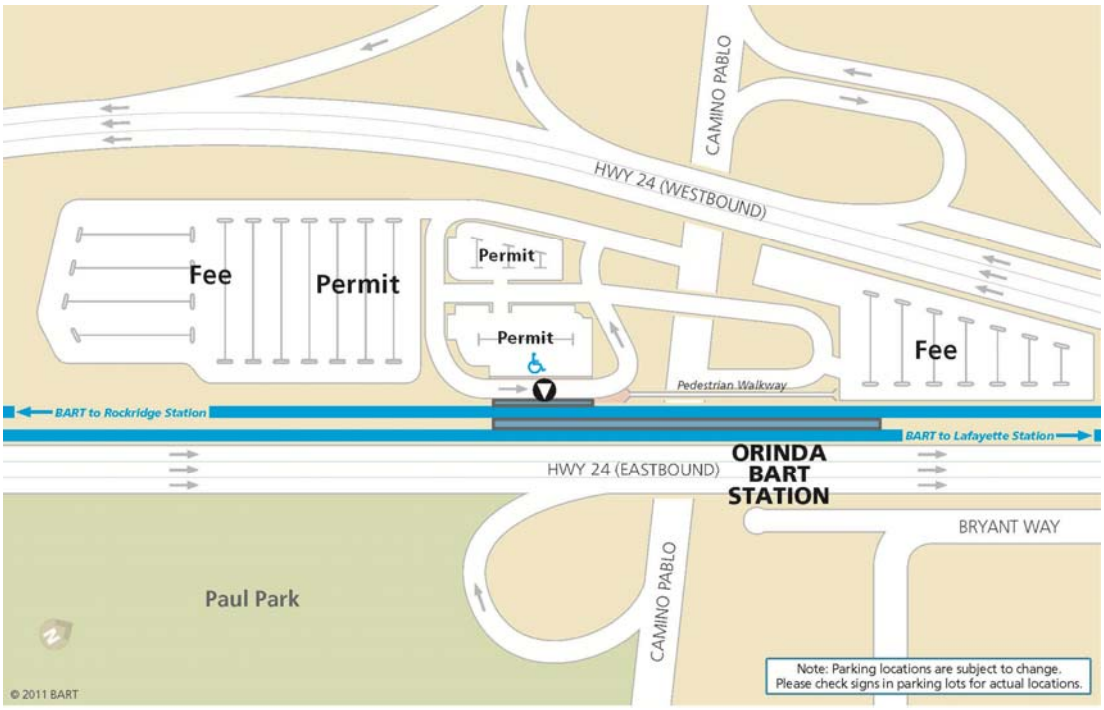
[12] The "C" Line refers to the line of BART stations between Rockridge and Pittsburg/Bay Point

[13] Pedestrian lighting improvements have been planned and funded, access to the station is challenging

[14] Parking fill-time data provided by BART, October 2014.

The daily fee is $2.50. Additional parking pricing options are also available for monthly, extended weekend, and long-term parking.

Figure 1-3 Orinda BART Station Layout



Source: BART

Lafayette Station

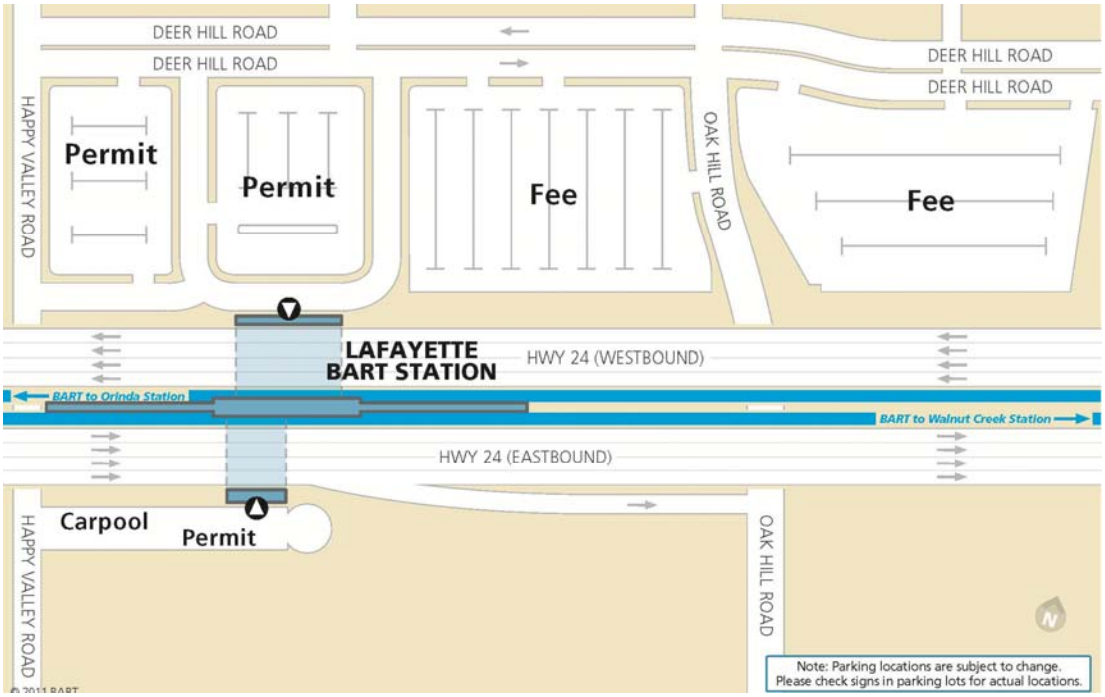
Lafayette is also a low-ridership station relative to others in the system. Of the 3,800 daily boardings (September 2014), 81% are home-origin passengers and over 60% arrive in a car. Bicycling and walking to the station is common—almost a quarter of station entrants walk or bike. Most of the walking trips originate from the downtown commercial district via the underpass to cross into the CA-24 median. To encourage more bicycle access, BART has secured funding for a project to install additional bicycle racks at the station in 2014. Among those traveling to the Lafayette Station, 53% arrive from Lafayette, followed by 13% from Walnut Creek.

Lafayette's commercial district is located near the station, surrounded by low-density single family residential neighborhoods.

The Lafayette BART station is priced similarly to Orinda at a $2.50 daily fee parking. Monthly reserved, extended weekend, carpool, and long-term parking are also available. The lot's 1,528 parking spaces typically fill by 8:20 a.m., according to BART.[15]

[15] Capacity and fill times provided by BART, October 2014.

Figure 1-4 Lafayette BART Station Layout



Source: BART

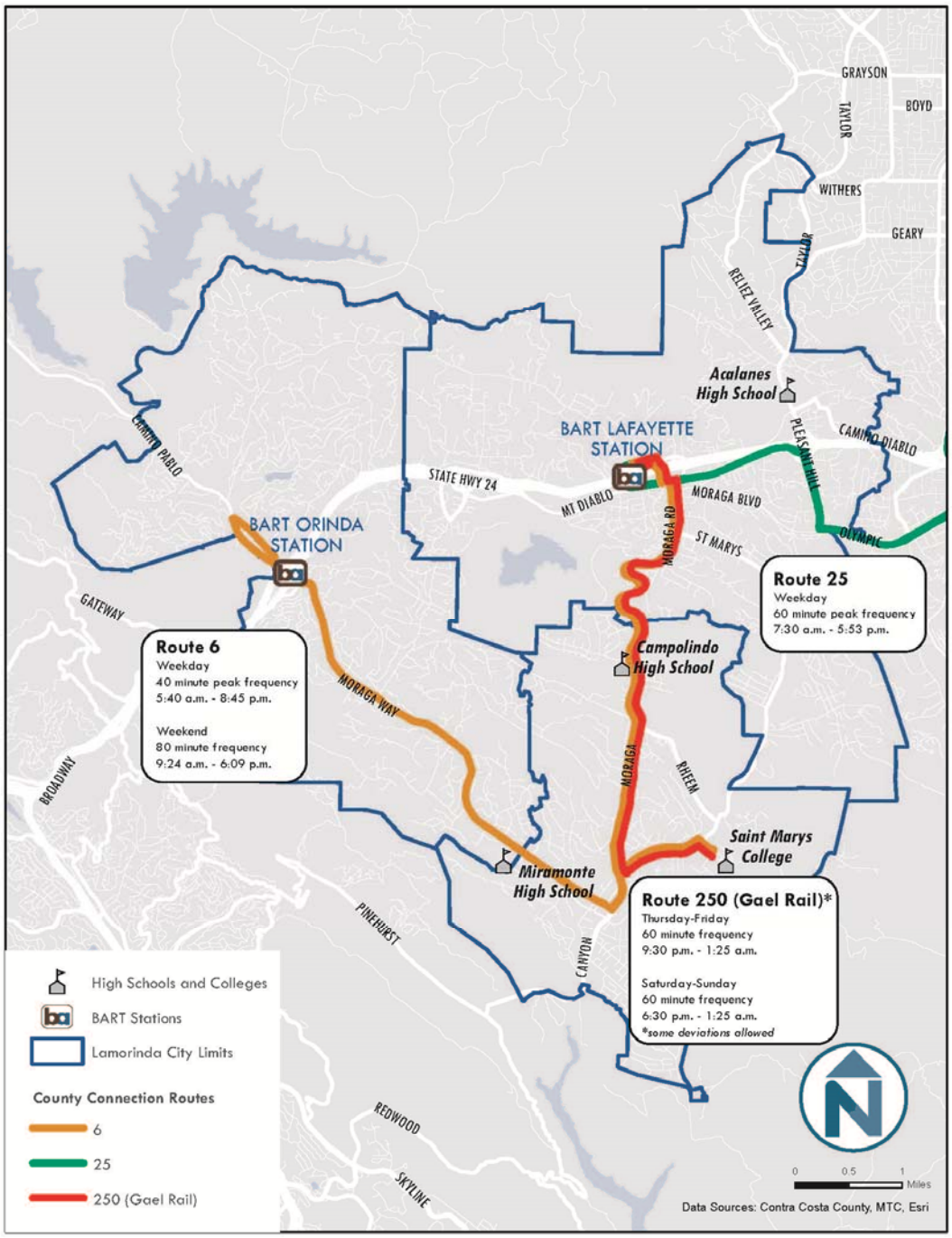
County Connection

County Connection provides fixed-route transit and ADA paratransit services in Central Contra Costa County. This includes the communities of Concord, Pleasant Hill, Martinez, Walnut Creek, Clayton, Lafayette, Orinda, Moraga, Danville, San Ramon, as well as unincorporated communities in Central Contra Costa County. County Connection also runs other express services that connect to destinations outside of this area.

Fixed Route Service

Route 6 and Route 25 are the only two regular County Connection routes operating within the study area. County Connection Route 250 (also called the Gael Rail) is a special service operating Thursday-Sunday evenings between the St. Mary's campus and Lafayette BART station. The Gael Rail could be considered a deviated fixed route service as it allows for pre-scheduled deviations from the posted route to make pick-ups and drop offs.

Figure 1-5 Current Lamorinda County Connection Services



Route 6 (Lafayette-Orinda BART via St. Mary's College and Moraga)

Route 6 provides service to each of the Lamorinda cities with a v-shaped route that connects the Lafayette and Orinda BART stations via Moraga and St. Mary's College. The route operates 40-

minute headways in the peak, two hour mid-day headways. As of the fall of 2014, there were approximately 583 average daily riders[16]—the majority of Route 6 passengers are using the service to reach BART (70%) at either Orinda or Lafayette.

Figure 1-6 Route 6 Service Characteristics

Service Characteristic	
Peak Weekday Frequency	40 minutes (15 westbound/ 16 eastbound trips)
Service Span	5:40 a.m. – 8:45 p.m. (weekdays) 9:24 a.m. – 6:09 p.m. (weekends)
Revenue Hours (weekday)	33:05
Average Weekday Passengers	583
Passengers per Revenue Hour (weekday)	17.6[17] (up 36% from FY 2010/2011)

Route 25 (Walnut Creek-Orinda BART via Olympic Blvd and Mt. Diablo Blvd)

County Connection Route 25 also serves the Lafayette BART station and connects it with the Walnut Creek BART station. Running along Mt. Diablo Boulevard, Pleasant Hill Road, Olympic Boulevard, and N California Boulevard, it runs only once per hour and serves an average of just 88 passengers daily as of the fall of 2014.

Figure 1-7 Route 25 Service Characteristics

Service Characteristic	
Pea0Weekday Frequency	60 minutes (9 westbound/10 eastbound trips)
Service Span	7:30 a.m. – 6:53 p.m. (weekdays)
Revenue Hours (weekday)	9:26
Average Weekday Passengers	88
Passengers per Revenue Hour (weekday)	9.0[18] (up 120% from FY 2010/2011)

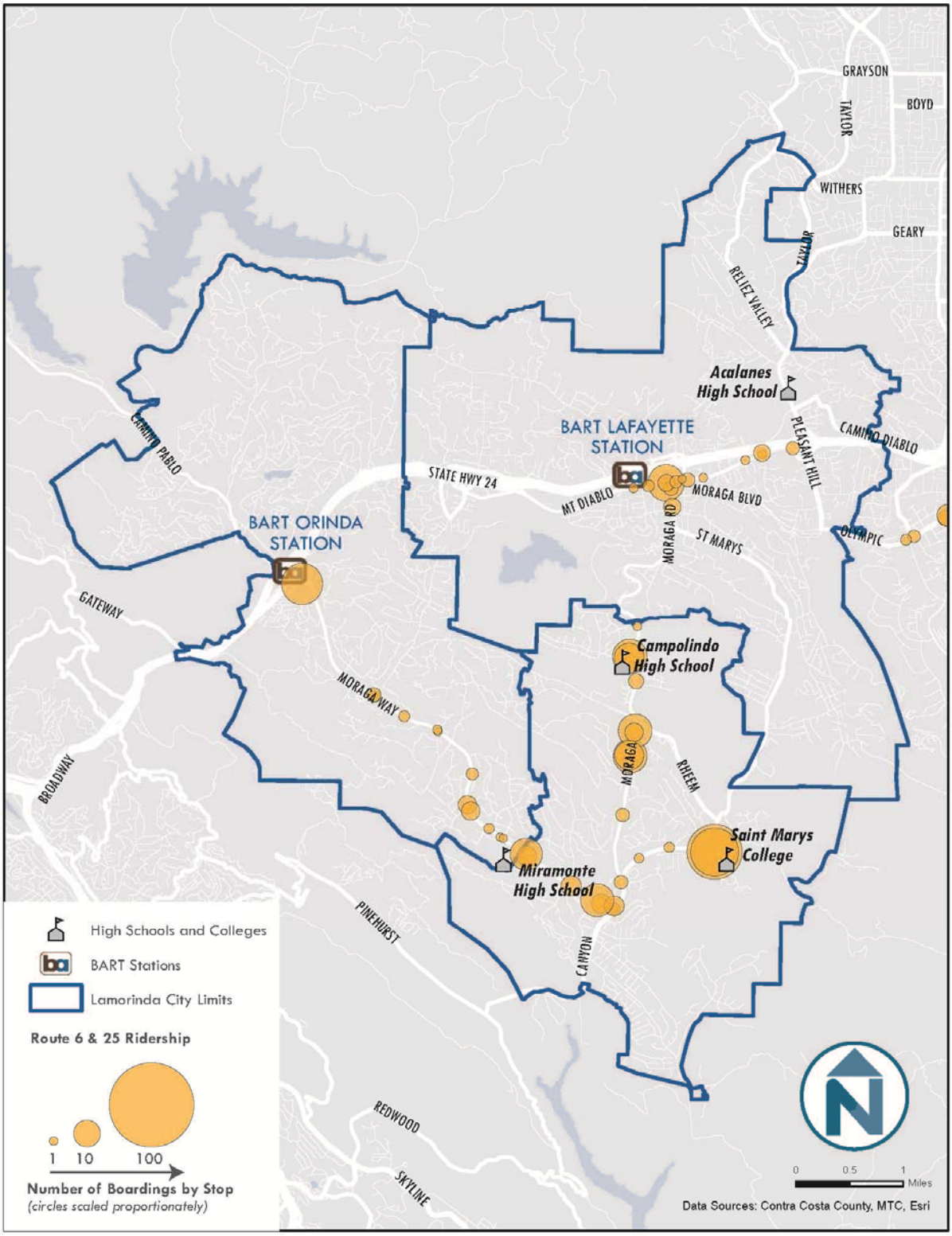
Figure 1-8 provides an overview of boarding activity within the study area for Routes 6 and 25. The majority of boardings are at the two BART stations and on the alignment between Campolindo High School and just north of the Moraga-Orinda border on Moraga Way. St. Mary's College also has a high proportion of the study area's transit boardings.

[16] September 2014

[17] Up from 12.9 passengers per hour, 2012 County Connection Short Range Transit Plan

[18] Up from 4.1 passengers per hour, 2012 County Connection Short Range Transit Plan

Figure 1-8 Route 6 and Route 25 Boardings in Lamorinda



Route 250 (Gael Rail serving St. Mary's College, Moraga Road, Lafayette BART)

The Gael Rail (Route 250) is a service operated by County Connection and has a primary purpose to serve late-night trips between St. Mary's College and the Lafayette BART Station Thursday through Sunday. Unique to this service is its "Flex" capability where deviations are allowed off the main route to pick-up and drop off passengers. This deviation service is only allowed on certain segments of the route. The route also makes existing stops along Moraga Road (Route 6). On Thursdays and Fridays, four southbound trips (to St. Mary's) and three northbound (to BART) trips are provided. Service operates between 9:30 p.m. and 1:25 a.m. The service is funded by St. Mary's College at an hourly rate paid to County Connection.

On Saturdays and Sundays, eight southbound trips and seven northbound trips are provided. Service begins at 6:30 p.m. and operates until 1:25 a.m. The service is free for St. Mary's students (with student pass, see below) and $2.50 for others.

Service Characteristic	
Peak Frequency	60 minutes 4 southbound/ 3 northbound trips, Thursday and Friday 7 southbound / 6 northbound trips, Saturday, Sunday
Service Span	9:30 p.m. – 1:25 a.m. (Thursday, Friday) 6:30 p.m. – 1:25 a.m. (weekends)
Revenue Hours (per day)	3:55 (Thursday, Friday), 6:55 (weekends)
Average Weekday Passengers[19]	31
Average Weekend Passengers[17]	42

School Tripper Services (Routes 603, 606, 625, 626)

In September 2014, the School Tripper routes served 8,299 passengers (an average of 535 passengers per day). The following routes and destinations are served:

- Lafayette School District
- Acalanes and Orinda School District
- Route 603: St. Mary's College, Campolindo High
- Route 606: Miramonte High, Orinda Intermediate
- Route 625: Acalanes High
- Route 626: St. Mary's College, Stanley Middle

Special Transit Pass Programs

Student Transit Ticket Program

511 Contra Costa administers a Student Transit Ticket Program that offers free County Connection transit tickets to students. Each 1st through 12th grade public school student in Lafayette, Moraga, or Orinda is eligible to received two 12-ride passes. This program is offered as an incentive to reduce personal vehicle trips to schools by using transit.

St. Mary's Student Pass Program

[19] As of September 2014

St. Mary's College students also all receive a free County Connection bus pass through the use of their student ID. The campus itself is served directly by Route 6 which connects the campus to shopping in Moraga and the Lafayette and Orinda BART Stations. Thursday-Sunday evenings Gael Rail operates between St. Mary's and BART to provide connections to and from BART after Route 6 service ends service.

LINK Service (ADA Paratransit)

LINK provides ADA paratransit service within the County Connection service area and operates during the same service periods and service areas as Route 6 and Route 25. Since Route 250 already operates as a deviated service, it does not have a concurrent paratransit service during its service period. To be eligible for LINK service, one must be screened to determine if they are unable to independently use the fixed route system due to a disability or health related concern. Currently, seniors (without qualified disabilities or health conditions) are not eligible for LINK service.

Figure 1-9 provides an overview of a one-month period of LINK pick-ups and drop-offs in the Lamorinda area (July 2013) based on home addresses in Lafayette, Moraga or Orinda. The majority of trips are within Lamorinda. Other frequent destinations include Concord, Walnut Creek and Pleasant Hill.

Lamorinda School Bus Program

The Lamorinda School Bus System, is a fee-based service geared especially toward elementary school children. It provides home-to-school (and vice versa) bus transportation to 1,500 students on 21 buses attending 12 schools in the Lafayette, Moraga, Orinda Union, and Acalanes Union High School Districts. The program is a partnership between the three municipalities and the school districts in Lamorinda and is specifically designed to avoid competition with existing fixed-route services provided by County Connection (who offer students a complimentary transit tickets to students, see above and its own school tripper program).

Formally, the program operates as a joint powers authority (JPA) which is primarily funded through Contra Costa County's Measure J ½ cent sales tax program and no funds come directly from the cities. In addition, a portion of revenue comes from users. Parents purchase annual bus passes for specific routes and stops—round trip tickets are $468 per year and AM/PM-only tickets are $304 each. One-trip passes are available for $3 each. Operators suggest that with additional resources, they could run more service and attract more riders, potentially reducing the per student fare.

Some schools are not served by the system, including Happy Valley Elementary (a neighborhood school that generates high biking and walking trips) and Lafayette Elementary (which has traffic congestion issues but generated low bus ridership due to its proximity to the Lamorinda biking and walking trail). St. Mary's Road currently has no service. The highest ridership routes serve Burton Valley Elementary and Stanley Middle School.

The program benefits the community both through direct school transportation and by reducing vehicle trips associated with dropping students off for school.

Origin-Destination Services

The services in this section include scheduled and on-demand services that provide a variety of door-to-door types of services.

Lamorinda Spirit Van

The Lamorinda Spirit Van Program provides transportation services for older members of the community (60+) in Lamorinda and neighboring communities. Riders must schedule trips in advance and can use the service to travel from their home to destinations in the greater Central Contra Costa area (Lafayette, Moraga, Orinda, Concord, Martinez, Pleasant Hill and Walnut Creek). The Spirit Van relies on three vehicles to carry its over 100 registered riders. As compared to other services, the Spirit Van is considered a "door-through-door" service which provides riders a high level of assistance. The Lamorinda Spirit Van is funded in part by the City of Lafayette, Town of Moraga, rider fares and support from the community. The City of Orinda does not contribute directly, but the non-profit Orinda Community Foundation does provide financial support. Rider fares are $5.00 one-way and $10.00 round trip for trips within Lamorinda. For trips outside of Lamorinda, trips are $10.00 one-way and $20.00 round-trip. Figure 1-10 shows current locations of Lamorinda Sprit Van pick-up locations throughout the study area and other parts of Contra Costa County.

Figure 1-9 LINK Trips with Home Addresses in Lamorinda

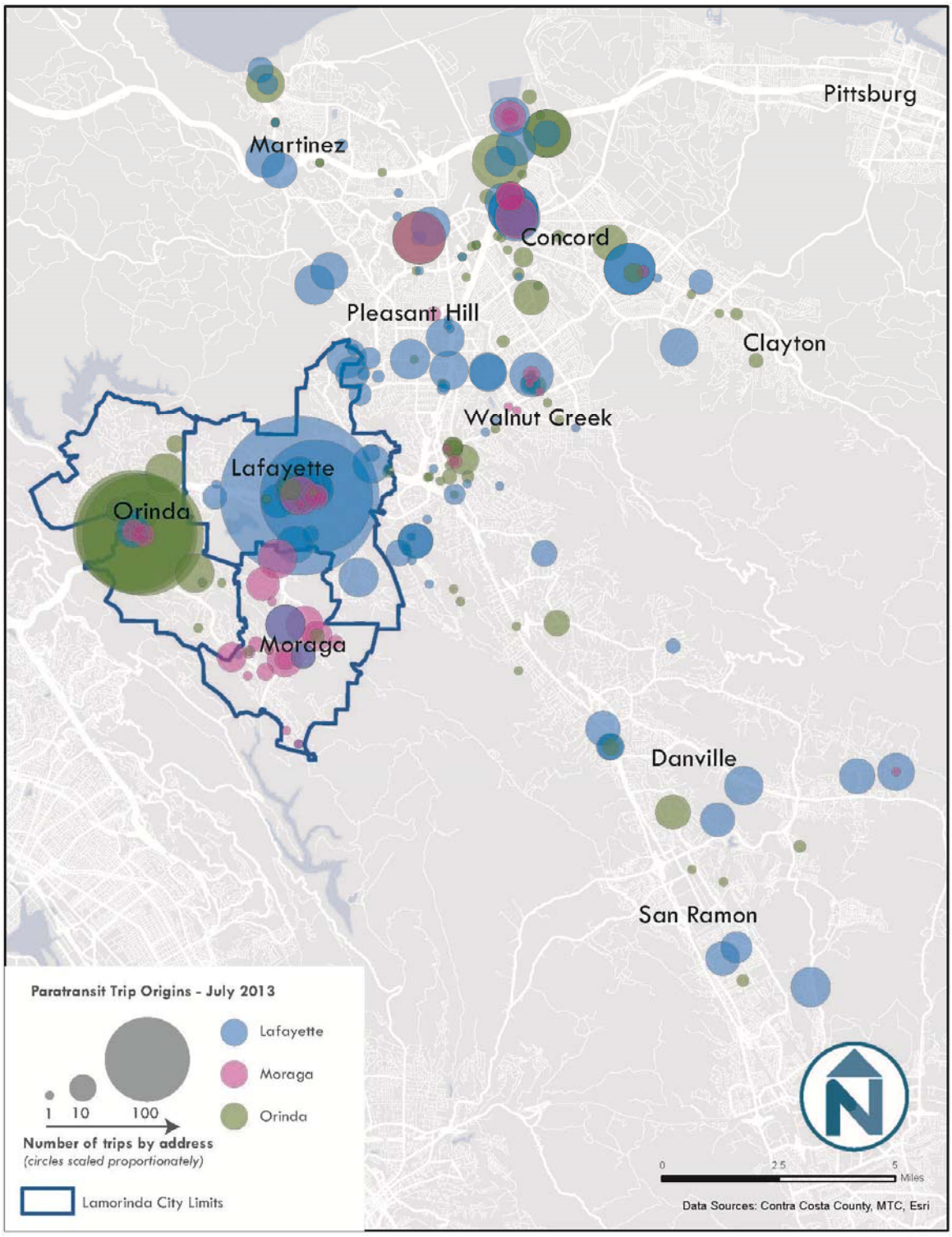
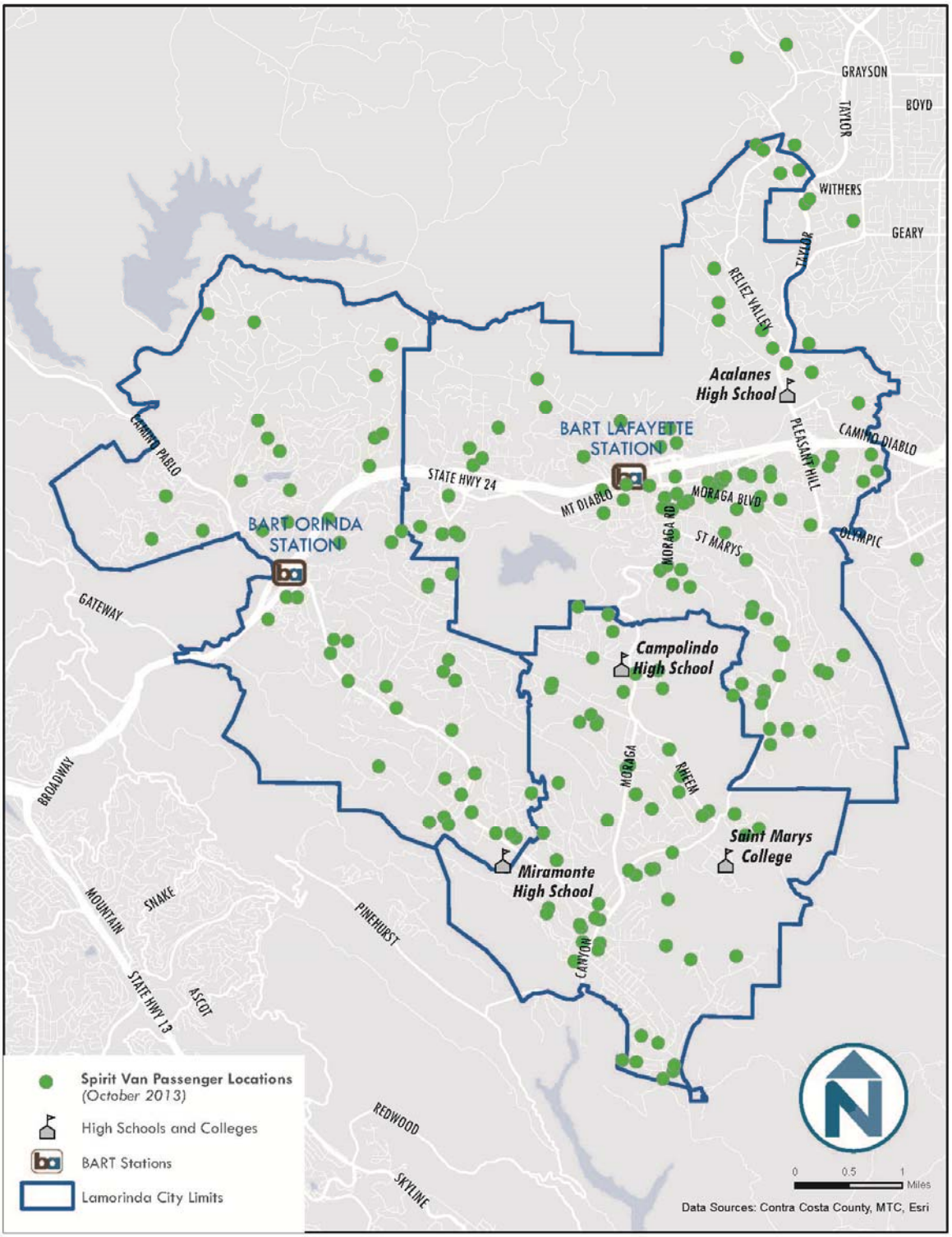


Figure 1-10 Lamorinda Spirit Van Passenger Pick-up Locations



Senior Helpline Services – Rides for Seniors Program

Senior Helpline Services administers a Rides for Seniors program which is a volunteer driver program providing free "door-through-door" rides to senior residents (over 60 years of age) who are unable to use other forms of transportation (including paratransit) within Contra Costa County. The program relies on a pool of trained volunteers who are then matched with seniors who require trips to appointments, medical care and other basic needs. The program is open to the public, but requires participant's specific situation to be evaluated by Senior Helpline Services staff in advance. Trips must also be scheduled at least one week in advance.

Taxi Providers

Several taxi companies, including Desoto, Taxi Bleu, Orinda Taxi, Orinda Yellow Cab, and the St. Mary's College student-run Tipsy Taxi, serve the Lamorinda area and beyond. According to the experience of one such company, whose services run 24 hours a day, 7 days a week, demand is "non-stop" Thursday through Sunday, though they are able to fulfill all requests. Their most common destination—with 80 trips per week—is to Oakland and San Francisco airports. Other common destinations include hospitals and entertainment venues. Taxi Bleu charges a $3.10 base rate plus $3 per mile with a $30-per-hour fee for waiting time (common for trips to and from medical appointments). For Lamorinda seniors, some of the taxi providers offer a 20% discount.

Ridesourcing Providers (Transportation Network Companies)

In recent years, there has been a surge in companies providing smartphone-based, on-demand ride services. While the majority of these companies (Uber, Lyft, Sidecar, Wingz) have been based in major cities, some have also begun to permeate more suburban environments. Different than other services listed above, these types of services are not bound to traditional service windows as supply of drivers is highly variable and depends on a critical mass of riders. As of November 2014, there are anecdotal accounts that Uber service is available in Lamorinda. It is unclear if there are other service providers in the area.

The marketplace and business environments for these types of companies are quickly evolving. The rules that govern them are currently administered and managed by the State's Public Utilities Commissions. However, some cities are going beyond state regulations to place additional incentives and restrictions upon these companies.

Private Shuttles

There have been accounts that some corporate private shuttle buses (larger, over-the-road coach services) operate from the Orinda BART Station. However, this is only anecdotal and no data currently exists that verifies whether or not private shuttles are using either the Orinda or Lafayette BART Stations to provide commuter transportation services. These services are not public and are (as of now) only open to employees of those respective companies. Shuttles of this type typically serve major company campuses (typically technology companies in the South Bay). Some companies that offer these types of services include Apple, Facebook, Genentech, Google, and LinkedIn.

Transportation Network

Road Network

CA-24 is the only major freeway within the study area and connects Lafayette and Orinda directly to Interstate 680 to the east and Interstates 80, 580, and 880 to the west. In addition, several major roads connect destinations within and between the three communities, including Mt. Diablo Boulevard, Moraga Way, Moraga Boulevard, Pleasant Hill Road, Happy Valley Road, and St. Mary's Road. Generally, the area is characterized by a few higher-volume two or four lane roads through valleys connecting to smaller, circuitous and hilly neighborhood streets into the hills that often dead end.

Figure 1-11 below shows traffic counts that were taken in Lafayette on some of these major roads within the study area in the last 5-6 years. To put these numbers in context, 23,500 cars per day is the same as about 16 cars per minute passing by a specific point. Traffic patterns peak during morning and evening peak times, so it is likely that in the morning and evening there would be more than 16 cars per minute passing by; outside of those times, it is likely that there would be fewer. The busiest non-highway roads in the Lamorinda area see this amount of average traffic.

Figure 1-11 Average Daily Traffic at Select Lamorinda Intersections[20]

Intersection	Average Daily Traffic (2-way)	Date
Mt. Diablo Blvd. west of 1st Street	23,500	09/02/2009
Mt. Diablo Blvd. east of 1st Street	12,900	09/02/2009
Moraga Rd. north of St. Mary's Rd.	20,600	09/02/2009
Moraga Rd. south of St. Mary's Rd.	14,100	09/02/2009
St. Mary's Rd. east of Moraga Rd.	7,400	09/02/2009
St. Mary's Rd. south of Florence Dr.	10,600	05/13/2008
Moraga Rd. west of Old Jonas Hill Rd.	15,500	09/02/2009
Pleasant Hill Rd. south of Stanley Rd.	25,100	2012
Pleasant Hill Rd. north of Springhill Rd.	29,300	2012

According to the 2014 Lamorinda Action Plan, CA-24, Pleasant Hill Road, and Camino Pablo all maintained delay indexes less than 2.0 in the AM and PM peaks.[21]

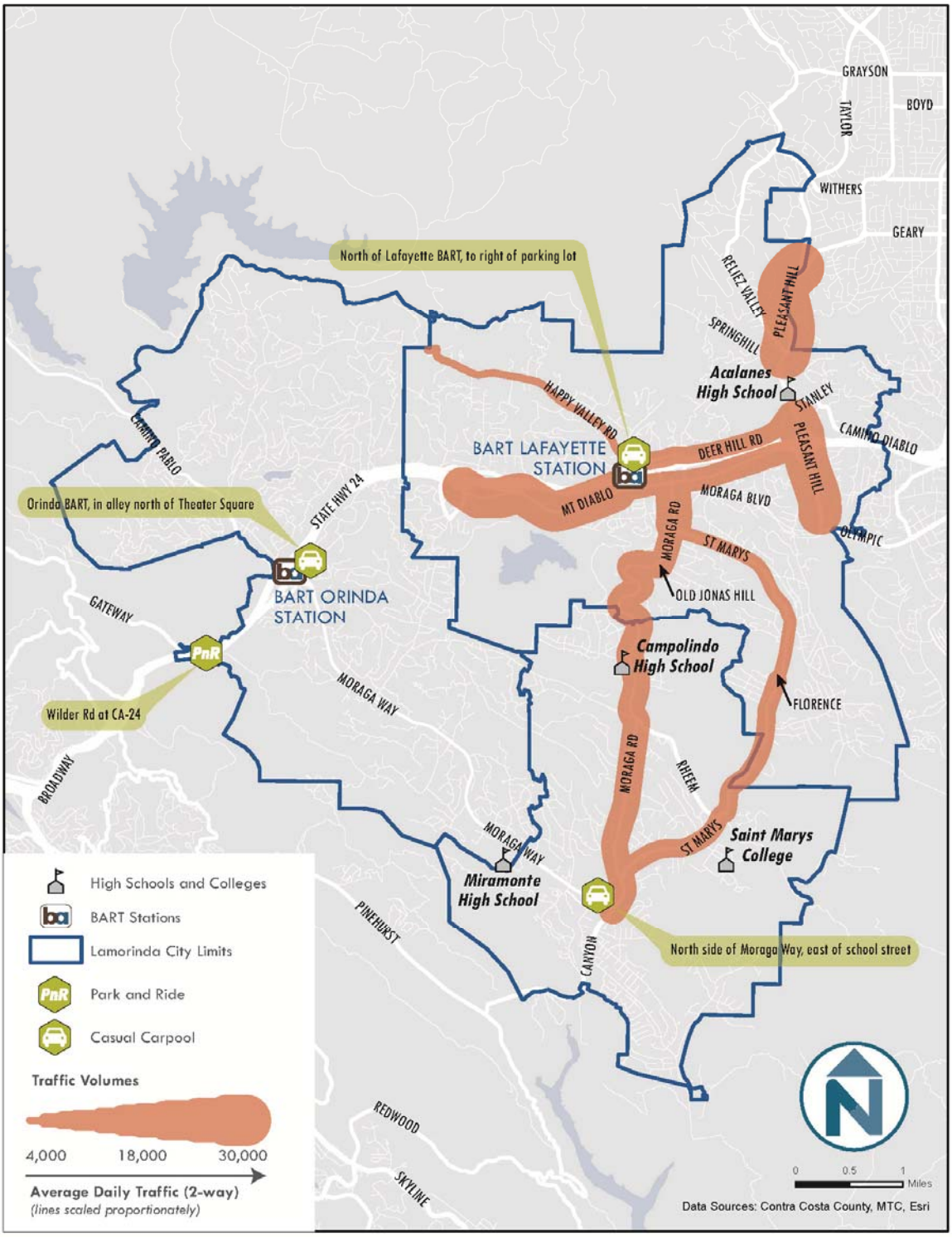
Finally, there is one Caltrans-provided park-and-ride lot and several casual carpool lots in the Lamorinda area. Currently, Wilder Road (west of the main Orinda CA-24 exit) has a park-and-ride parking lot with 34 spaces. However, no transit currently serves this location. Three casual carpool locations (with final destinations in San Francisco) are located in the following locations:

- North side of Moraga Way, east of School street, by the bus stop shelter
- North of Lafayette BART, just outside and to the right of the parking lot
- Orinda BART, in the alley on the north side of Theater Square

[20] City of Lafayette Traffic Counts, available at http://www.ci.lafayette.ca.us/index.aspx?page=316

[21] Delay Index refers to the ratio of peak-period travel time as compared to off-peak travel time. Thus, in the peak period, the travel time is not yet double the travel time when there is no traffic.

Figure 1-12 Lamorinda Road Network, Casual Carpool and Park and Ride Locations

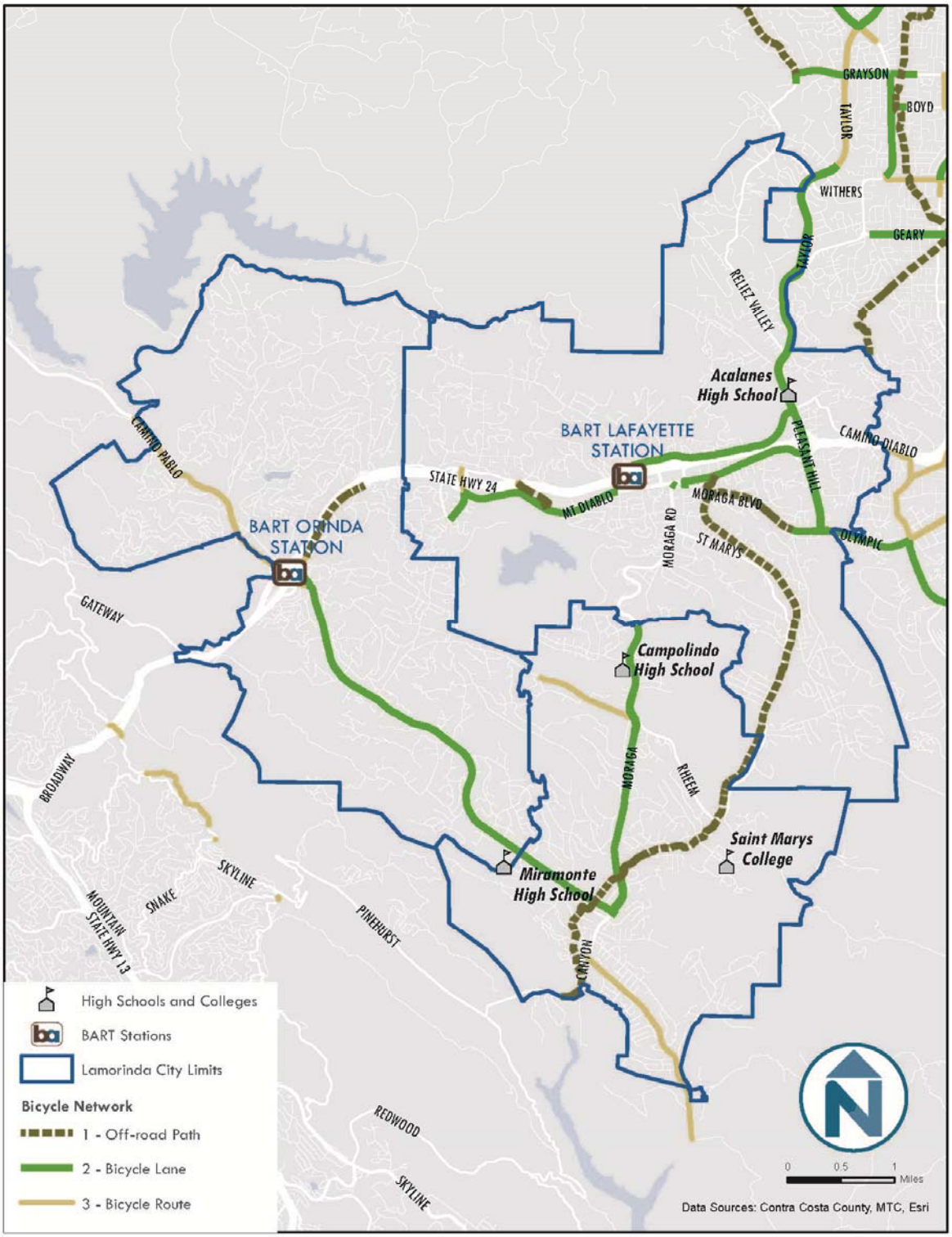


Bicycle Network

Bicycles play an important role in transportation as they can be effective for short trips and can support first and last mile connections to transit. Figure 1-13 shows the existing bicycle network within Lamorinda based on traditional Caltrans classifications (Class 1, 2, 3). This network does not reflect the hilly topography of the study area which may also present a deterrent for cycling. Currently, the dedicated bicycle facility network includes bicycle lanes connecting Moraga to Orinda and the Orinda BART Station (parallel to County Connection Route 6). Bicycle lanes also exist between Moraga Center and Campolindo High School. However, this bicycle facility currently does not extend to Lafayette. Very few on-street bicycle facilities exist outside of the main roads in Lamorinda.

The Lafayette-Moraga Regional Trail is a north-south, 7.7-mile long, linear park intended for pedestrian, equestrian, and bicycle use. Paralleling St. Mary's Road through Lafayette and Moraga, the trail begins at Canyon Road about 0.7 miles south of Camino Pablo and terminates at Olympic Boulevard to the north in Lafayette.

Figure 1-13 Existing Lamorinda Bicycle Network



MARKET ANALYSIS

The Lamorinda area is a unique challenge for transit service due to its combination of lower-density neighborhoods combined with hilly topography. However, residents share similar mobility needs as others in the Bay Area in terms of travel within the Lamorinda area and to other destinations around the region. To paint a picture of transit and transportation alternatives that might be suitable for the Lamorinda area, this chapter outlines existing travel markets using data on demographics, commutes, and future development.

Demographic Information

Figure 1-15 through Figure 1-17 provide a demographic overview of the study area. These maps include information associated to median income, vehicle ownership, seniors (defined by those aged 65 or greater) and population and employment density. Transit success factors are typically associated with lower median incomes, lower vehicle ownership rates, and higher population and job densities. In this analysis, seniors 65+ are also highlighted as they reflect another potential market for senior transportation trips (for individuals who may no longer be able to drive). The Lamorinda area has a relatively high proportion of senior residents, as demonstrated in Figure 1-14.

Figure 1-14 Proportion of Residents Over Age 65

Location	% of population over age 65
Lafayette	16.7%
Moraga	19.1%
Orinda	20.0%
National Average	13.1%

Figure 1-15 shows the median income in Lamorinda which is dominated by households with a combined income above $100,000. Only a small portion of the study area along Pleasant Hill Road reflected a median income below this level. The median household income for Contra Costa County is approximately $80,000. Similarly, it is no surprise that high household incomes correlate with high vehicle ownership. Figure 1-16 shows that nearly the entire study area consists of households with access to more than 1.6 vehicles and much of the study area likely has access to two or more vehicles. The study area has relatively low densities in combination with significant amount of open space. As a result, there are very few areas with high levels of population or employment densities aside from Mount Diablo Boulevard in Lafayette, which includes banks, grocery, and other retail sites. This is reflected in Figure 1-17.

Finally, mobility for seniors is of particular interest in this study given the increasing number of retirees in Contra Costa County. Figure 1-18 highlights the population aged 65 or older throughout the study area. Note that the highest concentration of this population group is north of CA-24 in Orinda. No scheduled transit services currently exist in this area. As mentioned in previous sections, the senior population in Lamorinda will grow at a significant rate in the upcoming decades.

Generally speaking, the information captured from these maps confirm that providing traditional fixed-route transit in the Lamorinda area is challenging based on the demographics in

combination with the constrained street network. This suggests that beyond what is currently available, future transportation options must be further tailored to meet the specific characteristics of Lamorinda.

Figure 1-15 Lamorinda Median Household Income

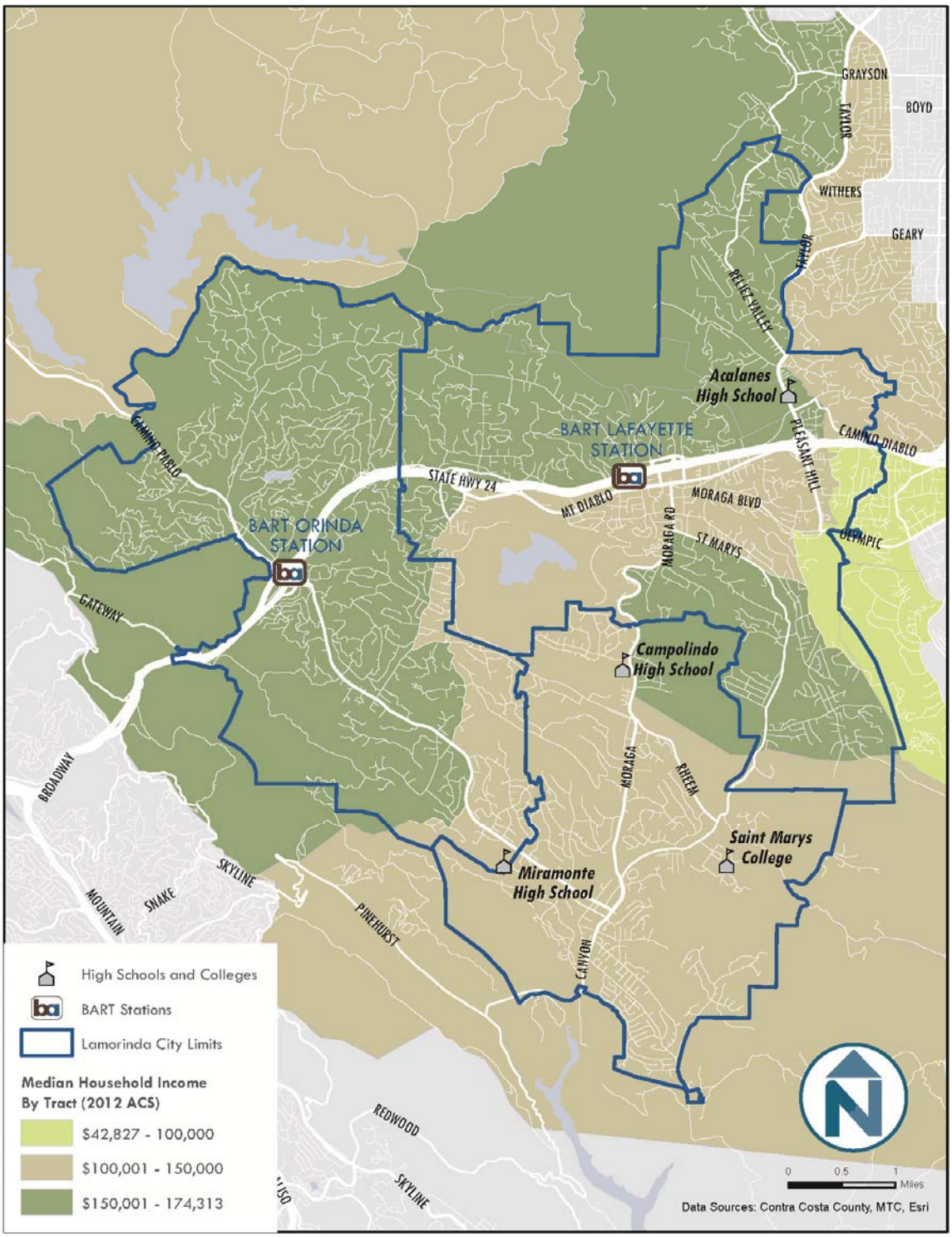


Figure 1-16 Lamorinda Average Vehicle Ownership

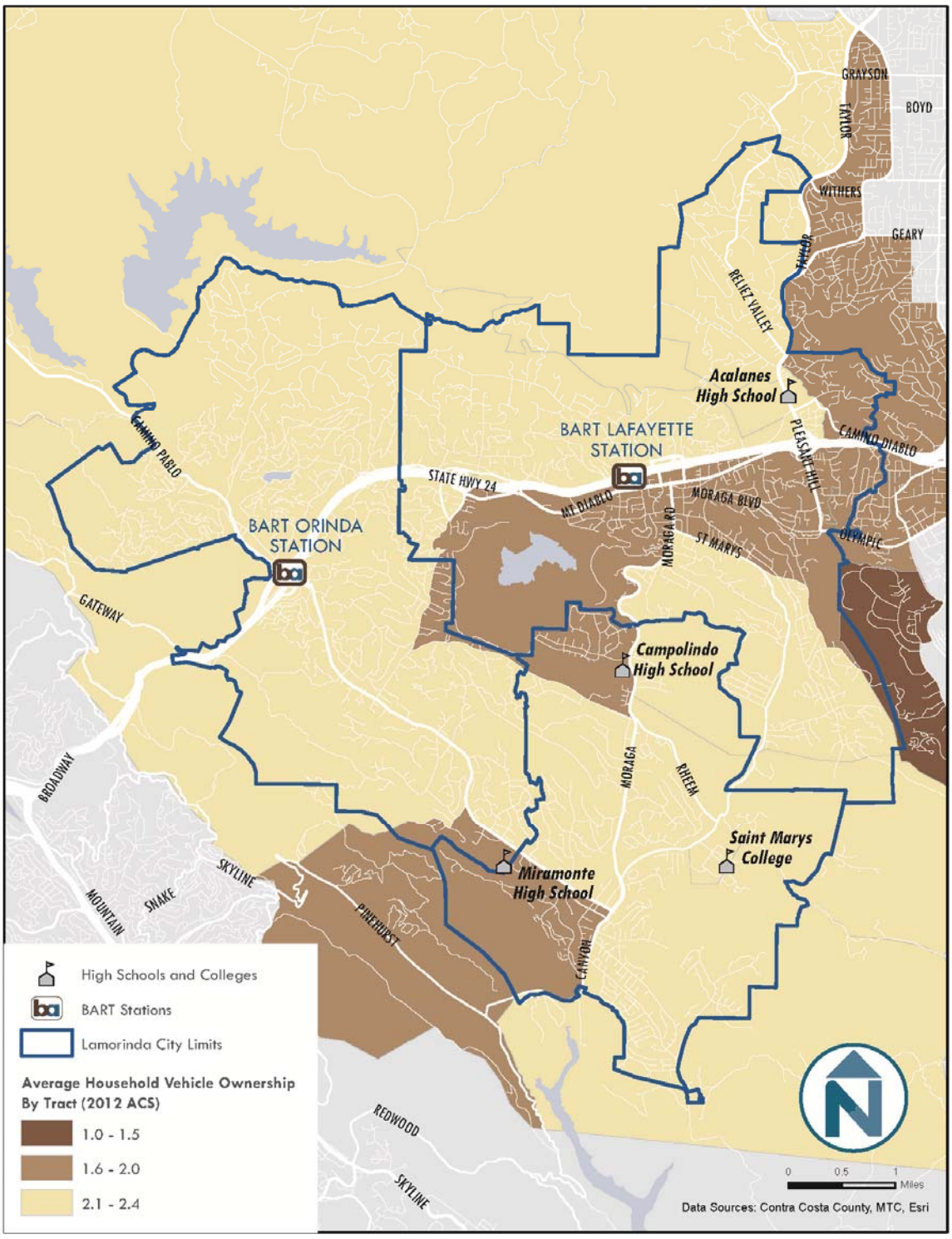


Figure 1-17 Lamorinda Combined Population and Employment Density

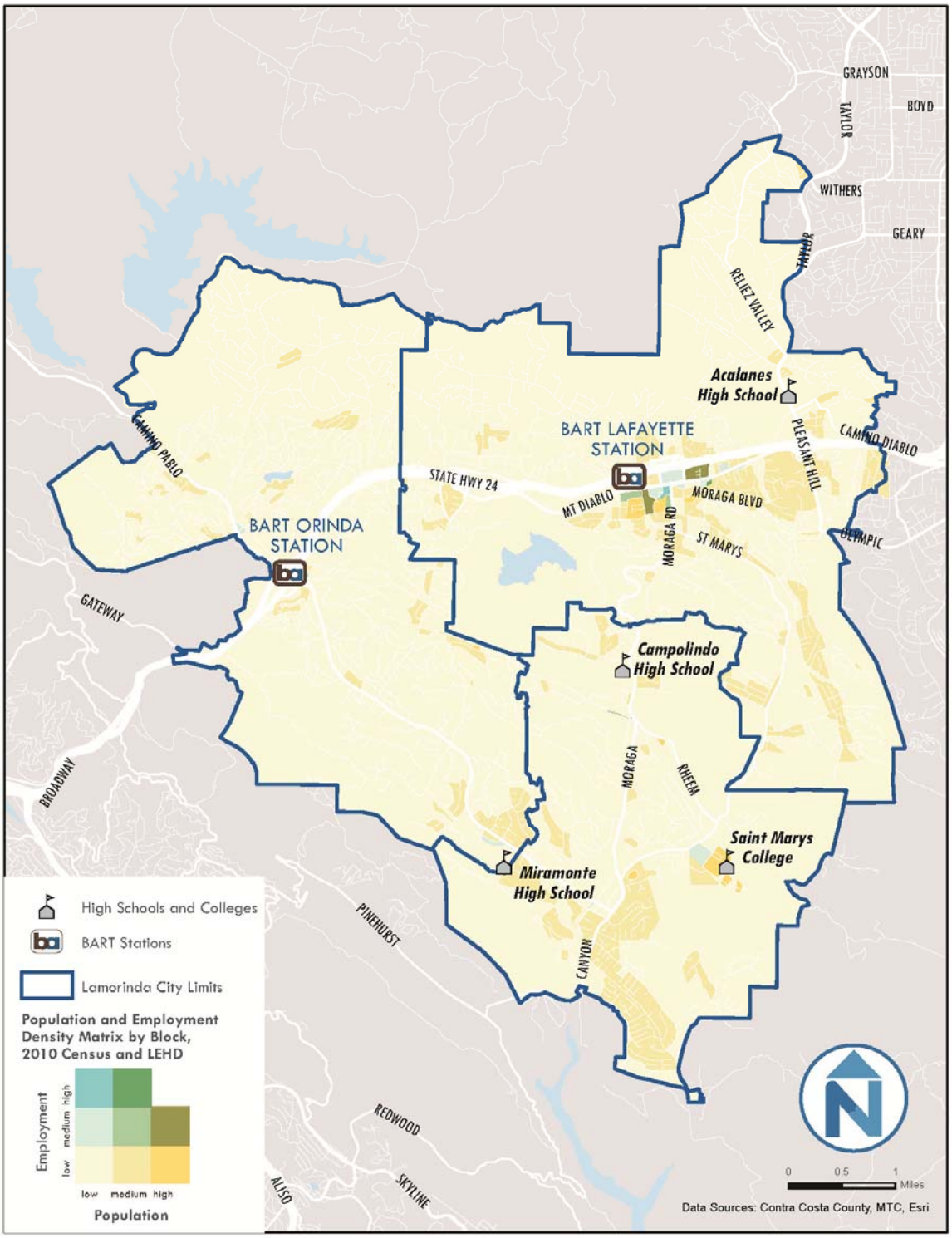
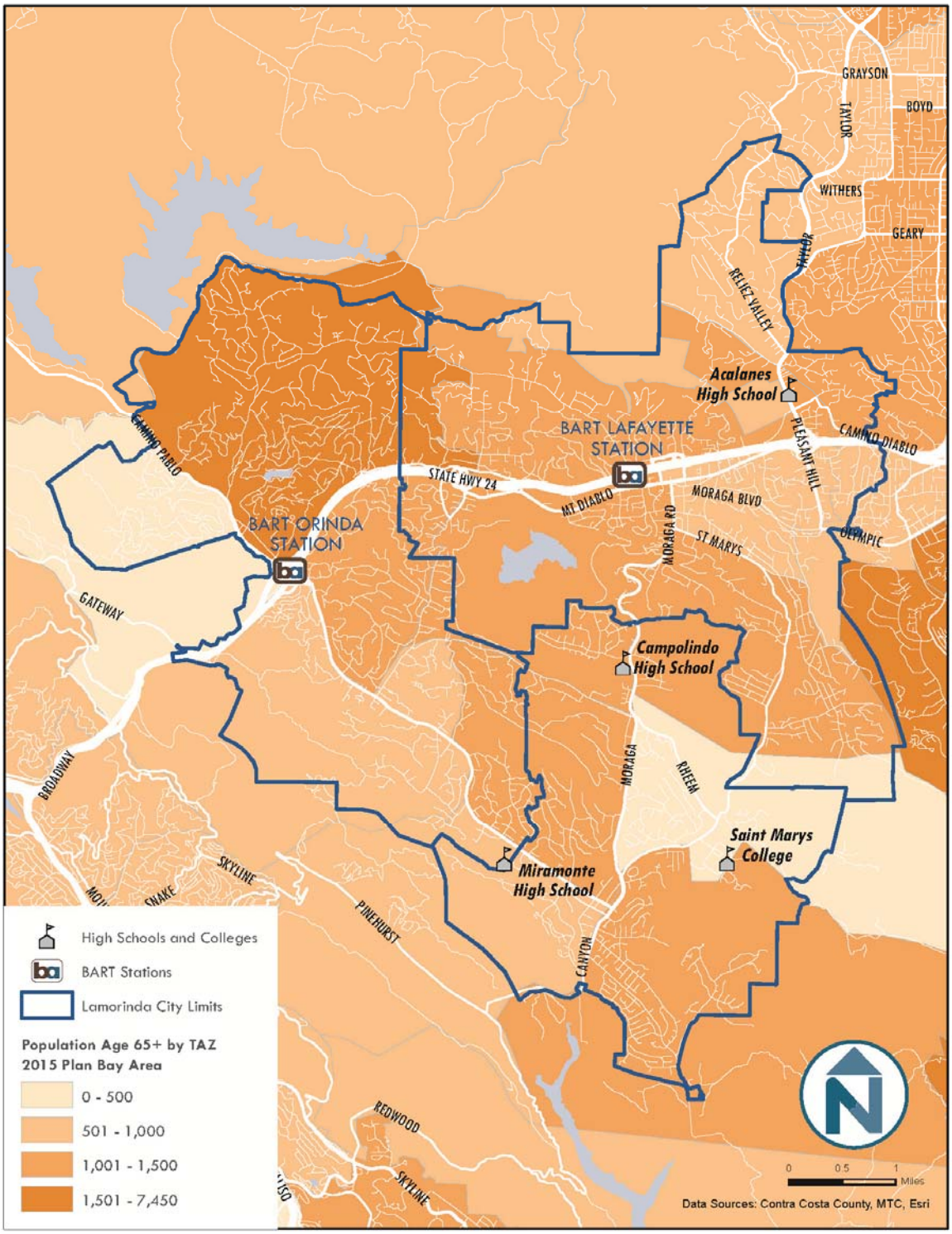


Figure 1-18 Lamorinda Population Aged 65+



Commute Patterns

Commuters traveling to and from work compose a significant component of trips within the Lamorinda service area. Thus, an understanding of commute patterns is a critical component to understand potential transportation markets. The information presented in this section includes a combination of U.S. Census Data (Longitudinal Employer-Household Dynamics) and data obtained from BART commuters from the 2008 BART Station Profile Survey. Figure 1-19, Figure 1-20, and Figure 1-21 provide information about employment locations for residents in Moraga, Lafayette, and Orinda, respectively.

Generally speaking, residents in all three cities predominately travel to San Francisco or the inner East Bay (Oakland, Berkeley) for their commute. Walnut Creek, the South Bay (San Jose), the I-680 corridor, and Sacramento were also destinations that showed high employment from the three Lamorinda communities.

For purposes of this study, it is unlikely that a future service alternative would consider spanning these long distance commutes. However, these long commutes underscore the importance of the role local transportation plays in making connections to other transit services that bridge these gaps. In the Lamorinda service area, BART predominately plays this role. However, County Connection also connects to other regional transit providers such as Amtrak (Capitol Corridor) and the Altamont Commuter Express (ACE).

The most recent American Community Survey indicates that means of transportation to work in the Lamorinda area remains predominately single occupancy vehicle travel. However, given that the study area's two BART stations (Lafayette, Orinda), a fair proportion of residents do rely on BART to get to/from work and for other regional trips.

Figure 1-22 and Figure 1-23 provide information about how individuals access the BART system at the Lafayette and Orinda BART Stations. As of 2008, over 60% accessed the Orinda BART Station by driving alone (and presumably parking at the station). Forty-nine percent of riders arrived from Orinda and 25% arrived from Moraga. The distribution of riders who drove or were dropped off were equally scattered across the catchment area. Those who took transit started their trip adjacent or very close to the existing County Connection Route 6 alignment. Characteristics at the Lafayette BART Station were similar with 68% driving alone. Fifty-three percent of the riders came from Lafayette while only 6% came from Moraga. Transit riders to the BART Station were similarly found to originate from locations adjacent to Route 6 service.

Figure 1-19 Regional Employment Destinations (Moraga Residents)

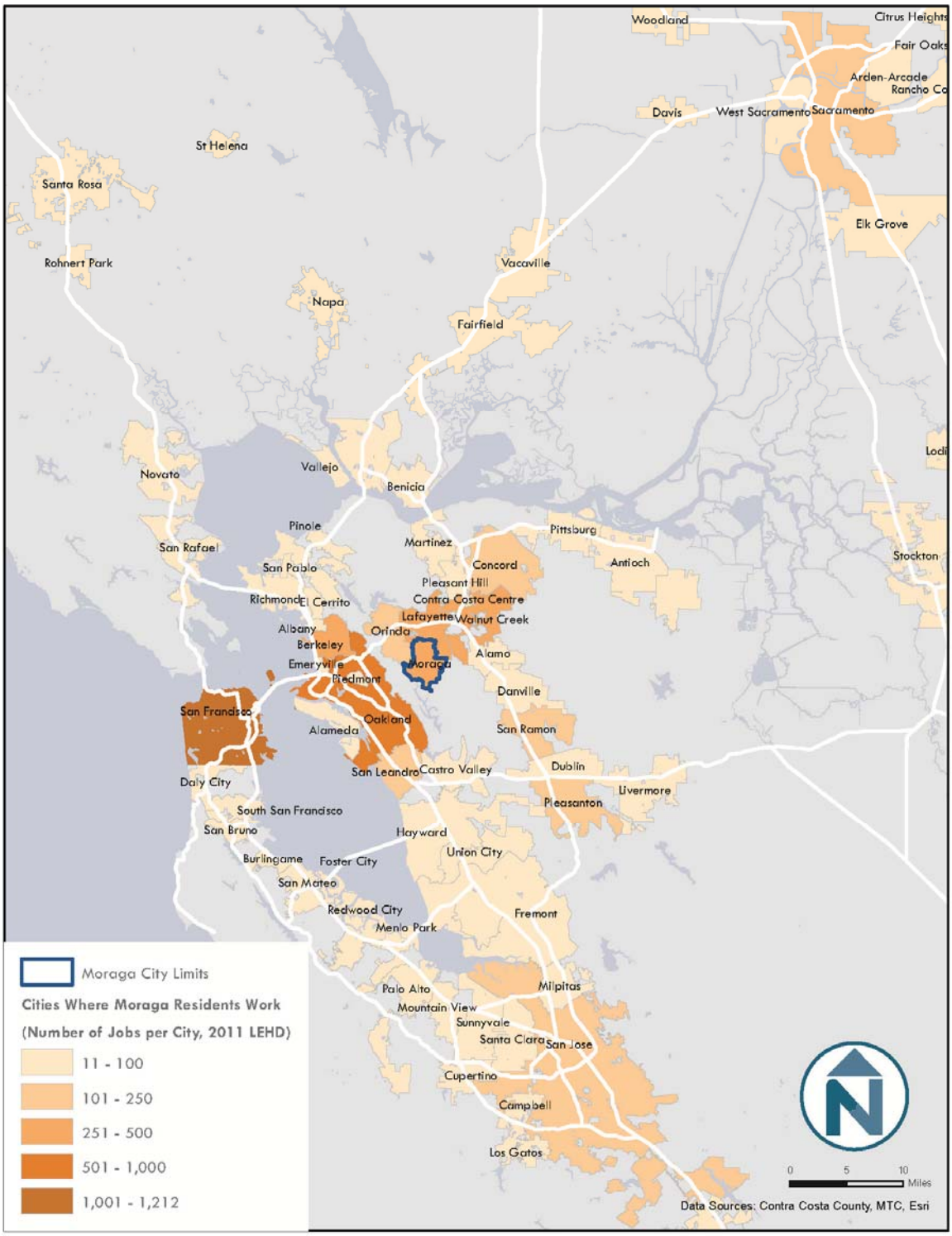


Figure 1-20 Regional Employment Destinations (Lafayette Residents)

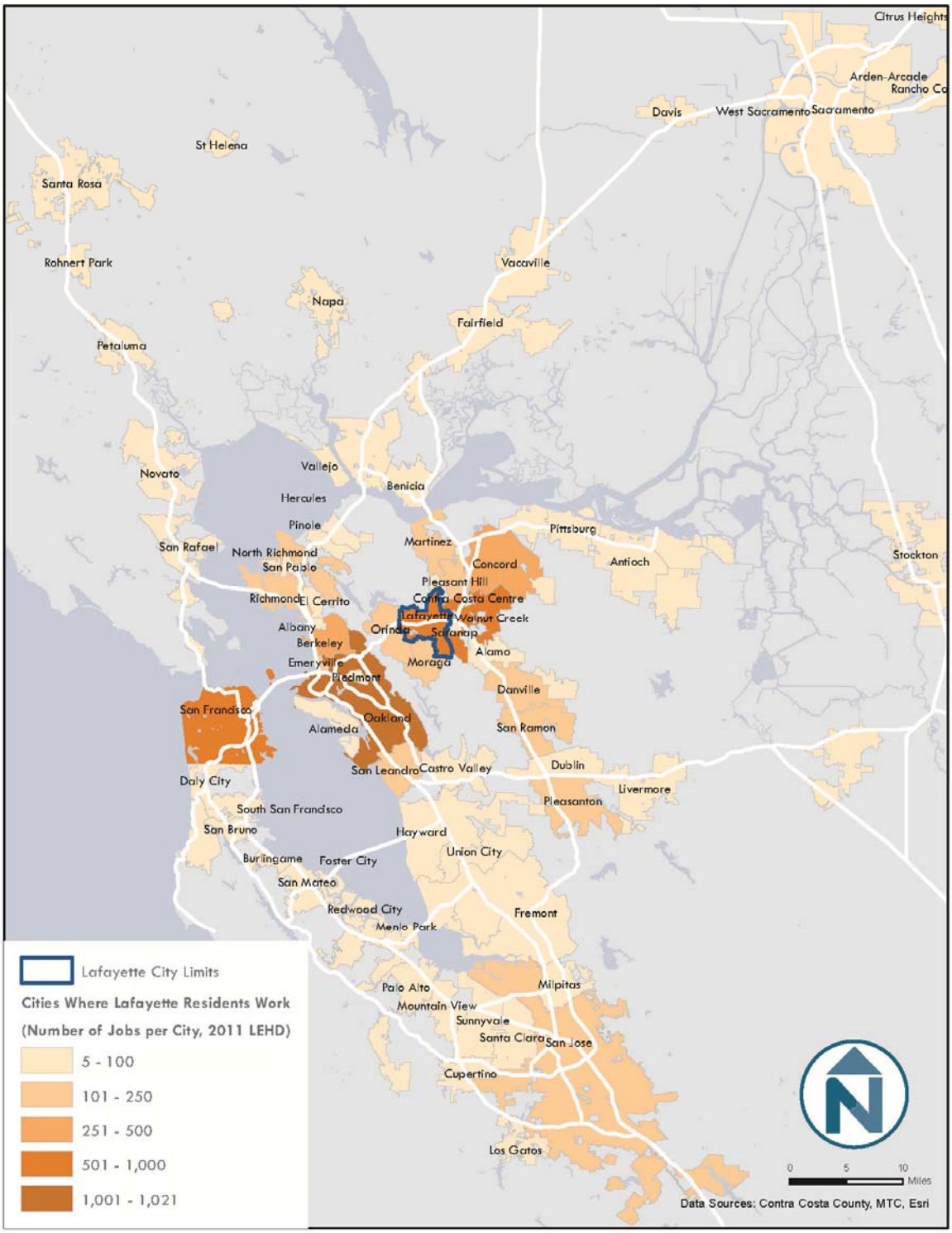
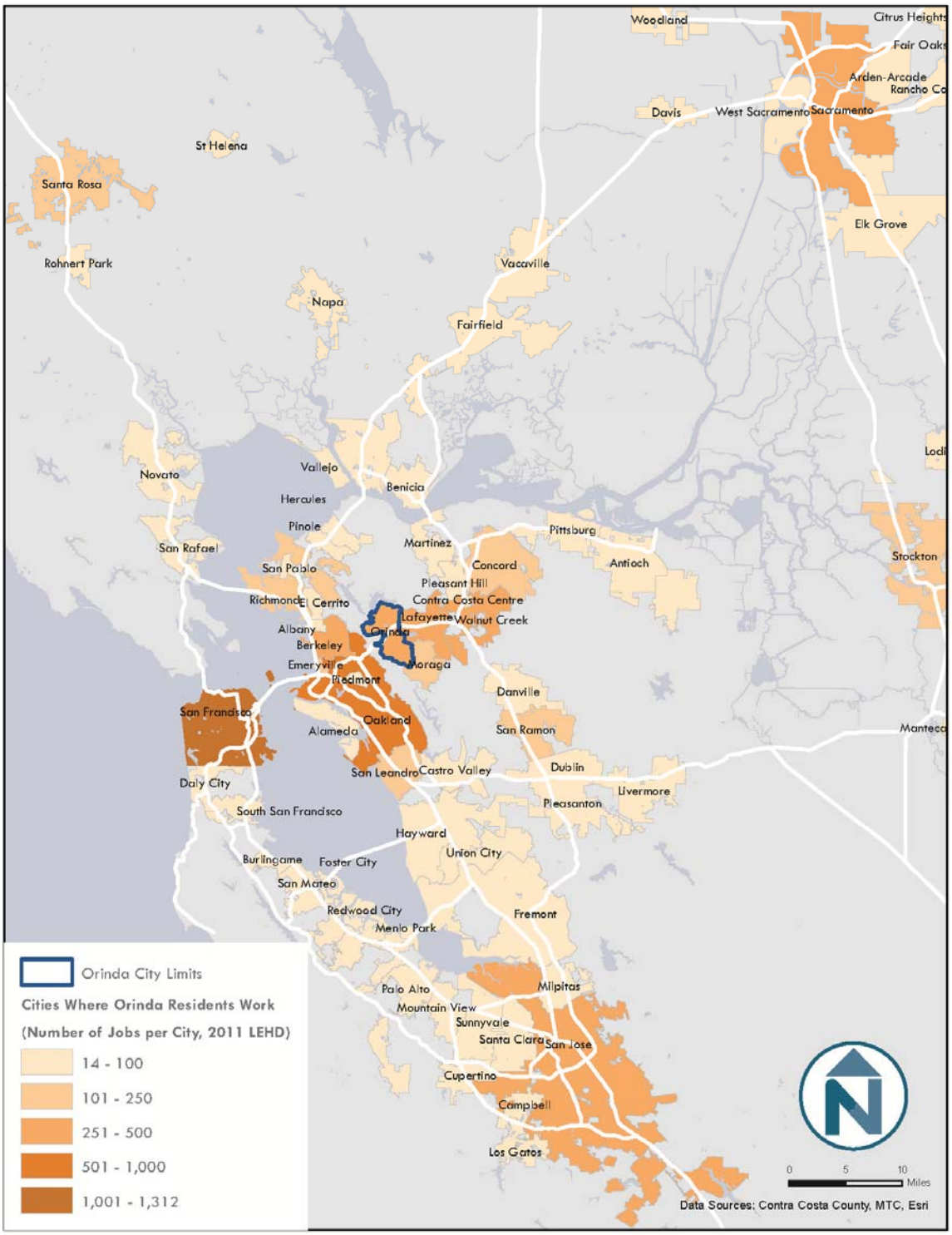
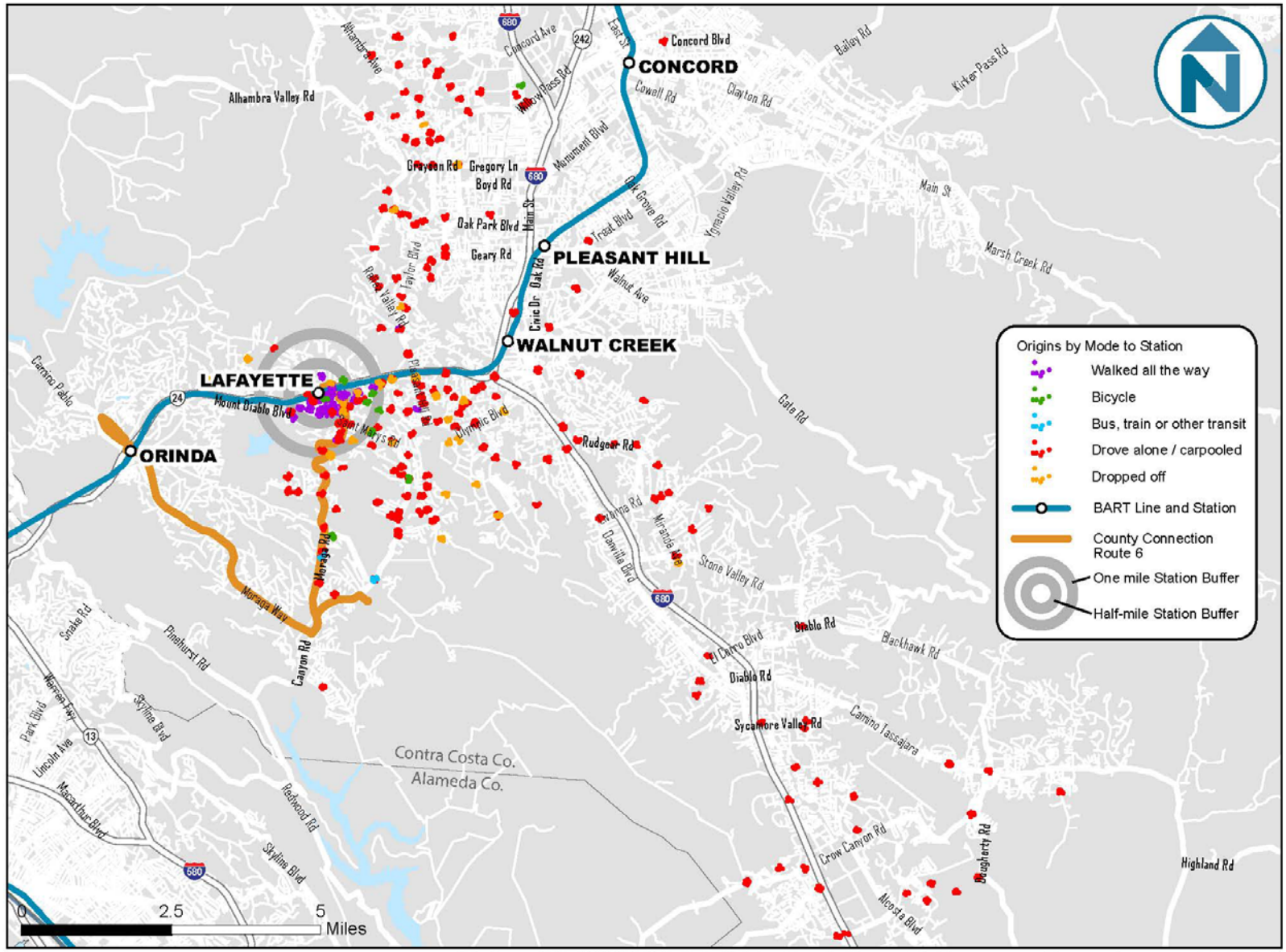


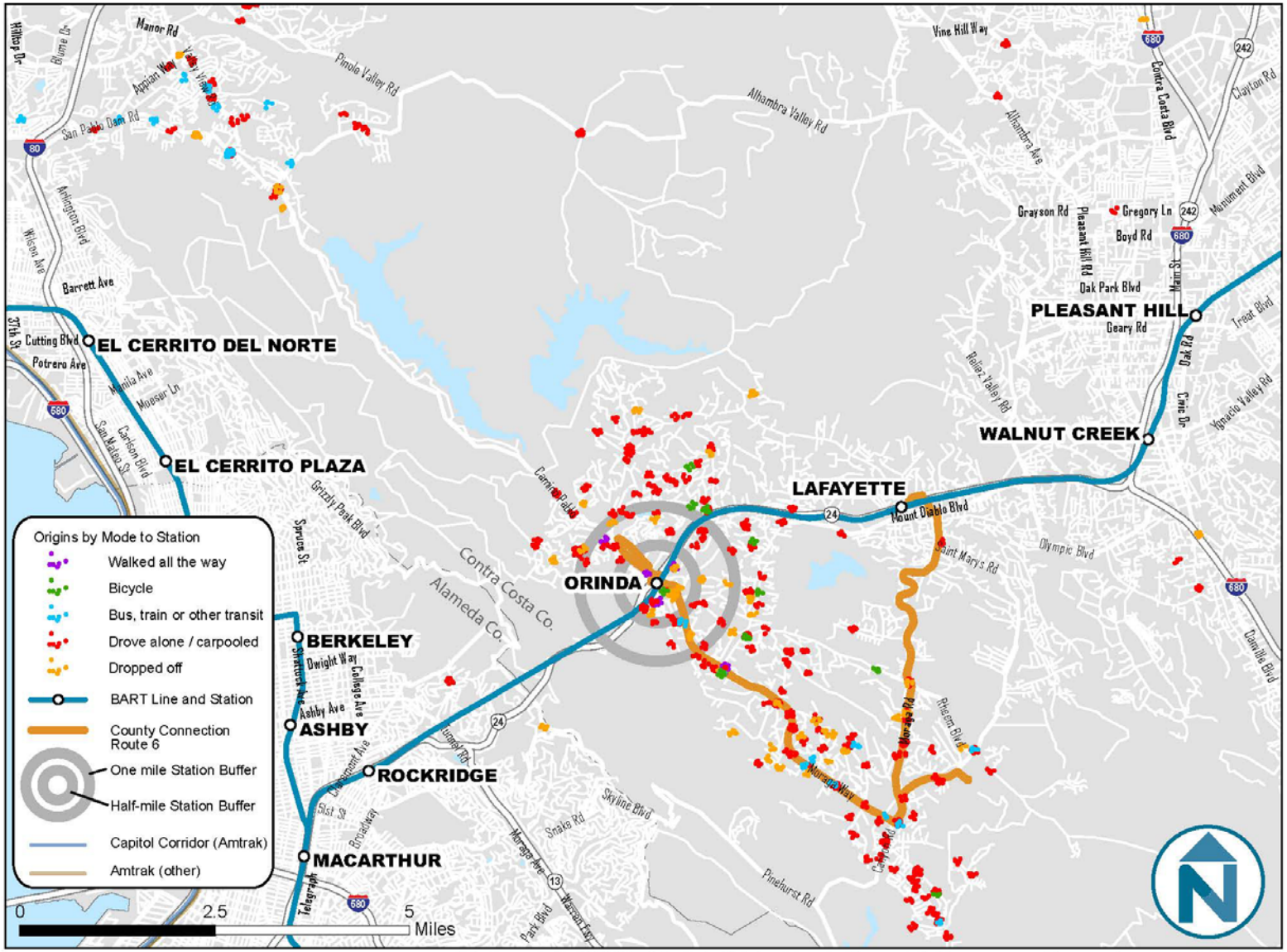
Figure 1-21 Regional Employment Destinations (Orinda Residents)





Data Sources: ESRI, 2008 BART Station Profile Study (weekday only; data are weighted from survey sample to represent average weekday ridership)

Figure 1-23 Home Origins and Mode Choice to BART (Orinda Station)



Data Sources: ESRI, 2008 BART Station Profile Study (weekday only; data are weighted from survey sample to represent average weekday ridership)

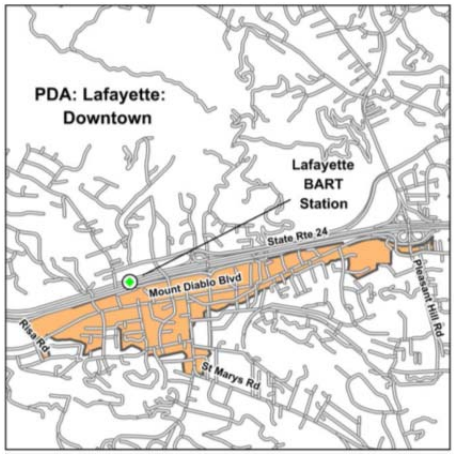
Future Development Areas

The preceding information in this chapter largely documents existing information to help identify specific markets that might be served by future transit and transportation services. This section outlines new developments in the study area which should be considered as part of future service options. As part of the Plan Bay Area effort led by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC), several Priority Development Areas (PDAs) have been identified within the study area. PDAs are effectively locations within the region that are locally-identified, infill development opportunity areas and are the most likely for future development within Lamorinda. Contra Costa County has 37 PDAs in total, three of which are located in the study area. Each Lamorinda community has one PDA[22] including Downtown Lafayette, Downtown Orinda, and Moraga Center.

Downtown Lafayette

The Downtown Lafayette PDA is bounded to the north by CA-24 and spans the developed length of Mount Diablo Blvd. This corridor is the most developed within the entire study area and is currently served by County Connection Route 25. The Lafayette BART Station is also within walking distance of much of the PDA. Based on PDA planning documents, 900 new housing units (+44%) and 1,480 new jobs (+28%) are slated for this area between 2010 and 2040.

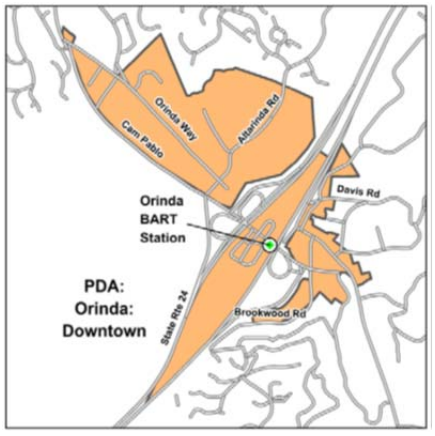
Figure 1-24 Downtown Lafayette PDA



Downtown Orinda

The Downtown Orinda PDA is on both sides of CA-24 and covers both existing commercial districts within Orinda. This PDA encompasses the existing Orinda BART Station and is served by the terminus of Route 6. Between 2010 and 2040, 210 new housing units (+62%) and 760 new jobs (+24%) are slated for this PDA.

Figure 1-25 Downtown Orinda PDA



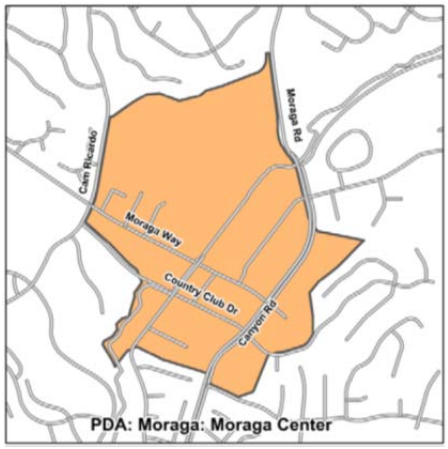
Moraga Center

Finally, the Moraga Center PDA includes the existing shopping center located at the junction of Moraga Way and Moraga Road (but not the shopping district at Moraga Road and Rheem Boulevard). This area is currently served by Route 6 and is on the "deviation" portion of the Gael Rail (Route 250).

[22] For more information about PDAs and Plan Bay Area, please see OneBayArea.org. Additional information about PDAs in Contra Costa County can be found in the most recent Contra Costa PDA Investment and Growth Strategy Update.

Between 2010 and 2040, 340 new housing units (+77%) and 370 new jobs (+32%) are anticipated for this PDA.

Figure 1-26 Moraga Center PDA



COMMUNITY INPUT

Due to the auto-orientation of the Lamorinda area, any transit or transit-supportive improvements must be based on a keen awareness of the community's needs and values. As such, numerous members of the community were contacted regarding the transportation services they currently use or observe, and perceptions of transportation challenges. In addition, an online survey was distributed to residents of Lafayette, Moraga, and Orinda to understand their current travel patterns and attitudes towards potential new options.

Stakeholder Interviews

In October 2014, representatives from the following stakeholder organizations and businesses were contacted:

- Bay Area Rapid Transit District (BART)
- Lafayette Chamber of Commerce
- Lafayette Park Hotel
- Lamorinda School Bus Program
- Lamorinda Spirit Van
- Lamorinda Village
- Members of the County Connection Board of Directors
- Members of the Lamorinda Program Management Committee
- Orinda Seniors Around Town
- Rheem Valley Shopping Center
- St. Mary's College
- Taxi Bleu
- Wendy Smith, Orinda Woods Shuttle Service

Through these interviews, several transportation challenges and opportunities became clear. These are summarized in the list below:

Existing Transportation Alternatives

- Transit is highly constrained by the street network and topography within Lamorinda. Furthermore, expanding service in the area may be cost-prohibitive and challenging since many places do not have adequate sidewalks to walk to a bus stop.
- Current transit is overlooked by many due to long headways and schedules that do not align with BART trains.
- Several privately-operated services (property based and senior-focused) are helping to fill service gaps between their properties, BART, and other customer service needs.

BART Trips

- BART facilitates a significant portion of commute trips from all three cities; however, parking at the Lafayette and Orinda BART stations fill by 7 or 7:30 every morning (this is earlier than the BART predicted time). The cities fear that more BART parking would

only exacerbate traffic congestion on their few main roads and adding parking is an expensive investment.

- "First-mile" trips (from home to BART) on County Connection (routes 6 and 25) are uncommon, likely due to the infrequency of the bus service and the distance of many residences from the bus routes.
- Access to BART by biking and walking shows some promise, especially at Lafayette where existing facilities create a comfortable walking and biking environment.
- Different types of parking strategies should be considered such as parking for scooters or motorcycles.

Senior Mobility

- There are several existing services—the Spirit Van, Senior Helpline Services, Orinda Seniors Around Town—to provide trips focused on seniors. However, these services face growing ridership, an aging population of riders and a limited pool of volunteer drivers.
- Demand is growing for longer distance senior trips to bigger cities such as Oakland, Berkeley, and Concord
- Senior transportation needs will continue to grow with senior living facilities such as Eden Housing, Chateau Lafayette, and Merrill Gardens and new (future) senior housing in Lafayette and Orinda (Monteverde Senior Apartments).

Mid-day Trips

- Lunch trips and other errands may not seem to be a substantial factor in the area's transportation challenges. However, stakeholder indicated that employees' needs to access destinations during the workday (errands, appointments, shopping) might encourage them to drive to work, even in downtown locations.

Parking

- Employee parking in downtown Lafayette is a challenge—there are no designated lots and some of the existing lots have begun to implement metered parking, which funnels some employees onto on-street parking. According to a recent study, most employees who work in downtown Lafayette come from the east portions of the County (Antioch, Brentwood) where BART is not an option.
- In the future, a downtown shuttle has been discussed that could help ease parking issues and connect people who are just outside of the downtown core.

School Trips

- Parent dropoff and student drivers (high school) still cause significant traffic congestion in the morning peak, particularly at the study area's high schools. There may be an opportunity to change or stagger school start times to mitigate some of this effect.
- Many children are walking and biking to school, especially Lafayette Elementary where there is a nearby trail. However, some schools are not served by the bus system (e.g. Happy Valley Elementary) as there is not a significant traffic congestion problem to justify routes.

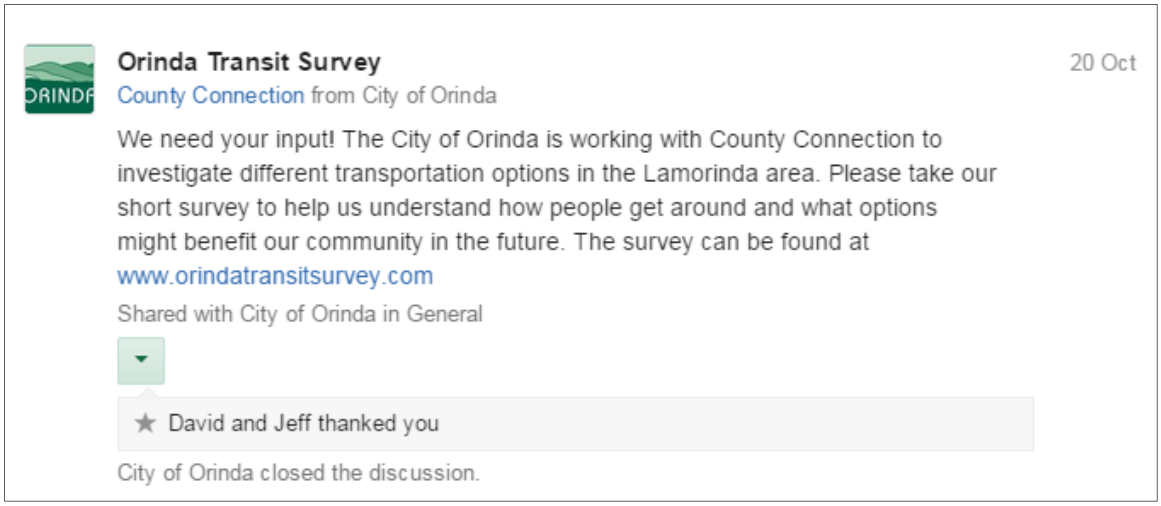
While there are challenges, the stakeholder interviews confirmed that mobility improvements are not only possible but also that the foundation of a mobility network is already in place and key community organizations and officials are committed to making it work for the evolving needs of the Lamorinda community.

Resident Online Survey

Between October 21st and the end of November 2014, an online survey was open to residents of Lafayette, Moraga, and Orinda. A new distribution method—Nextdoor—was used to increase resident response and ensure that residents were the primary respondents.

Nextdoor is an online neighborhood-based social network. Residents of specific neighborhoods can log in, post information, and respond to others' comments readable only by other people who live in the same neighborhood. In each neighborhood of each of the three cities, a post was made by an official city representative announcing the survey and soliciting resident feedback. To encourage constructive feedback, no comments were allowed on the Nextdoor post itself; all feedback came through the online survey directly. An example Nextdoor post is included below

Figure 1-27 Orinda Survey Announcement on Nextdoor



Relative to other outreach efforts in a similar context, the response was extremely high. A total of 713 responses were received, broken out by city as follows:

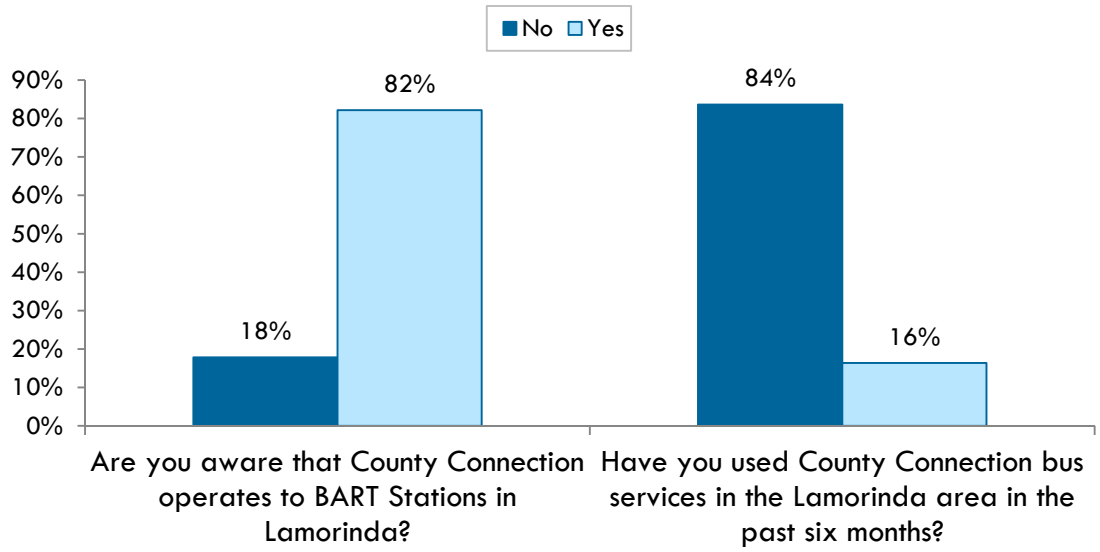
- Lafayette: 338 responses (4,137 total Nextdoor members)
- Orinda: 173responses (4,933 total Nextdoor members)
- Moraga: 202responses (3,794 total Nextdoor members)

The survey included 18 questions covering current travel behavior (frequency of trips and mode of transportation), common destinations, awareness and use of County Connection services, motivations for using public transit and barriers against it, preferences for new services, demographic information, and an open feedback question. High-level feedback gathered from the survey is summarized in the following section. A full analysis of the survey responses can be found in Appendix B.

Amongst respondents in Lamorinda, it was found that the majority are aware of County Connection bus services and its service to BART station in Orinda and Lafayette (82%). However,

of those respondents, nearly 85% stated that they have not used County Connection within the last six months (Figure 1-28).

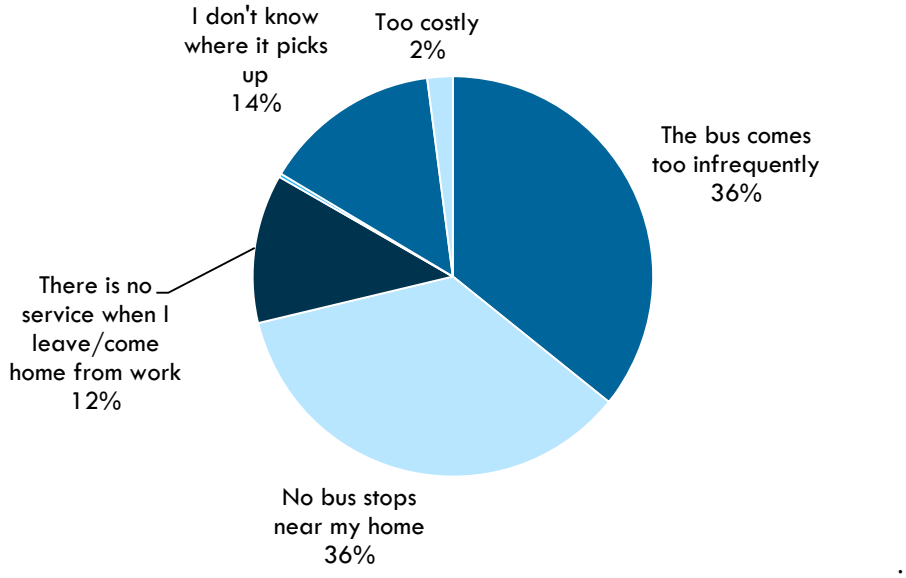
Figure 1-28 Awareness vs. Use of County Connection Service to BART among Lafayette Residents



N=645

As a follow-up question, the survey asked for reasons why some choose not to use County Connection. When asked "What deters you from using County Connection," the majority stated that (1) either the bus did not come near their home (which is consistent with the land patterns in Lamorinda) or (2) bus schedules were not frequent enough (this was further validated by written responses at the end of the survey). Only 2% felt that the cost deterred them from using the service and 0% stated that County Connection felt unsafe.

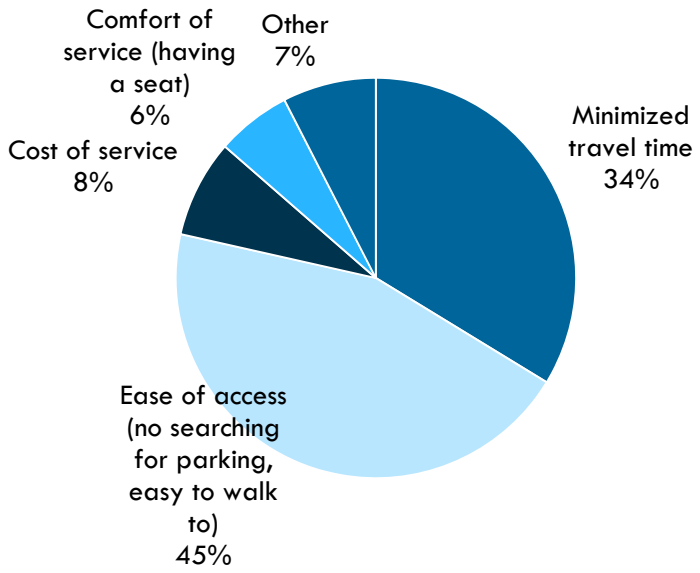
Figure 1-29 When asked "What Deters You From Using County Connection?"



N=683

In terms of general transportation preferences, survey respondents prioritized convenience/ease of access (45%) and minimized travel time (34%) (Figure 1-30).

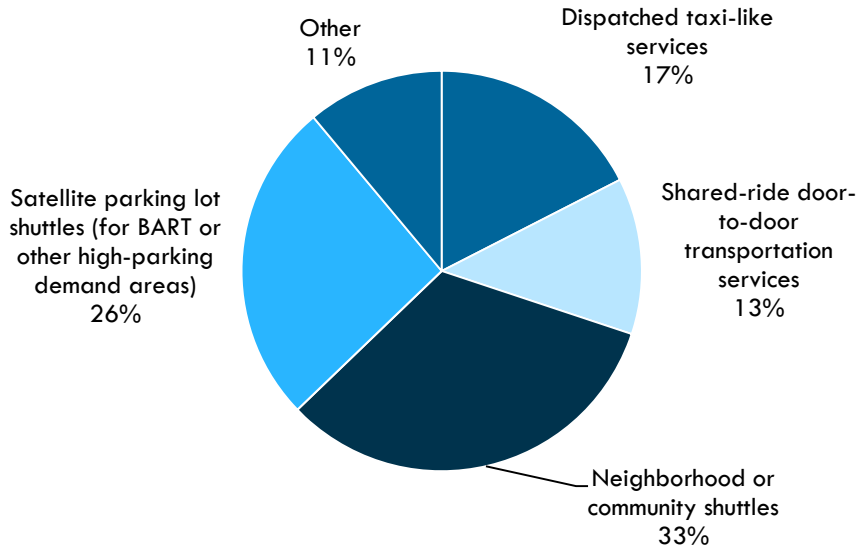
Figure 1-30 Preferences in Transportation Priorities



N=596

Finally, survey respondents were asked about their interests in other alternatives for transportation in the Lamorinda area. The provided options were specifically selected as being different than what is offered today. Based on survey responses, nearly 60% were interested in some type of public transportation shuttle option such as satellite parking for BART or neighborhood/community circulator shuttles. 30% were interested in some type of door-to-door service such as dispatched taxi services (traditional taxis or ridesourcing types of services) or shared ride vehicles. The remaining 11% provided a range of responses including dedicated facilities to encourage carpooling, scooters and improving sidewalks within the study area.

Figure 1-31 Interest in Future Alternative Transportation Options



Similarities between Communities

There were several common themes among Lamorinda residents' travel patterns, preferences, and family characteristics. Respondents represent an overwhelmingly high-income group, with the majority of households earning more than $150,000 annually. They are also skewed towards older age groups, with more than a quarter of respondents being over age 65 in Lafayette and Moraga and more than three-quarters over age 41 in all three cities.

Each city reported an average of about six one-way work-related trips per week, suggesting a propensity for telecommuting among the Lamorinda community and/or the presence of retirees or people who do not work. In addition, individuals reported six one-way shopping trips per week.

Additionally, given the demographics of the respondents, there were a high number of school-related trips reported, suggesting that parents are also involved in their children's school trips. This is confirmed by the reported drive-alone and carpool use for school-related trips. Two of the most common other trip types mentioned are gym or recreation trips and trips for socializing or entertainment.

Differences between Communities

Despite the similarities among Lamorinda residents' survey responses, there are a few points on which they differ. Moraga's survey received the fewest responses from people who typically do not make work-related trips (about 15%). About 30% of residents in both Moraga and Orinda indicated they use BART as their primary commute mode, whereas in Lafayette only 19% do. Lafayette was also the most likely to have residents who do not typically make work trips (about 28%).

The most common destination reported by Lafayette residents is clearly Downtown Lafayette/Mount Diablo Boulevard commercial area (either daily or multiple times per week). For respondents from Orinda, the most common daily or multiple times per week destination is Downtown Orinda/Orinda Theater Square. In Moraga, it is the Rheem Valley or Moraga Shopping Center. The BART stations are the most likely destinations to be visited *daily* in both

Orinda and Moraga (the Orinda Station), but in Lafayette it is a much less common daily destination.

General Comments

By and large, respondents had constructive and insightful feedback in the open comments section. Many expressed a desire to improve mobility options for seniors (both from people with current as well as future needs). Another common comment emphasized the lack of parking availability at the BART stations and for employees in downtown Lafayette and a frustration with a lack of viable driving alternatives. There was some interest in solutions to better facilitate carpools and ridesharing, especially for commute trips to San Francisco. Lastly, school-based trips were emphasized for their contribution to area congestion, but also because of the perceived need to increase options for children going to and from schools in the morning and mid-day. The need for improved pedestrian and bicyclist safety was emphasized.

Finally, a few unique suggestions were made by residents, including increasing motorcycle and scooter parking at BART stations as a way to increase parking availability; flex route transit service, especially along Pleasant Hill Boulevard and Moraga Way; reducing the size of County Connection buses and increasing their frequency; and, utilizing Nextdoor as a tool to facilitate rideshare matching. A full list of comments can be found in Appendix B.

Existing Transit Riders

In 2012, an on-board survey was conducted for the entire County Connection service. Relevant responses from the 53 Route 6 riders are highlighted below..

- Approximately 70% of riders were traveling to/from home work, 10% were college or university students
- 87% of riders walked to catch the bus, their average walk time was eight minutes. 9% were dropped off and 1% bicycled.
- Ridership generally follows typical general commuter demand (morning peak approximately at 7 a.m. and evening peaks around 6 p.m.). This demand curve is shown in Figure 1-32.
- Only 2% are using a monthly pass product and 4% are using a “punch pass” to purchase their fares
- If County Connection service was not available, 15% would not have made the trip, 57% would have driven alone or would have gotten a ride and 13% would have taken a taxi.
- Among service improvements, 57% desire more frequent service and 30% desire later evening service. This is highlighted below in Figure 1-33.
- 43% of riders do not own a drivers license and 17% do not have access to a vehicle
- Approximately 30% of riders were 23 or younger, 30% were between 24 and 43, 30% were between 43 and 63
- 67% made greater than $35,000 per year per household
- 85% of respondents had access to the internet via a smartphone, tablet or computer.

Figure 1-32 Times of Leaving and Returning to Home for Route 6 Riders

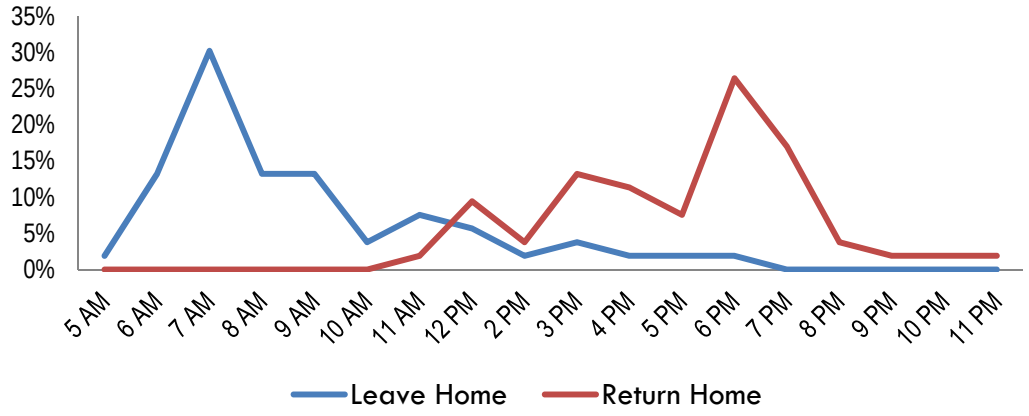
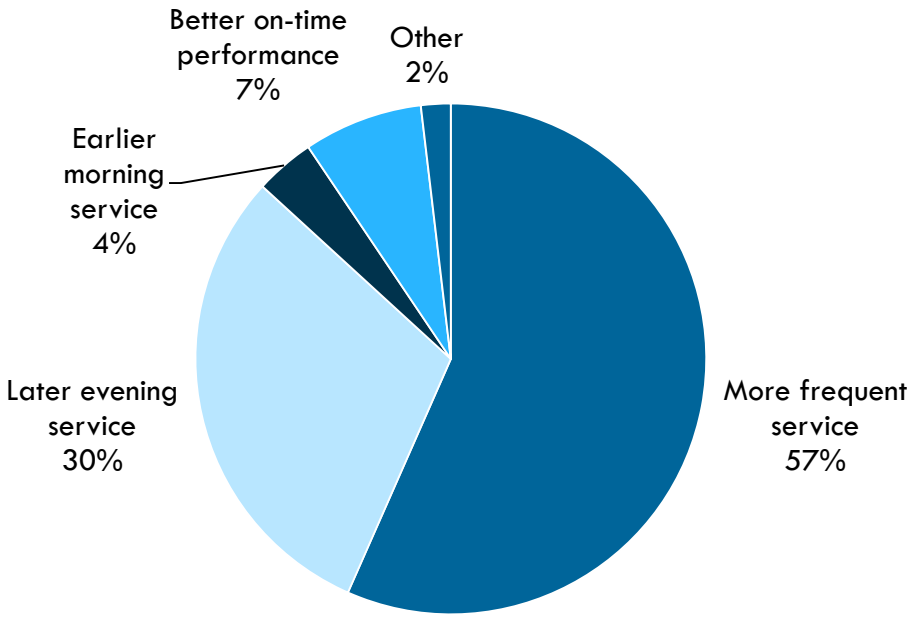


Figure 1-33 Route 6 Future Rider Preferences



NEEDS ASSESSMENT AND OPPORTUNITIES

Based on the information captured in the preceding chapters and recent planning efforts, Chapter 5 draws high-level conclusions on potential service needs and opportunities in the Lamorinda service area. From the perspective of transportation options, the study area's combination of physical constraints, development patterns and demographic trends present unique challenges in terms of traditional transportation options. As the preceding chapters have described, numerous existing transportation programs are already in place to try to meet numerous transportation needs from students to seniors, commuters to customer shopping trips. While population growth in Lamorinda itself is expected to be modest relative to other portions of the Bay Area, its growing senior population will place continued pressure on a relatively limited number of senior mobility options. Additionally, limited access options to BART are already seen as a barrier to many within the study area.

Needs Assessment

The following transportation needs are considered to be the highest priority to be addressed in the next phase of this study:

- **Commuter Alternatives:** One of the highlighted issues is the lack of access alternatives to BART due to constrained parking. Since BART is unlikely to expand its parking capacity in Orinda or Lafayette, other transportation policies or options must be explored. In addition, commute patterns and options themselves have changed over the past several decades. Thus, commuter options beyond BART should be explored as not all commuter trip patterns are met by existing regional transit. Potential concepts that could help meet these needs are introduced in the following section.
- **Senior Mobility Choices:** Several senior mobility programs have been highlighted as part of this report; however it is unclear if the piecemeal nature of different services can meet the pace of growth in senior transportation demand within the Lamorinda area. Furthermore, it is not clear whether current senior transportation service options can provide the level of flexibility and on-demand independence that many aging adults will prefer.
- **School Trips:** The combination of the Lamorinda School Bus Program and Student Pass program does an excellent job of reducing the number of unnecessary vehicle trips on the road today. However, traffic congestion around schools during bell times (morning and afternoon) still have been described as a community issue that can be improved.
- **Community Trips:** Much of the focus thus far has been on inter-city and regional trips. However, existing businesses, commerce, and services within each the Lamorinda area creates a need for intra-Lamorinda trips. While Lafayette, Moraga, and Orinda are relatively small, there are numerous trips that require a vehicle because they are outside of a simple or safe walk. As validated by the community survey, the next phase of the study will focus on trips within each of the communities and potential service options.

2 DEVELOPING SERVICE ALTERNATIVES

INITIAL SERVICE CONCEPTS

To address the needs listed above—school, commute, senior, and community trips—an extensive list of potential service concepts was developed and screened through public and stakeholder feedback, guidance from the TAC and LPMC, and checked for general feasibility. A summary of these initial concepts is provided in Figure 2-1.

Figure 2-1 Summary of Target Markets and Preliminary Service Alternatives

Target Market	Service Alternative
Commute trips	Increased transit frequency. Increase the frequency of existing transit in the Lamorinda area (County Connection routes 6 and 25).
	BART feeder services. Provide first/last mile connections to and from BART stations. Could involve ridesharing, shuttles, or a hybrid approach.
	Zone-based services. Also known as "point deviation" service; operate service within a specific service area and specific stops, but deviate based on pre-scheduled trip requests. Serve BART and other major activity centers.
	Marketing efforts. To complement new services and improve usage of existing options, create strategic marketing efforts tailored to specific transportation markets.
	On-demand services. Taxis or peer-to-peer "transportation network company" services to serve immediate on-demand trips within the service area. Potential to serve first/last mile commute trips. Develop strategies to attract drivers to the area.
School trips	Staggered start times. Orinda and Moraga schools have staggered start times, which allows school buses to serve multiple schools and can ease the effects of congestion. Explore feasibility of staggered starts in Lafayette.
	Additional resources for Lamorinda School Bus Program. Identify schools and routes with unmet demand for school bus service; find efficiencies between County Connection School Tripper routes and Lamorinda School Bus Program routes.
	On-demand services. Explore the feasibility of using private, child-friendly on-demand transportation services for school trips in the Lamorinda area.
Midday trips (senior mobility and community trips)	Service routes. Provide fixed-route transit service between clustered origins and destinations, such as between senior housing facilities and medical centers. Focus is on access rather than service speed or frequency.
	Mobility management. Coordinate existing services for an improved customer experience, and find opportunities for cost efficiencies.

	Flexible service that can deviate off route up to a certain distance to make pre-scheduled pick-ups/drop-offs.
	Non-transportation service options. Create programs that address senior trip needs by bringing services to their homes (e.g., medical care, meal delivery).
	Lunchtime circulators. Provide a lunchtime/midday circulator service in downtown Lafayette.
	On-demand services (transportation network companies). Develop strategies to attract purveyors of private, on-demand transportation that serve seniors.

The remainder of this chapter describes the process for selecting, removing, or refining these alternatives and the final set of refined, prioritized strategies.

PRELIMINARY SERVICE ALTERNATIVES

The consultant team conducted a screening process in January 2015 to prioritize preliminary alternatives based on their potential to meet project goals. The feasibility of each alternative was assessed based on existing services, conditions, and constraints in the Lamorinda area. The resulting set of alternatives was then discussed in greater detail with LPMC TAC staff. Based on this process, a list of prioritized alternatives emerged that warrant additional analysis (Figure 2-2).

Figure 2-2 Prioritized Lamorinda Transportation Alternatives

Prioritized Alternatives
▪ BART feeder services ▪ Flexible transit services ▪ School bus program enhancement

Each of the prioritized alternatives has one or more service approaches and this list of alternatives was brought to the public in the second round of feedback (Figure 2-3). The description and goals of each of these alternatives are provided in the Alternatives Description section alongside public feedback received. This feedback is used to refine the alternatives in Chapter 3 - Implementation Plan.

In addition to these service alternatives, one additional concept was explored with input from the TAC, LPMC, and the general public—how to leverage new (technology-enabled) transportation options in the Lamorinda area. This is a concept that could apply to several service alternatives—both those included in this report and new opportunities that could arise in the future—in the form of public-private partnerships. As an overarching concept, further detail is provided in Appendix A.

Summary of Public Feedback

Between May 21 and June 12, 2015, several channels were used to gather public feedback on the draft service alternatives—a process used to refine the prioritized service alternatives is described in the next section. Figure 2-3 summarizes the surveying methods, dates, and responses received.

Figure 2-3 Alternatives Refinement Public Outreach Summary

Survey Method	Dates	Responses
Online survey of BART passengers, disseminated by handing out postcards at Lafayette and Orinda BART stations	Disseminated May 27 and 28 Survey open through June 12	500
Online survey of the general public disseminated through Nextdoor, the Lamorinda Weekly, and via flyers posted in the Lamorinda Spirit Van and several senior centers and housing facilities	May 25 - June 12	591
Online survey of parents of schoolchildren, disseminated through the Lafayette, Orinda, and Acalanes school districts' superintendants	May 21 - June 12	653
Textizen text-based survey advertised on County Connection buses	May 28 - June 12	39
Interviews with several individuals who work closely with Lamorinda's senior population	Early June	3

Like in the first round of outreach, the amount of responses received indicates a high level of engagement with transportation issues in Lamorinda; unlike the first round, we saw a high level of engagement through channels other than Nextdoor. As seen in Figure 2-4, school bus expansion, a taxi subsidy program for seniors and people with disabilities, and BART shuttles garner the most support from respondents.

It should be noted that while respondents were not asked directly about their interest in using on-demand transit services—which can be considered a third version of the BART shuttle concept--many indicated support through free form comments and the vast majority (80.9%) support a model that prioritizes response time over service area (offered by many on-demand models).

Figure 2-4 Summary of Support for each Proposed Alternative

Alternative	% of Respondents Interested in Using the Service	Total Responses
BART Vanpools	32.3%	464
BART Shuttles - *Moraga Way* - *Mt. Diablo Boulevard* - *On-demand model*	56.0%	430
Taxi Scrip/Voucher program for seniors or people with disabilities	79.6%	103*
Taxi Scrip/Voucher program for the general public	42.2%	102*
School Bus Program Expansion	81.4% - 89.2%**	518

*This question was added to the survey on June 1, 2015 after many responses had been received
**Respondents were asked about each expansion proposal separately

One final overarching point is the relatively common suggestion by respondents to many of the surveys that bicycle and pedestrian safety improvements are needed, particularly to encourage and facilitate more walking and biking to school. Many people stressed these options as complements to existing and proposed transit service alternatives.

BART Feeder Services

Given existing BART access constraints (mainly associated with parking capacity), this section describes three services that are designed to provide greater options to and from BART (Moraga/Orinda BART Shuttle; Vanpool to BART; and a Lafayette Shuttle). The proposed options have varying service delivery models, but all are focused on peak commute hours (morning and evening commutes). Two of the three options are geared toward the Moraga Way corridor between Orinda and Moraga for the following reasons:

- Orinda BART has fewer direct access/connections to the adjacent street network as compared to Lafayette BART, meaning it is more reliant on vehicular options to access the station
- Orinda BART serves Lamorinda residents heading westbound, placing it in the path of travel of the dominant commute trip pattern (toward Oakland/San Francisco) from the Lamorinda area
- Channeling more trips (in buses or high-occupancy vehicles) down Moraga Way will help reduce pass-through congestion in downtown Lafayette heading towards the BART system

One of the options is specific to Mount Diablo Boulevard in Lafayette for the following reasons:

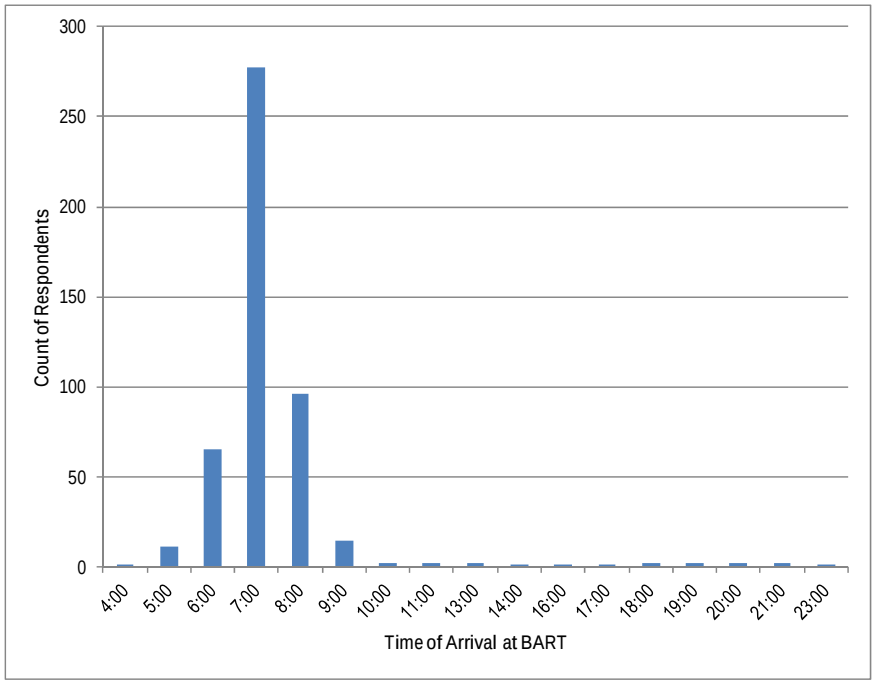
- Given the Downtown Lafayette Priority Development Area (PDA), the largest magnitude of residential growth is likely along Mount Diablo Boulevard in Lafayette
- Downtown Lafayette has the largest concentration of commercial activity, meaning that peak-hour services could also serve as last-mile connections for those traveling from BART to their workplaces

Overview of Feedback

Before being asked to opine on specific BART feeder service alternatives, respondents to the BART rider survey were asked for information about their typical use of BART.

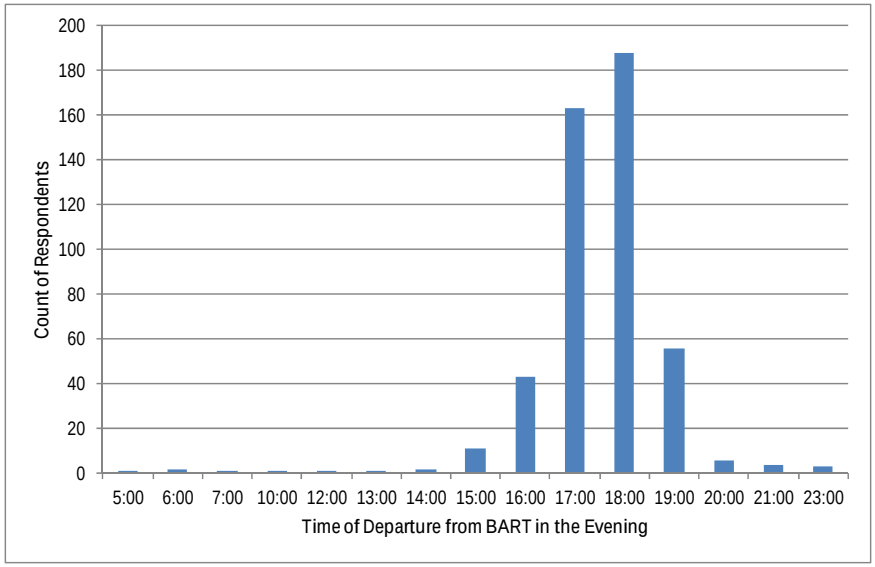
- 82% of current BART passengers drive alone and park at BART and half of them remembered a time within the last 30 days when they were unable to find parking within the BART lot.
- People that live closest to the BART stations (in Lafayette and Orinda) are more likely to report not being able to find parking within the BART lots in the last 30 days than are people who live farther away (in Moraga or outside Lamorinda), suggesting that residents living farther away plan ahead and arrive earlier at BART, knowing the parking constraints.
- The vast majority of respondents arrive at BART within the 7 a.m. hour. Most people return to the BART station within the 5 p.m. and 6 p.m. hours. See Figure 2-5 and Figure 2-6.

Figure 2-5 Hour of arrival at BART stations



Source: Survey of BART passengers (N=483)

Figure 2-6 Hour of departure from BART stations



Source: Survey of BART passengers (N=483)

- According to results from the Textizen survey advertised to County Connection riders, by and large most respondents use County Connection to access BART and live outside of Lamorinda. These individuals' most commonly cited reason for riding the bus to BART was that they do not drive or have access to a vehicle (60% of respondents)—notably, not because of BART parking congestion (only 17% of respondents). This suggests that most current County Connection riders are dependent on its service.

Vanpool to BART

Market Focus: Commuters (Moraga to/from Orinda)

Overview

In this option, individual commuters would become vanpool drivers and passengers through a monthly subscription paid by the individual. The vanpool(s) would initially operate between park-and-ride facilities in Moraga and the Orinda BART station. In the interim, the Moraga Center parking lot could be used as a park-and-ride location.[23] Over time, if subscribers' home locations were sufficiently clustered (within about 5 minutes' drive from one another), subscribers could be picked up at home rather than in any future park-and-ride facilities in Moraga. To assist participants in getting started, various vanpool resources are available through 511 or 511 Contra Costa.

Operational Characteristics

Vans would be rented on a month-to-month basis directly to individual rideshare drivers (each van would also have a backup driver). The number of vans required could change each month and would be determined by the monthly requests. Insurance, maintenance, 24-hour roadside assistance, customer service, web assistance, marketing assistance, towing, and loaner vehicles would be included through the lease.

A group credit card would be established to enable monthly costs to be shared among subscribers. Because vehicles are rented on a month-to-month basis, vehicle sizes could be changed each month to accommodate changing demand. Eight-, nine-, and ten-passenger vans are available through various vanpool vendors.

Estimated monthly costs for this service include the cost to rent the van(s) and the costs to park at BART (see Figure 2-7). Current BART parking fees are approximately $3 per day.

Figure 2-7 Summary of Costs

	Estimated Monthly Costs
Monthly van rental (incl. insurance) per van[24]	$620
Monthly fuel costs per van[25]	$63
Monthly BART parking fees per van[26]	$65
Monthly total per van (includes operations, maintenance, and vehicle rental)	$748
Monthly ridership per van[27]	433

[23] This location has been identified as a potential park and ride facility. However, no formal discussions with property owners have been discussed at this time. This is however, an existing casual carpool pick-up location. Other potential park-and-ride locations are described throughout this report.

[24] Assumes a 10 passenger van. Limited to 500 miles per month.

[25] Assumes gas mileage of 10 miles per gallon and $3 per gallon fuel price. Monthly mileage based on one morning trip from Moraga park-and-ride to Orinda BART (4.8 miles) and one evening trip from Orinda BART to Moraga park-and-ride (4.8 miles).

[26] As of January 2015, BART parking costs $3/day. This cost assumes 21.67 service days per month. However, it is possible that vanpools could negotiate a reduced parking rate with BART. This has not been negotiated with BART at this time.

[27] Assumes full vans (10 passengers)

Morning Trip(s)

Subscribers would commit to a morning pick-up time and travel together to the Orinda BART station, where they would have guaranteed parking for their rideshare vehicle (this arrangement does not exist today and would need to be coordinated with BART, but there is expressed interest in exploring this partnership). The van(s) would remain parked at BART during the day until the return trip in the evening.

Evening Trip(s)

Participants must also agree to an evening departure time linked to a particular scheduled BART train. The driver (or backup driver) would leave from BART and bring passengers back to the park-and-ride. Overnight, the vans would remain at the park-and-ride.

Capital Requirements

There would be no vehicle capital costs in this alternative as vans would be rented from a vanpool provider paid by individual users. The only potential capital costs incurred by a public entity would be associated with park-and-ride locations that might need to be constructed, enhanced (signage, striping), or expanded. It is possible that existing underutilized parking could be used as a park-and-ride facility, but this may require establishing a lease or other shared use agreement with the property owner; any associated fees could be bundled into the participants' subscription fees or paid by a public entity.

Other Policies

Potential vanpool priority parking could be established at BART.

Administration

Typically, vanpool programs are marketed and incentivized through employers. Since there is no program sponsor for this option, it could be jointly marketed by County Connection, BART, and other Lamorinda communities, but administered entirely by the vanpool provider. Alternatively, BART, County Connection, 511 Contra Costa, or another public organization could subsidize the cost of the program for participants through parking facility leases or the subsidies for van leases.

Summary

Figure 2-8 Summary of Vanpool to BART Benefits and Drawbacks

Benefits	Drawbacks
▪ Rideshare operation handled primarily by individuals; public entity does not have to be involved on a day-to-day basis ▪ BART and/or other public entities may be able to subsidize the service to reduce costs to participants ▪ Concept is simple; easy to communicate the operations to potential rideshare subscribers ▪ Designed specifically for commuters to points west of Lamorinda (Oakland and San Francisco)	▪ Subscribers must commit to both morning and evening departure times ▪ Some subscribers must commit to be drivers ▪ Vehicle rental agreement holders (the driver and/or backup driver) may have to front all or part of the cost of the vehicle rental ▪ Requires a high number of subscribers to enable participants to be picked up from their homes ▪ Limited cost savings to users (but guaranteed access to BART)

Public Feedback

Among all respondents to the public survey, about one-third would be willing to carpool or vanpool to BART to gain access to preferential, free parking at BART. Less than a quarter of respondents to the BART survey—individuals we were sure were riding BART—communicated support for this alternative. Their interest, however, differs depending on where they live. In particular, residents of Moraga—who are located farthest from BART stations—are most likely to support this option (see Figure 2-9).[28] The main benefit cited is guaranteed parking, however, respondents also view being tied to another person's schedule as a significant deterrent to this strategy.

Figure 2-9 If there were preferential, free carpool or vanpool parking at the BART station (with guaranteed availability), would you be willing to carpool/vanpool with at least four other people to use this service?

Residence	Yes	No	Unsure	Total
Lafayette	29.6%	40.8%	29.6%	100%
Moraga	40.9%	31.5%	27.6%	100%
Orinda	28.5%	41.7%	29.8%	100%
Overall	*32.3%*	*38.6%*	*29.1%*	*100%*

Source: General public survey response

Moraga/Orinda BART Shuttle[29]

Market Focus: Commuters (Moraga to/from Orinda)

Overview

As an alternative to a privately-organized vanpool, a public shuttle could be established to help improve access to the BART station and serve satellite park-and-ride lots in Orinda and Moraga. The primary selling point of such a service would be higher service frequency (proposed at 20 minutes during peak hour) and limited-stop service between park-and-ride lots and BART. A shuttle would travel along Moraga Way and could be scheduled to supplement existing Route 6 service on a regular schedule. In addition, the shuttle would provide an opportunity for a route extension to currently underserved areas of both cities. This includes the Larch neighborhood in Moraga and areas north of the Orinda BART station not currently served by transit during peak periods. Conceptual routing of this plan is shown in Figure 2-11.

A major component of this alternative is the provision of parking as a way to access the shuttle for those who are outside of walking or biking distance. Proposed park-and-ride lots as part of this alternative include some public, private, and religious institutions' parking facilities. At this stage, all proposed parking facilities are conceptual and no property owners have been contacted. A shared-use or lease agreement would be the most likely arrangement to access to these facilities for parking purposes.

[28] A similar trend was observed among respondents to the BART-specific survey.

[29] A variation on this alternative would be to simply increase frequencies on Route 6 from the existing 40 minutes in the peak period.

Operational Characteristics

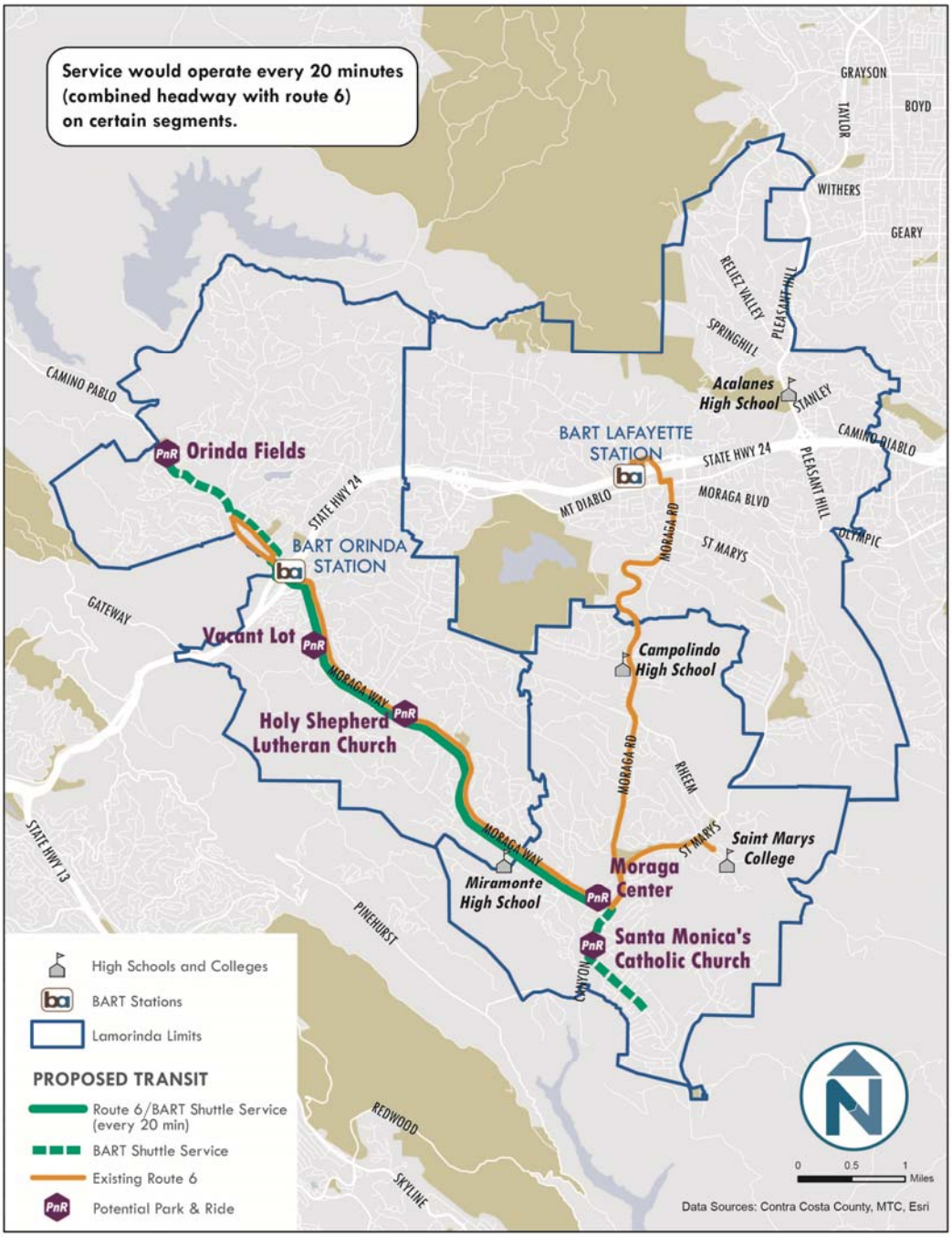
Figure 2-10 provides an overview of the proposed BART shuttle operating characteristics focused on peak-hour commuters. The shuttle would only operate in the morning and evening peak commute periods. On segments that overlap with Route 6 service, frequencies would be approximately 20 minutes. On separate segments (such as Camino Pablo in both Orinda and Moraga), the shuttle would operate every 40 minutes. Twenty minute frequencies enable riders to use transit without relying on a schedule; anything longer usually requires advanced planning.

Figure 2-10 Moraga/Orinda BART Shuttle Operational Characteristics

Morning Service	Evening Service	Service Frequency	Potential Park-and-ride Locations	Additional Stops
6:00 a.m.-9:30 a.m.	4:00 p.m.-7:30 p.m.	40 minutes (20 minutes when paired with Route 6)	▪ Santa Monica's Catholic Church ▪ Moraga Center ▪ Holy Shepherd Lutheran Church ▪ Orinda Fields	▪ Camino Pablo (Moraga Larch Neighborhood) ▪ Camino Pablo (Orinda) ▪ Canyon Road

Figure 2-11 illustrates the proposed Moraga/Orinda BART shuttle routes alongside existing transit service.

Figure 2-11 Moraga/Orinda Shuttle Service to BART



These estimates presume a weekday-only service operating 255 weekdays per year. Given the service characteristics, it is estimated that 2 vehicles, each operating 7 revenue hours per day, would be required (14 hours for 2 vehicles). Figure 2-12 provides a high-level estimate of annual operating costs based on current County Connection costs. Such a service could be operated either by County Connection or a third-party vendor.

Figure 2-12 also presents a cost comparison between running a new BART shuttle and increasing the Route 6 headway to 20 minutes (from 40 minutes currently). These calculations assume 3 additional vehicles would be needed (doubling currently need), each in service for 7 peak revenue hours (or 21 hours for 3 vehicles). If route-end dwell time could be reduced from 15 to 5 minutes, only 2 additional vehicles would be needed, reducing the cost to $229,500.

Figure 2-12 Moraga/Orinda BART Shuttle Estimated Resource Needs vs. Increased Route 6 Frequency

Alternative	Additional Peak Vehicles	Revenue Hours (Daily/Annual)	Estimated Cost (at $75/hour)
Addition of Moraga-Orinda BART Shuttle	2	14 / 3,570	$267,750
Increased Route 6 frequency (20 min. peak period headway, 15 min. dwell time)	3	21 / 5,355	$401,625

Given the cost similarity between running a BART-specific shuttle service along Moraga Way and increasing existing Route 6 frequency (along its entire route), key questions include:

- Would a BART-specific service offer special branding and marketing opportunities that would increase the appeal of transit to choice riders?
- Is a 5-minute dwell time at the end of each route feasible for existing Route 6 operations?
- Would it be easier to implement increased frequencies on an existing route or new duplicative service along a portion of an existing route?
- How many stops should be offered for a BART-specific shuttle option?

Capital Requirements

In addition to operational costs, several capital improvements are necessary to support the new BART shuttle alternative, including the purchase of vehicles if they are not already available. As noted in Figure 2-12, two additional vehicles would be required to operate this service (likely transit-style buses, approximately $415,000 - $495,000 per vehicle).[30] Vehicles may also be leased or included as part of a service agreement with a third-party provider. Vehicles may be branded or marketed in a unique way to reflect the BART-access nature of the service.

Some parcels envisioned as park-and-ride locations are not currently approved as such; some may need site enhancements (e.g. paved parking stalls or safe areas suitable for deploying a wheelchair ramp) or minor improvements like signage. Some locations may also require a lease agreement or payment for ongoing use as a park-and-ride facility.

[30] Based on transit vehicle costs 30'-40', 2013/2014 vehicle costs by type. American Public Transit Association.

Figure 2-13 lists each of the proposed park-and-ride facilities and potential site improvements that may be necessary to facilitate usage by a transit vehicle.

Figure 2-13 Potential Capital Needs

	Site Enhancement	Lease Agreement	Site Construction
Orinda Fields	X		
Vacant Lot (Approx 175 Moraga Way)	X		X
Moraga Center	X	X	
Santa Monica's Catholic Church	X	X	
Holy Shepherd Lutheran	X	X	

Other Policies

At this stage, there is no pre-defined entity that would operate this service. However, presuming that the service is offered by County Connection, it would hold similar fare rules and accept County Connection fare products.

Given that current Monthly Reserved Passes for parking at the Orinda and Lafayette BART stations are $105.00 each, a potential marketing campaign could be developed to offer preliminary one-time County Connection Monthly Pass discounts for those who hold Monthly Reserved Passes as a way to encourage mode shift. Free park-and-ride parking is also presumed; riders would simply pay for shuttle access to BART.

Administration

The service could be managed either by County Connection or as a collaborative effort between Moraga and Orinda. If managed by a combination of cities, it is most likely that one city would take on administrative functions and the other community would contribute financially on a regular basis. In terms of operations, potential options include County Connection operating the service or contracting a third-party provider to operate service. In either scenario, vehicles could have the option to be uniquely branded and customized to meet specific service needs.

An additional option that has yet to be tested is the potential of a private company managing and operating the service. In the past few years, several transit-focused start-up companies have emerged that focus on subscription-based shuttle services. While these services currently do not operate in Contra Costa County, they have expressed an interest in doing so in the future if the market would support their services.

Summary

Figure 2-14 provides an overview of the Moraga/Orinda BART Shuttle alternative including key benefits and drawbacks as compared to the other alternatives.

Figure 2-14 Summary of Moraga/Orinda BART Shuttle Benefits and Drawbacks

Benefits	Drawbacks
▪ Passengers pay only for their fare; no vehicle rental, fuel, insurance, or maintenance costs to split ▪ Highest level of flexibility for passengers; morning and evening trip times could be flexible due to shuttle frequency ▪ Supplements less frequent County Connection Route 6 service ▪ Expands transit service options to BART system	▪ Limited service area (presuming that many would still drive to access transit) ▪ Service is geared to residents of Moraga and Orinda, though Lafayette may benefit from reduced traffic congestion ▪ Requires additional operational and capital funding ▪ Park-and-ride are conceptual and require further investigation

Public Feedback

Among the general public, 56% of respondents (N=430) said they would use a shuttle from a park-and-ride lot or location closer to home and 39% of surveyed BART riders (N=475) would be willing to do so. This suggests that, while people most familiar with a BART-based commute are less likely to be open to this option, the BART shuttle concept gains more support from both BART riders and the general public than the vanpool option. Further, the shuttle option gains greater support among people who reside in Moraga—which would be served directly by this alternative—and among people younger than 55. Frequency and proximity to home are the two most influential factors in respondents' willingness to use the shuttle option.

Open-ended comments:

- "Truly hope there will be a frequent shuttle up & down Moraga Way & Camino Pablo to/from BART during commute hrs (630-9am; 3-7pm). Marketing campaign and incentive."
- "I think the money spent on a dedicated BART shuttle on Moraga Way could be better served by spending the money on increased frequency of bus route 6 or splitting it into 2 sub routes in the morning (Orinda BART to SMC and Lafayette BART to Campo H.S.)."
- "The idea of a shuttle to BART is a good one - I understand the costs would only be worth it if enough riders used the services, but I often drive because there isn't parking and I would use it several days a week."
- "Bus /shuttle service will be a hard sell in Lamorinda. Make some kind of incentive. BART discounts? Tax credits?"
- "I think small, dedicated BART shuttles along Moraga Way with limited stops (ala Muni express buses) every 10 minutes during morning commutes would be fantastic. The #6 County Connection bus in particular runs so infrequently that it must contribute to the very low ridership I have observed the few times I have needed to take it."
- "The idea of the shuttle along Moraga Way seems redundant given the County Connection bus that runs that route. How about adding more buses to that existing route, during peak hours."
- "I think that implementing a Moraga Way BART shuttle service during rush hours (to supplement the overly long 40 min(!!) headway for Line 6) is long overdue and would go a long way toward reducing rush hour congestion on Moraga Way. Parking (such as at the Safeway area on Moraga Way/Camino Pablo) is plentiful in many strategic areas.

Really, the Line 6 headway is too long to be useful as a rush hour alternative to driving one's car to BART."

- "I would love the scheduled shuttle program from off-site parking and bus stops which will also help reduce traffic on Moraga Way. The once an hour service we currently have is probably why the bus is not a suitable option for many BART passengers."
- "Using/renting spaces during work hours for vans to pick up passengers for BART would be a sure benefit...Reduce the shuttle amounts necessary to decrease the BART parking lot and Moraga way traffic by increasing the Orinda BART daily parking amounts. This would be a service to those parking at BART to have more available parking, and would encourage more to use the off BART parking/shuttle parking systems, a win/win. Community parking/shuttle should be without cost to the users, they are the people that are helping the community. As a property owner in Orinda, I would support this tax increase. Why? decrease traffic, increases the use of BART, encourages shuttle users, and increases property values of the community."

Among County Connection riders (respondents to the Textizen survey), 51% of respondents indicate their biggest complaint is that the bus does not run frequent enough (N=. Forty-six percent feel that it does not run early or late enough. Interestingly, only 3% complain that stops are not close to their trip origin.[31] Frequency—and potentially hours of service—are operational elements that could be addressed through the implementation of a BART shuttle.

Lafayette Shuttle[32]

Market Focus: Commuters (Lafayette)

Overview

Based on conversations with City of Lafayette staff, the concept of a downtown Lafayette shuttle has been discussed in various forums. Typically, the purpose of a local circulator shuttle is to benefit and support the community's economic development goals or area parking constraints. Shuttles also can provide additional access to regional transit providers such as BART. For this reason, a Lafayette shuttle is included as part of the BART Feeder Service alternatives.

A proposed shuttle service would serve the majority of downtown Lafayette, which is also largely encompassed by a "Transit Neighborhood" Priority Development Area. As such, the district is slated to nearly double in population over the next 25 years. A shuttle service during the peak commute periods could ensure last-mile connections to these new residents to/from BART and also ensure workers access to jobs within the same district. Given that most of the growth around downtown Lafayette will be within walking distance of Mount Diablo Boulevard, walking and bicycling are assumed to be the primary modes of access to this service.

Currently, the proposed corridor is also served by County Connection, which has low ridership levels. However, this may be a false reflection of the transit potential of the corridor given that Route 25 operates every hour during peak periods--not nearly frequent enough to provide schedule flexibility to and from BART. A shuttle that operates every 15-20 minutes has the potential to significantly increase demand.

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[31] As indicated by responses to the Textizen survey

[32] A variation on this alternative would be to simply increase frequencies on Route 6 from the existing 40 minutes in the peak period.

Operational Characteristics

Similar to the Moraga/Orinda shuttle, a Lafayette shuttle would operate during the peak period on weekdays only. A proposed alignment would operate between the Pleasant Hill Road and the Lafayette BART Station with stops along Mount Diablo Boulevard. The route could also potentially provide park-and-ride service to a future facility near the route's terminus.

Figure 2-15 Lafayette BART Shuttle Operational Characteristics

Morning Service	Evening Service	Service Frequency
6:00 a.m.-9:30 a.m.	4:00 p.m.-7:30 p.m.	20 minutes (presuming 5.2 mile round-trip alignment)

Figure 2-16 illustrates the proposed Lafayette shuttle, which would run adjacent to County Connection Route 25 along Mount Diablo Boulevard.

Figure 2-16 Proposed Lafayette Shuttle Service to BART

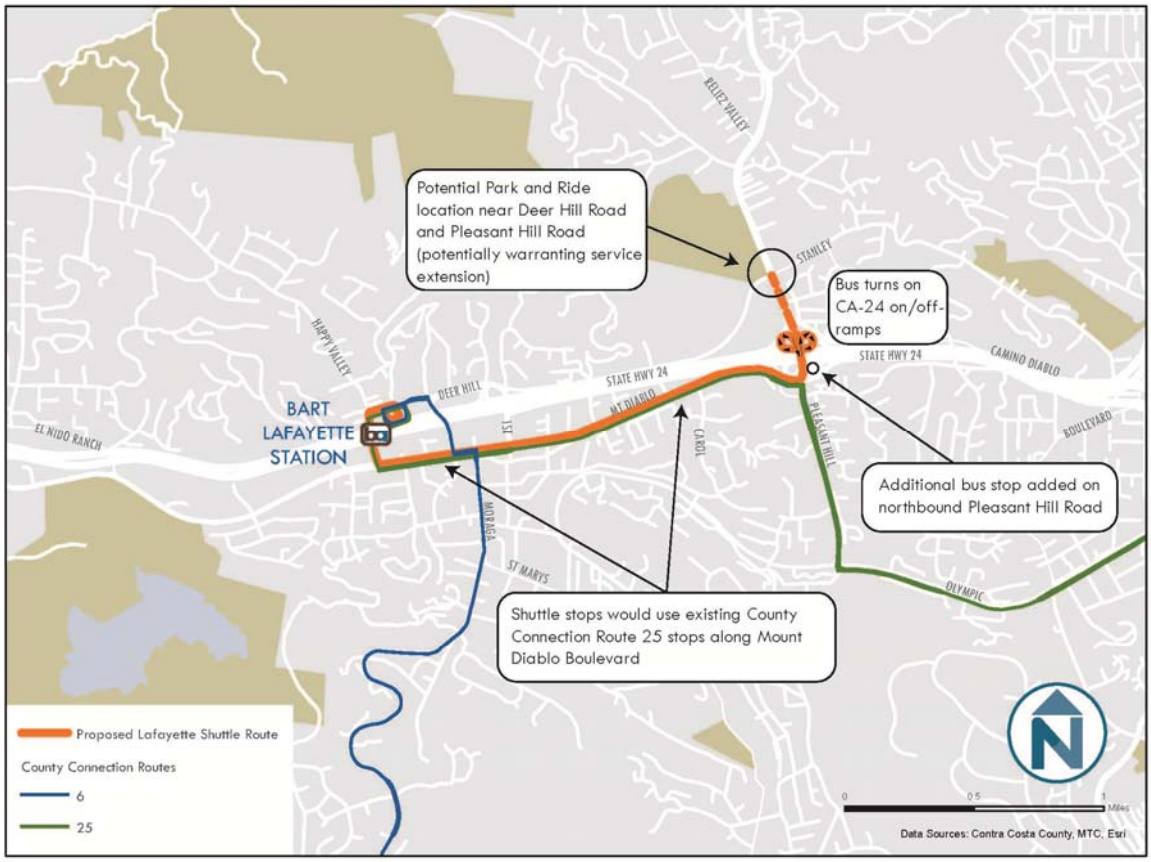


Figure 2-17 Lafayette BART Shuttle Estimated Resource Needs

Peak Vehicles	Revenue Hours (Daily/Annual)	Estimated Cost (at $75/hour)
2	14 / 3570	$267,750

Capital Requirements

In contrast to the Moraga/Orinda shuttle, the Lafayette shuttle would cater to the downtown area and would be accessed primarily by walking and biking. In the interim, it is not anticipated that a shuttle would serve any dedicated park-and-ride lots, instead focusing on connecting those who live within walking or bicycling distance of the service corridor. In the future, a potential park-and-ride lot could be considered near the route's terminus to increase its catchment area.

Near-term capital requirements would be in the form of signage or bus stop infrastructure along the route. Existing infrastructure along County Connection Route 25, such as stops and signage, could be used for both services.

Other Policies

The Lafayette shuttle would have policies similar to those of the Moraga/Orinda shuttle.

Administration

The Lafayette shuttle would have administration similar to that of the Moraga/Orinda shuttle.

Summary

Figure 2-18 provides an overview of the Lafayette shuttle alternative, including key benefits and drawbacks as compared to the other alternatives.

Figure 2-18 Summary of Lafayette BART Shuttle Benefits and Drawbacks

Benefits	Drawbacks
▪ Supports increased development along Mount Diablo Boulevard and existing businesses/employers ▪ Enables additional transit options for those living along Mount Diablo Boulevard (and near intersection with Pleasant Hill Road) ▪ Supplements less frequent County Connection service (Route 25)	▪ Limited service area along Mount Diablo Boulevard ▪ Currently, only proposed to operate during peak commute hours (give focus of study) ▪ Shuttle access is still contingent on safe pedestrian access and connections across Mount Diablo Boulevard

In addition to the sub-alternatives presented here, a fourth "Hybrid" model was also considered in which members of the public and hired drivers operate shared vans between Orinda BART and Moraga. This alternative was de-prioritized due to its complexity and limited feasibility. A full description can be found in Appendix A.

Public Feedback

Feedback on this specific shuttle service was not requested directly. However, respondents' comments that frequency is the most influential factor in deterring the propensity to use transit suggests that a variation of this alternative that increases the frequencies—and midday availability—on Route 25 could attract lunchtime ridership.

One open-ended response—from a Lafayette resident over age 65—indicated a strong preference for a midday shuttle. A few others relate to this option as well.

- "I feel strongly about offering shuttle service along Mt. Diablo, especially during the lunch times. I would like to see jitney buses used to service within communities such as

Campolindo, Happy Valley, Burton Valley, Reliez Valley, Condit. It would provide more access to these neighborhoods and decrease the demand on the arterial roads."

- "A Mt. Diablo Blvd. focus for senior who live in new apartments would be helpful."
- "I believe a free shuttle that is also an electric vehicle similar to what Walnut Creek is doing is the best way to go. I think it is particularly important to get the students from the College up and down to BART as well as in and out of our shopping."

Flexible Transit Services

Lamorinda's low residential density and hilly topography are challenges for traditional fixed-route transit, but offer an opportunity for flexible public transportation services. Many areas of Lamorinda remain at an access disadvantage due to narrow, hilly, or dead-end streets. Further, many locations throughout Lamorinda do not have sidewalks. Nonetheless, there are still many feasible bus stop locations along hilly residential streets (including existing School Tripper stops). Two flexible transit service models were explored in the Lamorinda service area, including a zone-based and a deviated fixed-route service.

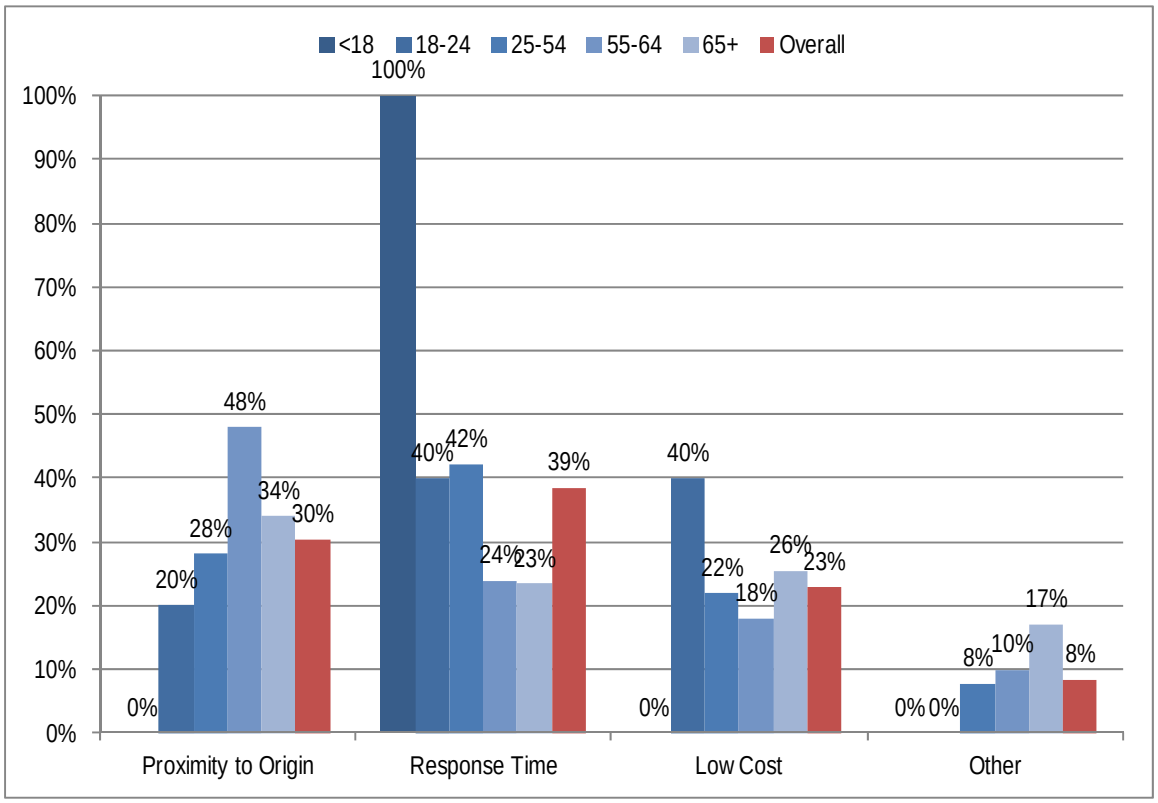
Public Feedback

Feedback on the on-demand shuttle/flexible transit concept was solicited generally; zone-based services and deviated fixed-routes were not differentiated directly in survey questions. Therefore, general feedback this concept is provided here. Responses regarding the taxi subsidy program alternative are described in that section, below.

The main appeal of flexible services among respondents is as a support for seniors. For commuters, flex service as described (in one-page briefs included in the survey, see Appendix C) could add up to $10 per day to trip costs—on top of BART fare for many people. And for families, it would be double or triple that. However, that this service offers the fastest pick-up times of the alternatives (5-15 minutes) makes it attractive; more than 80% of respondents believe a zone-based service should offer faster response at the expense of service area size. This preference is consistent across age groups.

Younger respondents (younger than age 55) tended to prioritize response time as the main benefit of zone-based services, whereas individuals over age 55 prioritize its door-to-door nature. Figure 2-19 illustrates this trend.

Figure 2-19 Assuming a flexible shuttle service was offered, what would make you most inclined to use such a service?



Source: General Public Survey (N=418)

Despite the benefits of a zone-based on-demand service, open-ended responses to the survey indicate limited support for such an alternative, especially in light of the opportunities presented by other alternatives.

- "I would use this when my elderly parents visit so they wouldn't have to drive."
- "Forget it at $5 per trip. The BART ride is already way too expensive."
- "I'm not convinced that privatized, door-to-door solutions are top of my list. They play a part, to be sure, but given the number of people (seniors, schoolchildren, regular commuters) who would be served by a more routinized public service, this feels like an expansion of existing taxi and car services, and I'm not sure it holds that much appeal for me."
- "To use this type of service we would need to be picked up early and make very few stops on the way to BART. We don't want to lengthen our commute time. Also, $5 per trip is $10 per couple, each way, and an extra $20 per trip doesn't work for us. We drive just 3 miles to BART, carpooling together."
- "Will consider the shuttle, if it is call on demand."

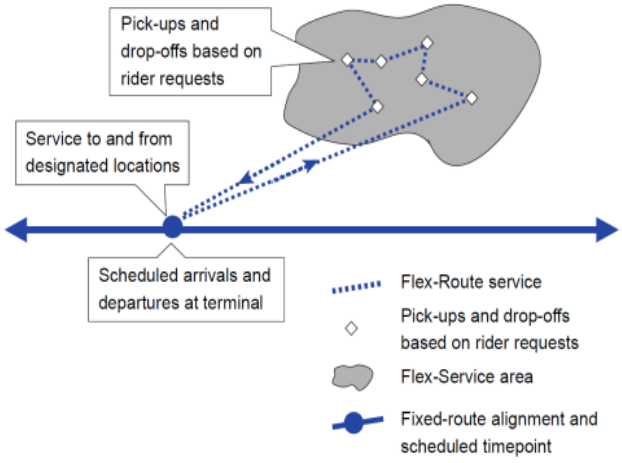
Further, among current transit riders, only one respondent indicated transit's lack of proximity to one's home as their main complaint, whereas low frequency and limited early/late service were the biggest complaints. Zone-based services go a long way to solving the proximity/door-to-door need, but this aspect of the service does not appear to be the biggest pain point for existing transit riders or for members of the general public under age 55.

Zone Services

Market Focus: Commuters, Senior Mobility

Overview

Zone-based transit services (point-deviation services) are suited for areas like Lamorinda, with low-density land uses, a circuitous street network, and several major activity centers (e.g. shopping and BART). Zone-based services do not follow a specific corridor, but do have one-to-two regular time-points to enable transfers to other transit services or to serve frequently visited locations.



Conceptual Diagram of Zone services

A zone service in each city (Lafayette, Moraga, and Orinda) could improve general access to public transportation. Zone services are not intended to be fast or direct, but could be a suitable fit given that each city has one or more major activity centers. If focusing specifically on zone services, each city could operate service independently, each with a designated time-check point, to provide connections to local or regional transit providers.

Operational Characteristics

Zone services in the Lamorinda context could have many different variations depending on the desired level of service. On one end of the spectrum, each city could operate a zone service for a full service day. Alternatively, each city could provide service for a limited span to cover midday trips with a focus on seniors and for those who would not otherwise be able to access BART due to parking constraints. However, it is presumed that each proposed zone would operate one vehicle at most and would have a designated time-point each hour within the service span.

Figure 2-20 Zone Services Characteristics

Service Span	Service Frequency	Potential Service Zones and Time-points[33]
Varies, but could complement BART shuttle service	Pick-ups by request only, estimated hourly frequency at one-two time-points	▪ Orinda (BART station) ▪ Moraga (Moraga Center – timed transfer with Route 6) ▪ Lafayette (BART station)

Given the variability of potential service levels and areas, it is challenging to provide an accurate estimate of operating cost. However, Figure 2-21 provides an estimate based on the assumption that costs would be on par with current County Connection LINK (paratransit) costs per hour ($45/hour). These estimates envision weekday-only service.

[33] Please note these service zones are conceptual and may likely change over time based on travel patterns and demand

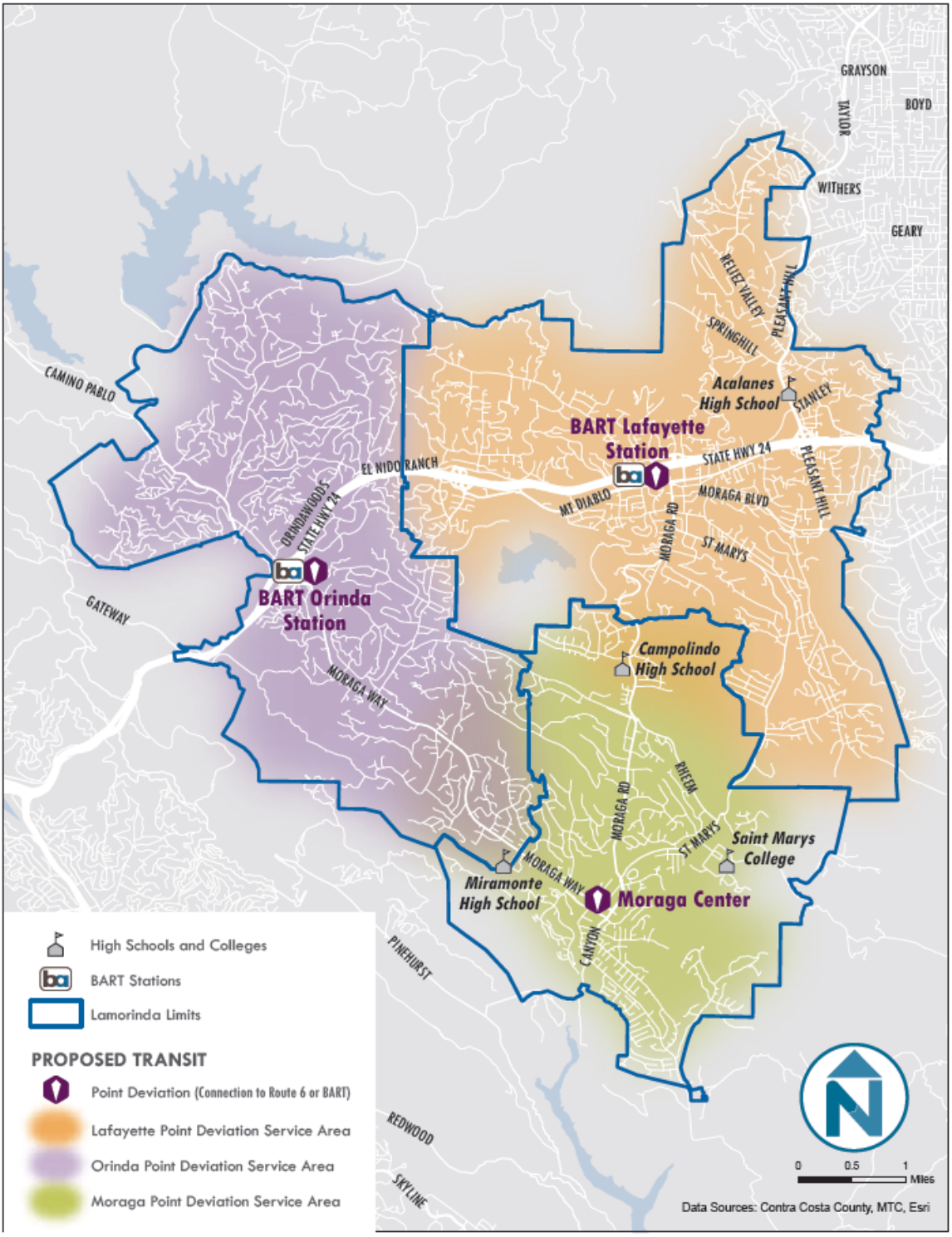
Figure 2-21 Zone Services Estimated Resource Needs per Vehicle (Weekday Only)

Proposed Service Span	Revenue Hours (Daily/Annual) per Vehicle	Estimated Annual Cost (at $45/hour) per Vehicle
6 a.m. – 8 p.m. (14 hours)	14 / 3,570	$160,650
9:30 a.m. – 4 p.m. (6.5 hours)	6.5 / 1,586	$71,370
10 a.m. – 2 p.m. (4 hours)	4 / 1,020	$45,900

Capital Requirements

Given that zone services operate with smaller vehicles and do not necessarily use formal bus stops, this alternative requires few on-the-ground capital needs. However, this proposal would require additional vehicles and bus stop improvements at regular time-point locations. Each zone would require at minimum one vehicle (potentially more depending on service expectations and demand). A smaller "cutaway" vehicle could be used for each of these services and could be purchased outright or as part of a third-party service agreement. Estimated costs for such a vehicle range from $65,000-$85,000. The number of vehicles is dependent upon the number and size of service zones.

Figure 2-22 Proposed Zone Services



Other Policies

If the service is open to the general public, a fare is warranted given its higher level of customization than fixed-route service. While a specific fare is not suggested at this time, it should be structured to incentivize use of the fixed-route system for those who are able. Thus, any fare for a zone service should be higher than the existing $2 fixed-route fare. The fare could be subsidized by the community to aid access for seniors, those with disabilities, or others.

Administration

Given the level of scheduling and administrative overhead necessary for this type of service, it would likely be more cost effective for County Connection to administer the service and utilize existing scheduling/dispatching capabilities and for the LINK paratransit service. Existing transportation service providers could also be capable of operating a similar type of service in the future.

Summary

Figure 2-23 provides an overview of the zone services alternative, including key benefits and drawbacks as compared to the other alternatives.

Figure 2-23 Summary of Zone Services Benefits and Drawbacks

Benefits	Drawbacks
▪ Provides basic level of access to the transit system across a wide service area ▪ Effectively serves as a community general public Dial-a-Ride (with specific time-points) ▪ Increases transit access to BART and other community services	▪ Service quality (speed) is limited based on the wide service area and deviations ▪ Unlikely to be a productive (passengers per hour) service

Public Feedback

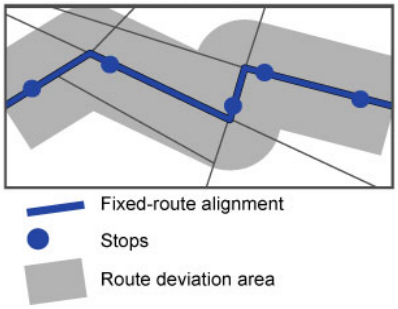
Respondents were not asked about this option explicitly; relevant feedback is summarized in the general Flexible Transit Services section, above.

Deviated Fixed-Route Services

Market Focus: Commuters, Senior Mobility

Overview

Deviated fixed-route service is very similar to zone service in that it does not follow a specific route for every trip. Where it differs is that it has designated stops along a route and will deviate off the route within a certain distance for each trip.



Conceptual Diagram of Deviated Fixed Route Service

The advantage of a deviated fixed-route service is that it can be more productive in terms of passengers per hour than zone service. This is possible so long as there are two strong destinations "anchoring" both ends of the route.

In Lamorinda, there is potential for this type of service between the Orinda and Lafayette BART stations, primarily for residents living north of Highway 24. Such a service would follow a general path (along Orindawoods Drive, El Nido Ranch Road, and Mt. Diablo Boulevard) with the opportunity to deviate up to a mile off the route to make pick-ups and drop-offs. Figure 2-26 illustrates the general alignment and service area of the proposed service.

Operational Characteristics

Deviated fixed-route services are scheduled in a similar fashion to fixed-route services. However, "slack time" is built into the schedule to allow for deviations to pick up passengers off the route. Given the potentially large area (up to one mile off the route) that would be within the service area, an hour to travel between the two BART stations is proposed. Two vehicles (traveling in opposite directions) may be needed to operate the service on this schedule. Each vehicle would cover either the north or south side of Highway 24 on its journey to the BART station.

Figure 2-24 Deviated Fixed-Route Characteristics

Service Span	Service Frequency	Primary Service Corridors
Varies, but could complement BART shuttle service	Estimated hourly service on the main route. Deviation pick-ups may vary.	▪ Orindawoods Drive ▪ El Nido Ranch Road ▪ Mt Diablo Boulevard

Potential operational cost estimates are provided in Figure 2-25. These estimates presume weekday-only service at $45/hour.

Figure 2-25 Deviated Fixed-Route Estimated Resource Needs (Weekday Only)

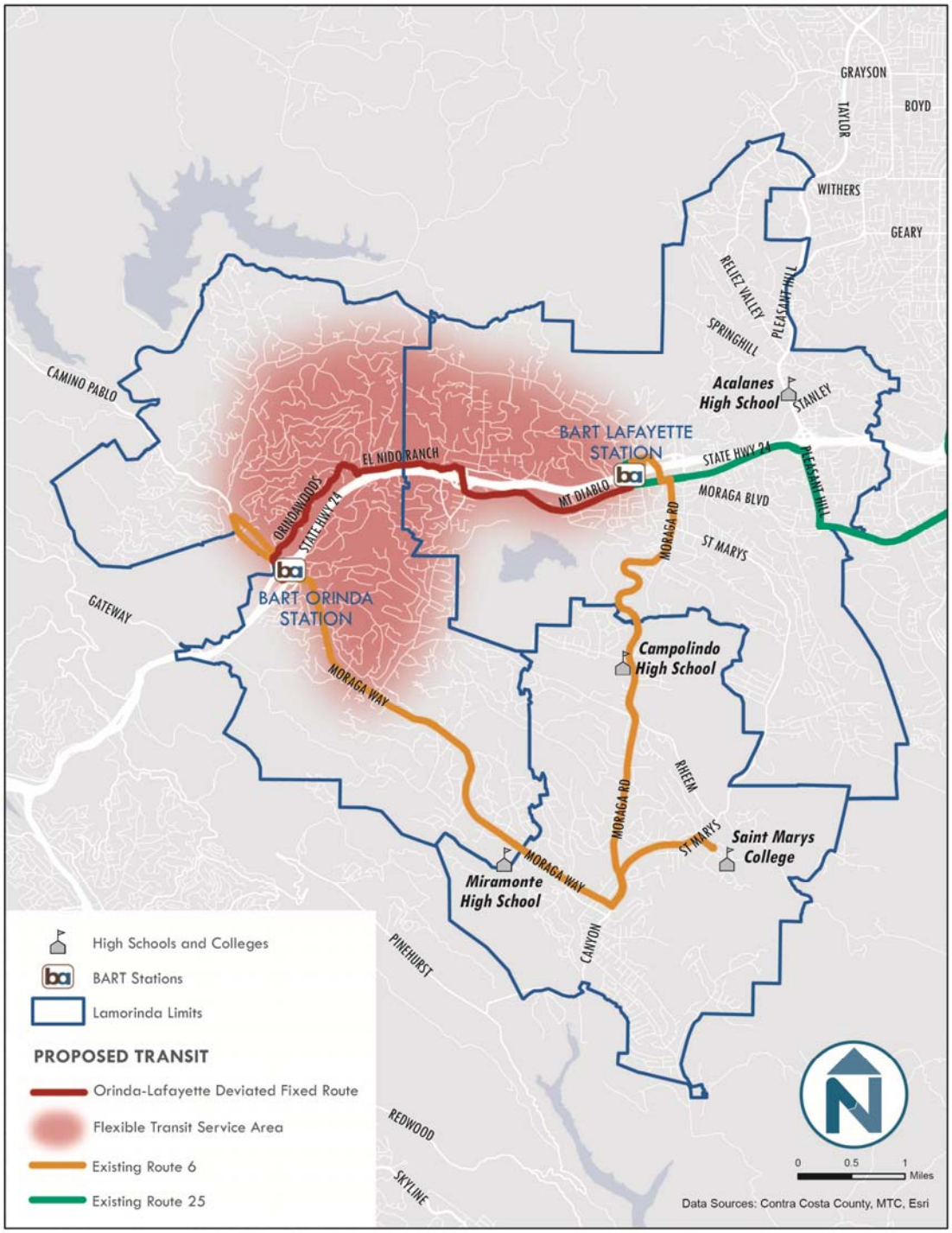
Proposed Service Span	Vehicle Needs (Hourly Service)	Revenue Hours (Daily/Annual)	Estimated Cost (at $45/hour)
6 a.m. – 8 p.m. (14 revenue hours)	2	28 / 7,140	$321,300
9:30 a.m. – 4 p.m. (6.5 revenue hours)	2	13 / 3,315	$149,175

10 a.m. – 2 p.m. (4 revenue hours)	2	8 / 2,040	$91,800

Capital Requirements

Deviated fixed-route services could also operate with smaller vehicles and would not necessarily use formal bus stops for deviations. However, bus stop improvements would be required where there are regular stops along the alignment. Each of the proposed service span scenarios described above would require the addition of two vehicles to operate this service. Per vehicle costs would range from $65,000-$85,000 based on the vehicle type.

Figure 2-26 Proposed Deviated Fixed-Route Services



Other Policies

Deviated service would have fare policies similar to the zone service alternative.

Administration

Deviated service would have administrative options similar to the zone service alternatives.

Summary

Figure 2-27 provides an overview of the deviated fixed-route alternative, including key benefits and drawbacks as compared to the other alternatives.

Figure 2-27 Summary of Deviated Fixed-Route Services Benefits and Drawbacks

Benefits	Drawbacks
▪ Opportunity to provide transit service to residents north of CA-24 ▪ Likely to be more productive than zone services ▪ Increases transit access to BART and other community services	▪ Service quality (speed) is limited based on deviations ▪ Unlikely to be a productive (passengers per hour) service, but more so than zone service alternatives

Public Feedback

Respondents were not asked about this option explicitly; relevant feedback is summarized in the general Flexible Transit Services section, above.

Taxi Scrip/Voucher Program

Overview

Given the existing supply of taxis and some ride-sourcing providers in the Lamorinda area, a rider subsidy program may be a strategy to provide on-demand transportation access without substantial operational costs, using subsidies as a way to minimize costs of new services and to encourage private on-demand transportation providers to enter the market.

Taxi voucher ("scrip") or reimbursement programs provide free or discounted taxi rides to select groups of riders, typically seniors and people with disabilities. Guaranteed ride home programs, which support employees' use of public transit by covering the costs of taxi rides for unexpected or emergency trip needs, provide a similar service to the general public; some of these programs subsidize trips taken with transportation network companies—like Lyft and Uber—as well as with traditional taxis. Contra Costa County's Guaranteed Ride Home program will reimburse participants for rides taken with traditional taxis, transportation network companies, rental cars, and car share vehicles.[34]

In addition to guaranteed ride home, several local taxi voucher examples are available, including the City of Richmond's Subsidized Taxi Voucher Program for residents with disabilities and people over age 55; the Cities of Fremont, Union City, and Newark's Tri-City Taxi Voucher Program for residents with disabilities and people over the age of 70; and the City of Berkeley's

[34] http://511contracosta.org/guaranteed-ride-home/

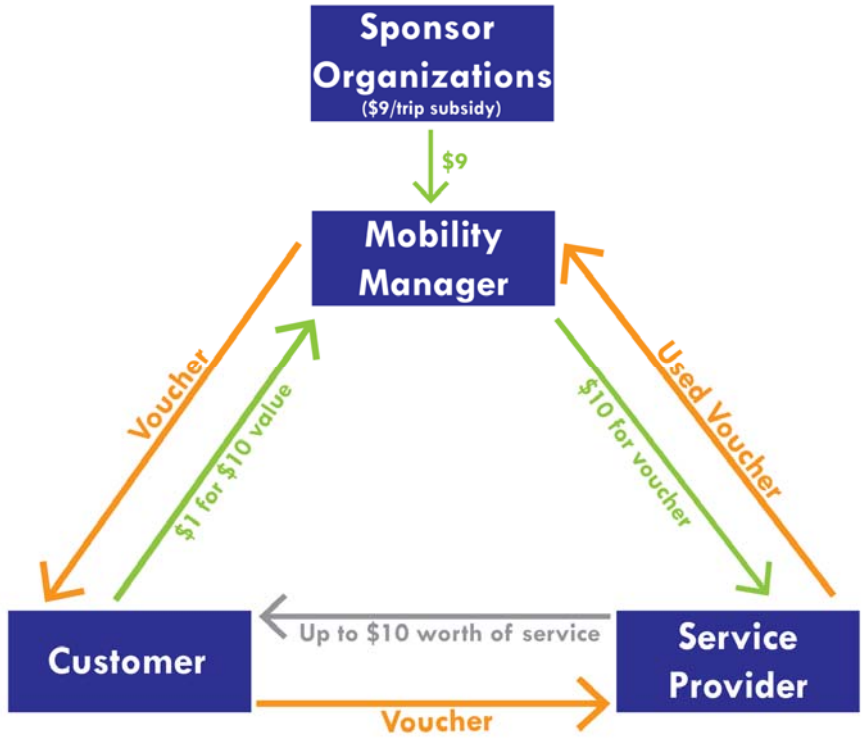
Subsidized Taxi Program for residents with disabilities and people over age 80 (or over 70 with income restrictions).

Operational Characteristics

Operation of a taxi voucher program can involve one sponsoring organization or multiple sponsoring organizations working through a mobility manager. In its simplest model, eligible riders purchase discounted vouchers from a single sponsor (e.g. County Connection), use vouchers to pay for a taxi trip, and providers turn in vouchers to the sponsor for reimbursement. This process is illustrated in Figure 2-28; dollar amounts are for illustration only.

To begin service in Lamorinda, an administrative entity—responsible for screening applicants, distributing taxi vouchers, verifying provider requests for reimbursement, and maintaining partnerships with providers—would need to be identified. Part of this work involves ensuring there is an available supply of rides at any given time.

Figure 2-28 Taxi Voucher Operational Model Example



Source: Nelson\Nygaard

Reimbursement models are more common for guaranteed ride home programs, but less so for subsidized taxi programs for seniors and people with disabilities. In a reimbursement program, participants are pre-screened for eligibility. When a participant takes a qualifying trip, they choose their provider and pay as any member of the public would. They obtain a receipt, which is submitted to the mobility manager or sponsoring organization for reimbursement. This model is less common in programs targeted to seniors and people with disabilities due to the potential difficulty these individuals would have in making a full-cost trip payment up front.

Capital Requirements

There are no capital requirements for this program.

Other Policies

Policies regarding eligibility and voucher use limits need to be developed. In addition, a process for establishing eligibility needs to be established. Eligibility is often tied to age (e.g. age 70 or older), level of disability (e.g. certified eligible for ADA paratransit), income (e.g. as a percentage of area median income), or ability to obtain a driver's license. Taxi subsidies vary from 50% to full-cost in some cases. In some guaranteed ride home programs, subsidy funds are provided in partnership by participating employers and a public sponsoring agency.

Administration

Administration would be handled by the mobility manager or the sponsoring agency. Administration involves screening applicants, selling vouchers, verifying requests for reimbursement, establishing relationships with providers, and promoting the program.

Summary

Figure 2-29 Summary of Taxi Voucher Program Characteristics

General Characteristics	
Primary Market	Potential users who live outside of existing transit service area or those who frequently require on-demand and/or specialized transportation
Potential User Costs	Varies: Users pay a portion of trip costs by purchasing subsidized vouchers or being reimbursed for a portion of trip costs (flat rate subsidies and percentage-based discounts are both used)
Potential Operator	Public administration/private sector service provider; partnerships are required for a voucher/scrip model
Infrastructure Needs	Administrative structure/staff resources to screen and distribute taxi vouchers or approve reimbursement requests

Figure 2-30 Summary of Taxi Voucher Program Benefits and Drawbacks

Benefits	Drawbacks
▪ New mobility option for seniors and people with disabilities ▪ Offers same-day transportation for people who otherwise have to schedule a day in advance ▪ Can offer lower cost per trip than ADA paratransit ▪ Opportunity to serve connecting trip to BART at discounted price for occasional need	▪ Requires administration costs ▪ Opportunity for fraud through re-sale of vouchers ▪ Due to cost constraints, could only serve occasional-need trips for the general public

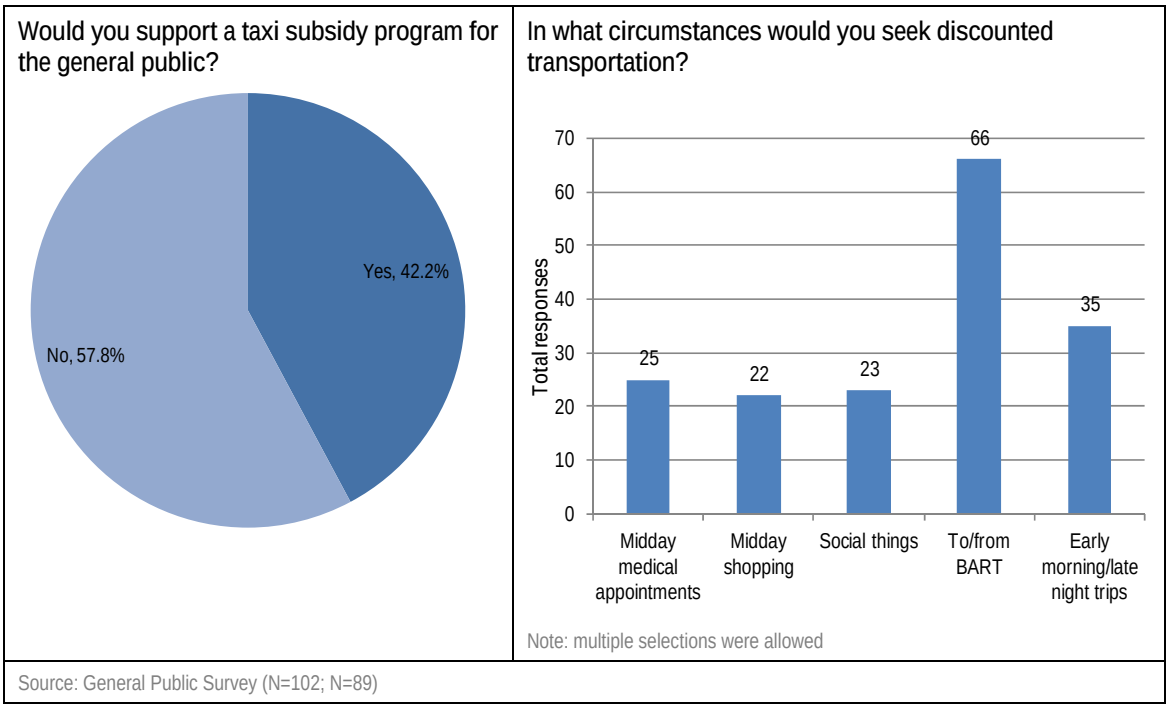
Public Feedback

About two-thirds of respondents (N=103) support a taxi subsidy program for the area's most vulnerable residents—seniors and people with disabilities—and 42% support such a program for the general public (N=102). Further, the level of support for each option varies significantly depending on the respondent's place of residence and their age.

A specialized subsidy program (for a targeted audience) garnered the most support among residents of Lafayette—74% of Lafayette residents responded positively to this alternative whereas only 62% of Moraga residents and 50% of Orinda residents indicated so. A general public subsidy

garners the most support among Moraga residents (54% of whom support it), a fact that is corroborated by the finding that almost 75% of respondents would use such a program to get to and from BART.[35]

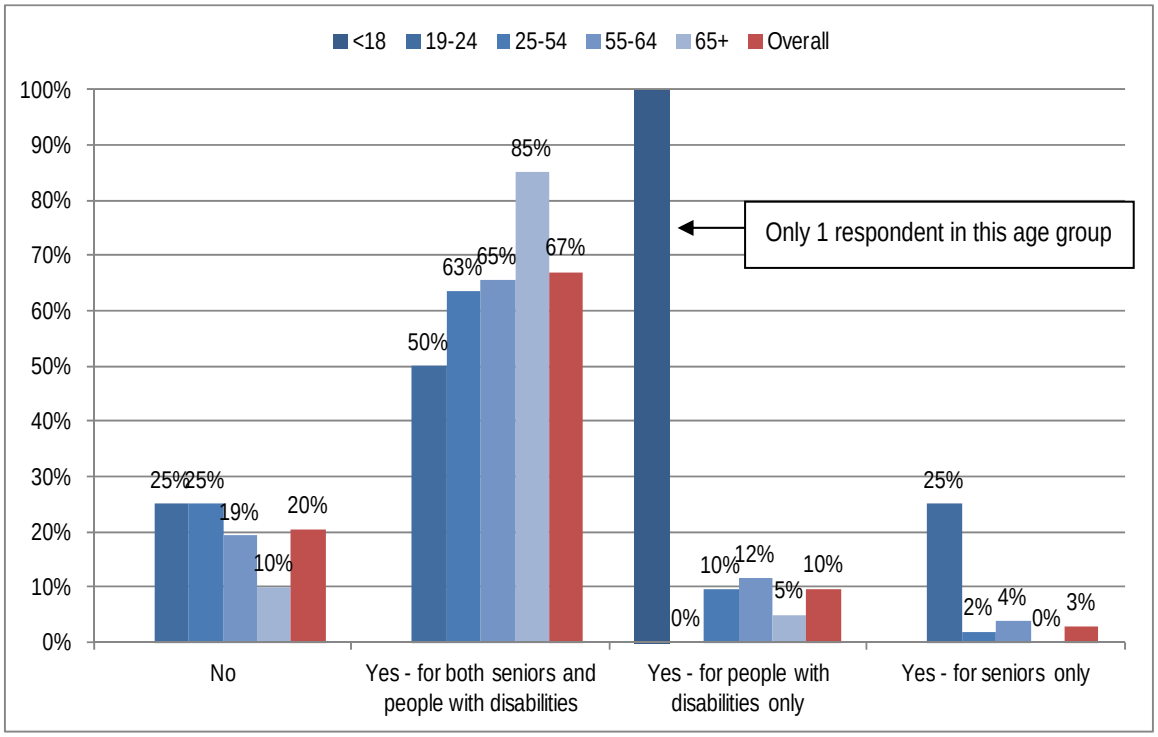
Figure 2-31 General Public Taxi Program Response Summary



Perhaps unsurprisingly, a subsidy program for seniors and people with disabilities garners the most support among respondents over age 65 (85% of whom support it); generally, the older the respondent, the more likely they are to support this type of program (Figure 2-32). Overall, two-thirds of respondents support a public subsidy for seniors and people with disabilities; only 20% do not support it. A subsidy program for the general public still is supported by 55% of the 65-and-older age group, however only 42% of respondents overall think it would be a good idea.

[35] Note: respondents could choose multiple uses of the program

Figure 2-32 Would you support a taxi subsidy program for seniors or people with disabilities? (responses by age)



Source: General Public Survey (N=103)

About 71% of respondents think that a taxi subsidy program would help attract more private on-demand transportation providers to the area.

It should be noted that this alternative was not added to the survey until June 1—about half way through the survey effort. About a fifth of survey respondents answered questions related to the taxi subsidy program.

To supplement survey responses, a series of senior stakeholder interviews were also conducted. Interviewees included representatives of Beltair Senior Apartments, Monteverde Senior Apartments, Lafayette Senior Center, and the Lamorinda Spirit Van. From these interviews, it is clear that a subsidized taxi program has a strong level of support among the senior community—the most of any of the alternatives. This is due in part to seniors' unique trip needs, which tend to be outside the service area of other proposed solutions, occur at non-commute times, and require door-to-door service.

Stakeholders further clarified the preference is for traditional taxis, rather than TNCs, as they believe TNCs have limited coverage in the area currently and that many seniors would have difficulty understanding how to hail and use such services.

Interviewees indicated the biggest challenge to establishing such a subsidy program will be identifying a continuous funding source so as to avoid writing grants every one to two years. About $17 million of Measure J revenue (over 25 years, or about $700,000 per year) is designated for transportation programs for seniors and people with disabilities in Southwest Contra Costa

County—some of which is used to fund Spirit Van operations.[36] Currently, the Spirit Van denies some trip requests based on driver availability; with more funding, the Spirit Van may be able to serve more trip requests and on a same-day (rather than prescheduled) basis.

School Services

The two primary school transportation services in Lamorinda are provided by County Connection's School Tripper bus routes and the Lamorinda School Bus Program (LSBP)—a consortium of three communities (Lafayette, Moraga, and Orinda) and four school districts focused on providing transportation for students from kindergarten through 8th grade and some high schools.

Though the LSBP and School Tripper services provide transportation for approximately 1,500 students every year (about 1,200 with LSBP and an additional 300 on County Connection), many students do not or cannot utilize these services due to bus capacity issues or a lack of service to particular schools or neighborhoods. There are approximately 6,800 K-8 and over 5,000 high school students in Lamorinda. Thus, approximately 10-15% of area students use current school transportation services.[37]

Figure 2-33 shows an overview of the service currently provided by these two programs and the neighborhoods they serve. One notable difference is the neighborhood penetration provided by LBSP as opposed to County Connection's trunk line-type service. Some schools have no service from LSBP. As compared to the LSBP, County Connection School Trippers provide service to BART, which enables access for many students who come from outside the immediate service area.

Figure 2-34 illustrates each service's ridership. Ridership on each of County Connection's four School Tripper routes varies between about 20 and 250 students per day. This is in contrast to each route within the school bus system, which serve between 2 and 50 students daily. However, with 38 total routes, the program serves about four times as many students as County Connection's School Trippers.

Appendix B of this document highlights different schools in the study area and service provided by either LSBP or County Connection School Trippers.

Two additional transportation programs related to students include the Student Transit Ticket Program—which provides a limited number of free transit tickets to any student who applies—and the High School Carpool to School Program—which encourages students to carpool through incentives such as gas cards and gift cards. These two programs are administered by the Southwest Area Transportation Committee (SWAT), which is part of 511 Contra Costa.

To address existing gaps in school transportation in the Lamorinda area, this section considers two options for future school transportation programs and services:

- Expansion of the Lamorinda School Bus Program
- Increased coordination between the providers of existing programs and services

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[36] Measure J Sales Taxi Expenditure Plan, http://www.ccta.net/sources/detail/2/1; June 2015 interview with Mary Bruns of the Lamorinda Spirit Van

[37] Tyson, Cathy. *School Enrollments are Growing*. Lamorinda Weekly: January 14, 2015. https://www.lamorindaweekly.com/archive/issue0823/print/SchoolEnrollmentsareGrowing.html

A third option of consolidating LSBP and County Connection School Tripper services was also considered, but de-prioritized due to limited feasibility and funding complications. This alternative is described in more detail in Appendix A.

Expansion of the Lamorinda School Bus Program

Market Focus: School Trips

Overview

Given that there is unmet demand for school bus service, a goal to reduce traffic congestion by reducing school trips, and capacity constraints on existing school bus routes, this alternative focuses on expanding LSBP services in Lamorinda. LSBP currently runs 21 buses through a contract with First Student. Fourteen of those buses serve multiple schools and about 20% of their 38 routes are subscribed to at least 70% capacity.

In addition to constrained existing capacity, LSBP administrators are concerned about the potential for growing student enrollment over the next decade coupled with existing traffic congestion, which already causes delay for buses. To address these concerns and needs, additional service to the following schools is considered in this alternative:[38]

- Orinda Intermediate School and Stanley Middle School (to address capacity issues)
- Lafayette Elementary, Del Rey Elementary, Miramonte High School, and Happy Valley Elementary (potential new service)
- Campolindo High School (expand existing limited service)

In addition, given requests from parents, there is interest in investigating other transportation options for after-school activities. Potentially, these trips could be served using the additional vehicles described in this alternative.

[38] Specific schools for which additional service is needed were obtained from LSBP staff

Figure 2-33 School Service in Lamorinda (LSBP and County Connection)

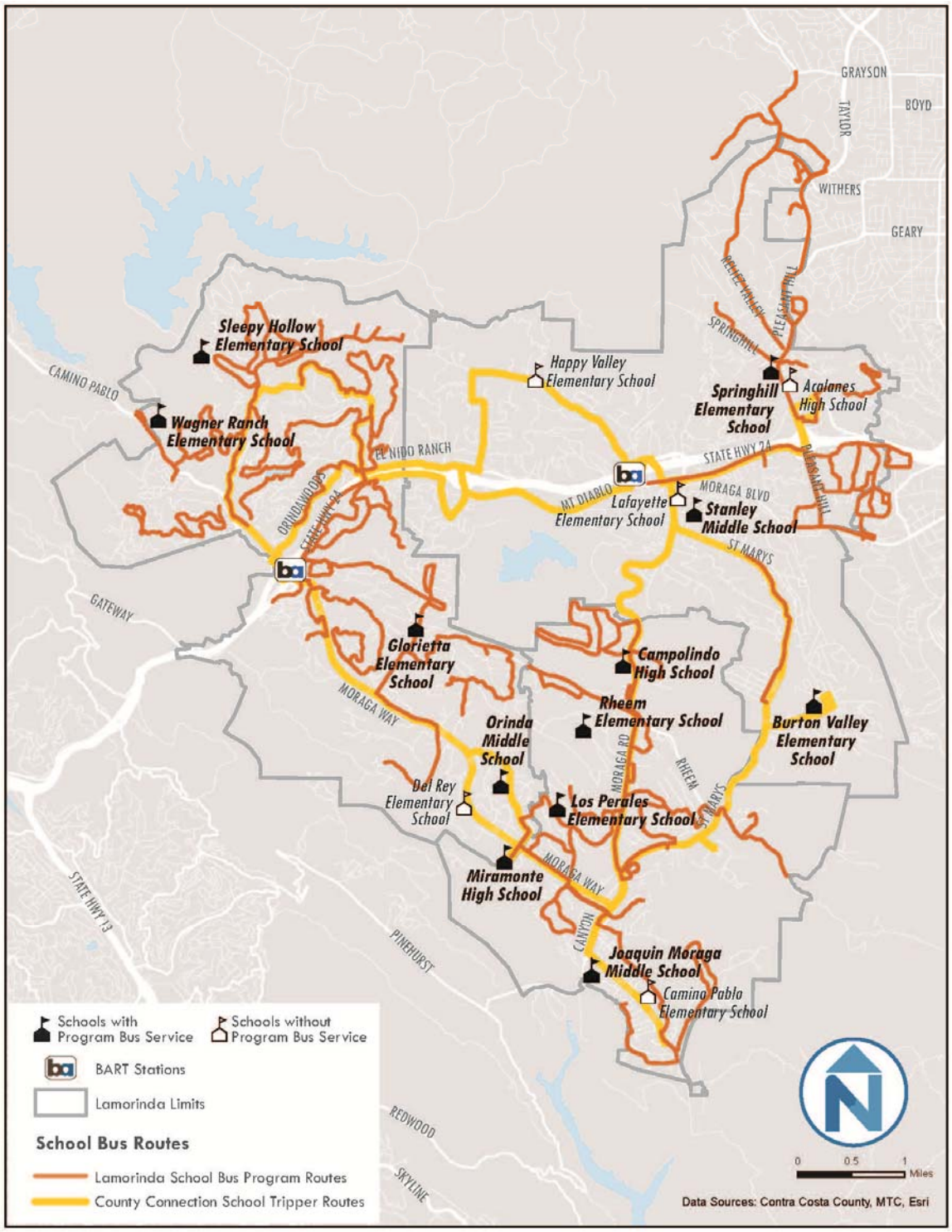


Figure 2-34 School Service Daily Ridership (round trip equivalents)[39]

[39] For each School Tripper route, several one-way trips occur in both the morning and evening. This number reflects the sum of the time period (morning, evening) with the highest number of total boardings. This methodology was selected to most closely match the round trip equivalent that is used by the LSBP.

Operational Characteristics

Six additional buses would need to be contracted to expand services as proposed above. The total cost of these services would be $446,430 annually, which is approximately $3.88 per trip if used at 75% capacity.[40] This is in comparison to total costs of $3.63 per trip for existing LSBP service provided in the fall of 2014. Note that current LSBP costs are inclusive of operations and costs of vehicles.

Figure 2-35 School Bus Service Expansion Operating Costs

	School Bus Service Expansion
Annual Operating Cost	$446,430
Daily Ridership (Individual Students Served)	452+
Annual Operating Cost per Student Served	$1,317 or less
Average Operating Cost per Trip	$3.88

Figure 2-36 below provides a breakdown by school of the potential new ridership gains and estimated costs to provide expanded service. This expanded service has potential to absorb some or all School Tripper ridership along all four existing routes, but consolidation between the two programs is not considered here.

Figure 2-36 New School Bus Service Costs and Ridership Potential[41]

School / Area Served	City	New Ridership Potential (based on bus capacity)	Estimated Annual Operating Cost
Orinda Intermediate School	Orinda	71	6 new buses $74,400 each $446,400 total estimated annual operating cost
Stanley Middle School	Lafayette	66	
Del Rey Elementary	Orinda	71	
Happy Valley Elementary	Lafayette	71	
Lafayette Elementary	Lafayette	71	
Miramonte High School	Orinda	51	
Campolindo High School	Moraga	51	
After school programs	Lamorinda	TBD	
Total New Ridership and Cost of New Service		452+	$446,430
Annual Cost per Student Served (new service)[42]		$1,317 or less	
Annual Cost per Student Served (existing service)[43]		$1,306	

[40] Assumes 180 school days per year and two trips per day; current service is used at 88% capacity

[41] Data obtained from the Lamorinda School Bus Program's *Enrollment by Route – Round Trip Equivalents 2013/2014* report.

[42] Current service is at 88% capacity. This calculation assumes new service would operate at 75% capacity.

[43] Calculation based on 1,196 round-trip equivalent riders, 21 buses, annual cost per bus of $74,405

Capital Requirements

None.

Other Policies

Fares for school bus services would be expected to remain approximately the same ($468 for an annual subscription and $3 for each day pass). In addition, the existing program to subsidize or provide free school transportation for qualifying low-income families would remain. In the longer term, additional study may indicate an opportunity to increase ridership through increased subsidy, but that is not being considered at this time.

Administration

No changes to administration would be required.

Summary

Figure 2-37 provides an overview of the school transportation services options, including key benefits and drawbacks as compared to the other alternatives.

Figure 2-37 Summary of School Transportation Services Expansion Benefits and Drawbacks

Benefits	Drawbacks
▪ Increased school bus ridership ▪ Potential to reduce school trip-related congestion ▪ Addresses increasing school-aged population in Lamorinda ▪ Easy to implement from an operations standpoint through existing service provider	▪ Additional cost for expanded service

Public Feedback

There is widespread consensus that school-related trips play a significant role in morning and afternoon traffic congestion in the Lamorinda area. More than 82% of general public respondents agree with this statement; and, the sentiment is consistent regardless of where one lives. Still, while only 18% of respondents disagree that school buses ease congestion, about a third are unsure of the program's effectiveness.

A school-specific survey was disseminated to parents of children in the Lafayette, Orinda, and Acalanes Union school districts—areas in which new school bus routes have been proposed—to gauge support for new or expanded school bus service to particular schools in these areas. A total of 653 responses were received—the most of any of our individual survey efforts. Further, 8% of respondents do not have any children currently in school. This level of participation alone demonstrates the high level of local engagement with school-based transportation challenges.

About 10% of respondents' children currently travel to school via the Lamorinda School Bus. A full 43% travel by means other than driving alone or being dropped off by a parent (see Figure 2-38). Of the students that currently are dropped off by a parent, about 66% attend schools where new or expanded school bus service has been proposed.

Figure 2-38 How does your child typically travel to school?

Mode of Transportation	Total Students	%
Vehicle (parent/guardian drops them off)	379	46%
Vehicle (student drives themselves)	93	11%
Carpool (student drives or gets a ride with other students)	91	11%
Lamorinda School Bus	85	10%
Walk	82	10%
Bike	43	5%
County Connection bus	33	4%
Other	16	2%

Source: Lamorinda School Survey (N=531)

Looking at responses overall—not just those from parents of schools where service would be affected—there is a significant amount of support for new service (Figure 2-39). In particular, expanding existing capacity to Orinda Intermediate and Stanley Middle Schools is popular. The option that received the least support is creating new service to Del Rey, Happy Valley, and Lafayette Elementary schools, however all alternatives received a very high level of support.

Figure 2-39 Overall Support for Proposed Alternatives

New Service	Yes	No	Responses
Increase capacity to Orinda Intermediate or Stanley Middle School	89.2%	10.8%	518
New service to Del Rey, Happy Valley, or Lafayette Elementary	81.4%	18.6%	511
Create new afternoon service from Campolindo and Miramonte High Schools	84.4%	15.6%	514
New afterschool service	83.8%	16.2%	517

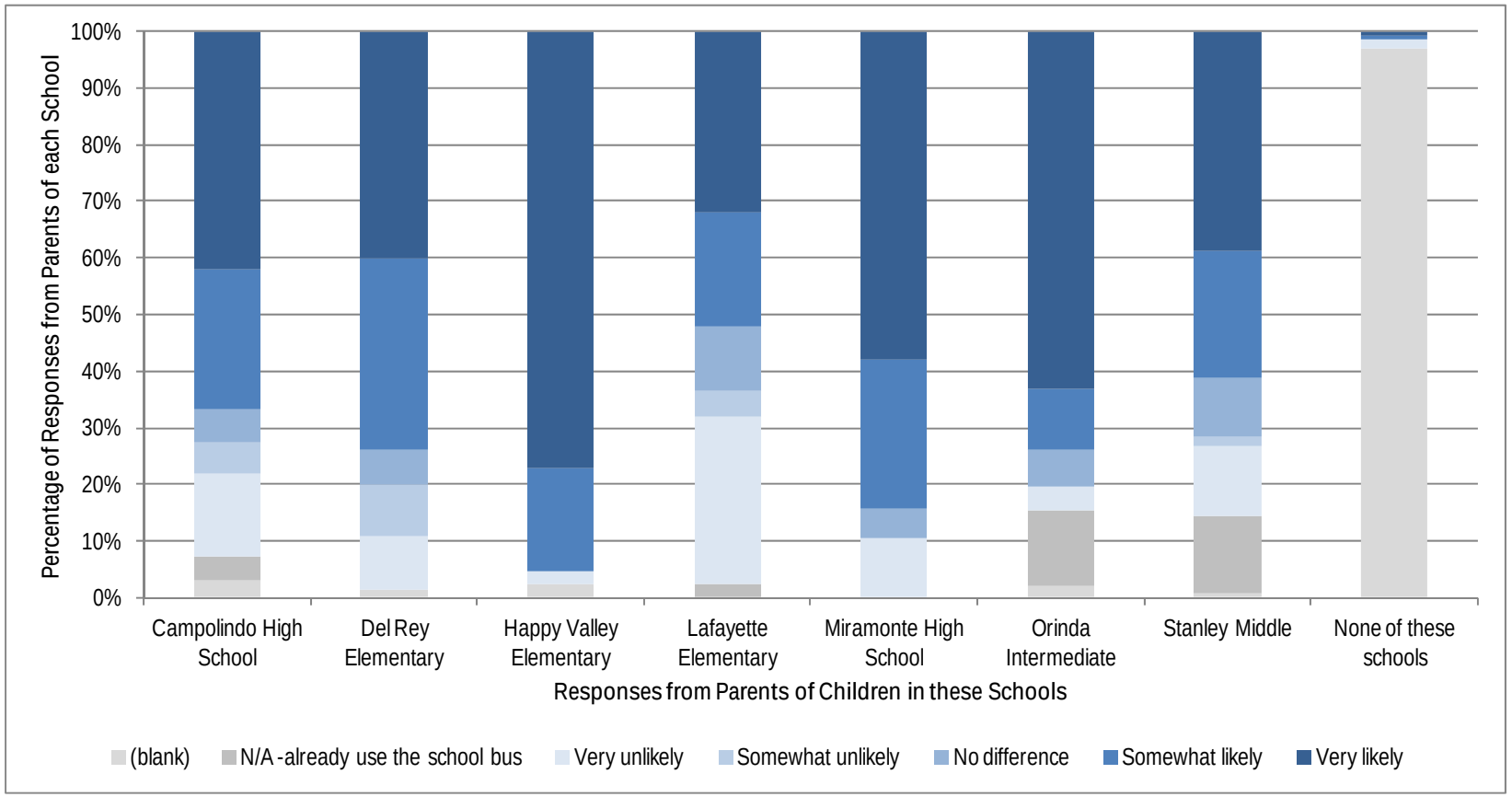
Source: Lamorinda School Survey

Figure 2-40 illustrates parents' likelihood of sending their child on new Lamorinda School Bus routes if they were to be added or expanded. The chart summarizes responses from parents with children in each school where changes to the school bus program have been proposed.

Parents of students at Happy Valley Elementary, Miramonte High School, and Orinda Intermediate Schools are most likely to take advantage of the proposed new service; more than 50% of parents at each school are very likely to use it (Figure 2-40). Two of these schools—Miramonte and Happy Valley—are not currently served by school buses; Orinda Intermediate has 10 existing routes, 2 of which are above 70% full and 6 of which were above 60% full in the 2014/15 school year. It is notable that, although beginning service to new schools received the least support among respondents overall, those routes are two of the most likely to be used by parents with children attending those schools.

About 75% of parents from Del Rey Elementary, which currently is not served, are either somewhat or very likely to start using the service, but about half of those are only "somewhat" likely. Interestingly, a little more than a third of parents of students at Lafayette Elementary say they are somewhat or very *unlikely* to use new bus service—primarily, these responses came from parents of children who currently walk or bike to school.

Figure 2-40 If school bus service were expanded, how likely are you to start using it as a means of transportation for your child?



Source: Lamorinda School Survey (N=556)

The following comments reflect respondents' overall sentiments to expansion of the school bus program. Key themes include bicycle and pedestrian improvements; help with afterschool transportation; pricing concerns; and suggestions to add new service to Acalanes High School.

Parents from Lafayette

- "I suggest you add a walking/biking school bus route. Pay a "driver" to walk a route picking up kids on the way to school. Just like a regular bus route but no bus."
- "We are lucky as my kids can walk to elementary and Stanley, however my greatest concern is the traffic around Acalanes, where my son will be attending next year. He would like to ride his bike, but I am nervous, not for his bike sense, but for the interchanges and ridiculous traffic surrounding the area that looks like it will be worse rather than better with new housing."
- "We have had too many close calls with drivers not paying attention to walkers and bikers so I support increased school buses to decrease the number of cars on the road. In addition, on days when both my husband and I are racing off to work for earlier than usual meetings, the school bus would be a welcome option. In addition, I really like the idea of the school bus being available in the afternoon to help with getting kids to and from after school activities in town."
- "From now on, both my children will be at Lafayette Elementary School. Even though we are close enough to walk, I do not want them walking alone. With two full-time working parents, a school bus would open the door for many solutions for our family."
- "My neighborhood has been well served by the Lamorinda School Bus service. We love the buses!"
- "Thank you for investigating and considering these increased services, which would be much appreciated by many in our community (including those without children that are simply impacted by school drop-off and pick-up traffic)."
- "I know there are many families at Happy Valley who would use this service, especially on the South side of Hwy. 24 where we are too far for the kids to safely walk or bike to school. This would save on traffic, carbon emissions, gas and time. We have all been wondering why this is not currently available."

Parents from Orinda

- "My daughter says she often doesn't get a seat on the bus and has to sit on the very edge of a seat or in the middle. I think this is crazy. Make sure there are enough seats on the bus for EVERY child."
- "We would like to see the Wed am bus to Miramonte arrive at a later time to align with the later start time on Wednesdays."
- "The price would be better lower as my child only rides a couple of times a week due to after school sports but I pay for round trip annual pass."

Parents from Moraga

- "If the school bus was free, and there was a campaign to promote taking the school bus to school, I suspect many students would start to take the bus. Walking/biking is also great, however many streets do not have sidewalks -- maybe there can be some simple modifications to the streets that are heavily used by kids to provide a side-walk-like experience to make the street a bit safer for walkers and bikers?"

- "Some options for funding school bus programs would be: 1) requiring paid permits to pull into a drop off lot at the schools 2) put up no parking and NO STOPPING signs in a 3 block radius of the schools. Fund the buses with the ticket revenue from people who ignore those signs."
- "We used to use County Connection for my daughter's ride to school, but discontinued due to the often late arrival for Campolino High School's first period. Also, it would be nice if there was a later bus scheduled for the late start on Wednesdays for the high school students. It would also be nice if there was an afternoon bus for the high schools after their sixth period around 2:20 pm as so many kids do not have a 7th period."
- "Have a special pass for Wednesdays so kids who are normally late birds and can't take the bus on that schedule can take the bus for the very busy drop off/pick up of Wednesdays. Have a discounted 10-ride pass so that kids who might not be able to ride every day aren't as put off of riding of the cost of riding occasionally."
- "I definitely support more buses. We need to get more families signed up and using the bus service. I suggest bringing the cost down to get more families using this great service."

Increased School Transportation Program Coordination

Market Focus: School Trips

Overview

While core transportation service for schools is currently provided by County Connection and the Lamorinda School Bus Program, two other supportive programs—the Student Transit Ticket Program and the High School Carpool Program—offer additional options and incentives. These programs are administered by the Southwest Area Transportation (SWAT) program of 511 Contra Costa.

Very little explicit coordination occurs between the administrators of these programs. Formalizing a setting in which these programs could coordinate may open opportunities for additional cost efficiencies. Two potential coordination activities include:

- Coordinate marketing activities for all existing transportation services (School Tripper, Lamorinda School Bus, Student Transit Ticket Program, and the high school carpool program) so that students understand the unified nature of these options and their alternatives if school buses serve only some of their transportation needs
- Address capacity constraints by sharing knowledge about high-capacity high school bus/School Tripper routes so that these students can be targeted for participation in the carpool program

Operational Characteristics

A bi-annual meeting of staff representatives from the LSBP, County Connection, and SWAT would provide such a forum.

Capital Requirements

None.

Other Policies

None.

Administration

One of the agencies would take the lead in setting bi-annual meeting agendas, coordinating meeting locations and times, and facilitating group discussion outside of such meetings. Agencies could either rotate this responsibility or determine a lead agency.

Summary

Figure 2-41 provides an overview of the school transportation services options, including key benefits and drawbacks as compared to the other alternatives.

Figure 2-41 Summary of Increased School Transportation Program Coordination Benefits and Drawbacks

Benefits	Drawbacks
▪ Increased awareness of program changes and offerings among program administrators and parents ▪ Coordination benefits—program changes can leverage other resources, outreach efforts, and strategically coordinate	▪ Requires in-person meetings ▪ Additional administrative burden to organize and attend quarterly or bi-annual meetings

Public Feedback

Respondents were not asked about this alternative explicitly. However, in free form comments, many respondents indicated an increased focus on bicycle and pedestrian safety improvements and programs to encourage more biking, walking, and carpooling to school. Many parents also suggested marketing and incentives programs, such as paying a "driver" to facilitate a walking school bus or bike pool program and more heavily marketing the school bus option.

Recommended Revisions

Figure 2-42 summarizes the public feedback received on each of the initial service alternatives and recommended refinements. This feedback and associated refinements were discussed with the LPMC and TAC in August 2015, during which the specific alternatives to be carried into the Implementation Plan (Chapter 3) were identified. The final list of prioritized strategies is provided in Figure 2-43.

Figure 2-42 Summary of Alternative Benefits and Drawbacks

Service Alternative	Benefits	Drawbacks	Public Feedback	Initial Recommendations
Vanpool to BART	▪ Rideshare operation handled primarily by individuals; public entity does not have to be involved on a day-to-day basis ▪ BART and/or other public entities may be able to subsidize the service to reduce costs to participants ▪ Concept is simple; easy to communicate the operations to potential rideshare subscribers ▪ Designed specifically for commuters to points west of Lamorinda (Oakland and San Francisco)	▪ Subscribers must commit to both morning and evening departure times ▪ Some subscribers must commit to be drivers ▪ Vehicle rental agreement holders (the driver and/or backup driver) may have to front all or part of the cost of the vehicle rental ▪ Requires a high number of subscribers to enable participants to be picked up from their homes ▪ Limited cost savings to users (but guaranteed access to BART)	▪ Less than 25% of BART riders would use this option, but Moraga residents most likely ▪ Respondents report the most common reason they would support such an option is its link to guaranteed BART parking	▪ Given its relatively low level of support and other alternatives' ability to achieve similar outcomes, this alternative is not recommended at this time.

Service Alternative	Benefits	Drawbacks	Public Feedback	Initial Recommendations
Moraga/ Orinda BART Shuttle (including potential Route 6 frequency increase)	▪ Passengers pay only for their fare; no vehicle rental, fuel, insurance, or maintenance costs to split ▪ Highest level of flexibility for passengers; morning and evening trip times could be flexible due to shuttle frequency ▪ Supplements less frequent County Connection Route 6 service ▪ Expands transit service options to BART system	▪ Limited service area (presuming that many would still drive to access transit) ▪ Service is geared to residents of Moraga and Orinda, though Lafayette may benefit from reduced traffic congestion ▪ Requires additional operational and capital funding ▪ Park-and-ride are conceptual and require further investigation	▪ Supported by a majority of general public responses, 38% of surveyed BART riders ▪ Mostly looking for a more frequent option, potentially could be served by a new option or increased Route 6 frequency ▪ Lots of complaints about Route 6 headway (both for riders and non-riders) ▪ People think some kind of incentive/marketing campaign to get people using the shuttle will help ▪ Note: BART is very frequent in the 7 a.m. hour (every 5 minutes) and decreases to every 10-15 minutes closer to 9 a.m.	▪ This service option is recommended to continue into the Implementation Plan. ▪ Route 6's existing low frequency has decreased the public's confidence in using County Connection for timely connections; as such, it may be best to develop this as a standalone service through branding and service characteristics, rather than simply increasing the frequency of Route 6. However, increasing Route 6 frequency may be the easiest to implement in the short-term. ▪ BART frequency at the time most people use it suggests this feeder service would not have to be incredibly reliable at arriving at BART at a particular time; rather, shuttle frequency is the most important factor, particularly for the return commute in the evening.
Lafayette Shuttle	▪ Supports increased development along Mount Diablo Boulevard and existing businesses/employers ▪ Enables additional transit options for those living along Mount Diablo Boulevard (and near intersection with Pleasant Hill Road) ▪ Supplements less frequent County Connection service (Route 25)	▪ Limited service area along Mount Diablo Boulevard ▪ Currently, only proposed to operate during peak commute hours (give focus of study) ▪ Shuttle access is still contingent on safe pedestrian access and connections across Mount Diablo Boulevard	▪ Support for lunchtime shuttle along Mt. Diablo Blvd., but it does not solve an priority need for most respondents ▪ Desire to provide transportation for seniors along the corridor, but senior stakeholders indicate a taxi subsidy program would be more effective for their clientele	▪ This service alternative is recommended to remain under consideration as demand grows or new funding opportunities arise.

Service Alternative	Benefits	Drawbacks	Public Feedback	Initial Recommendations
Zone Service	▪ Provides basic level of access to the transit system across a wide service area ▪ Effectively serves as a community general public Dial-a-Ride (with specific time-points) ▪ Increases transit access to BART and other community services	▪ Service quality (speed) is limited based on the wide service area and deviations ▪ Unlikely to be a productive (passengers per hour) service	▪ Overall, preference to prioritize service response time over service area, but this is more common among younger respondents ▪ Respondents over age 55 prioritize door-to-door nature of flex services over response time ▪ Worried about the costs of such a service ($5 on top of BART fare); may be more relevant for an occasional need (seniors) than recurring commute trips ▪ Lack of proximity to home of existing County Connection services doesn't seem to be the most concerning issue (among current riders)	▪ Given preference for response time among commuters and senior stakeholders' preference for the taxi subsidy solution, zone service is not recommended at this time.
Deviated Fixed-Route	▪ Opportunity to provide transit service to residents north of CA-24 ▪ Likely to be more productive than zone services ▪ Increases transit access to BART and other community services	▪ Service quality (speed) is limited based on deviations ▪ Unlikely to be a productive (passengers per hour) service, but more so than zone service alternatives		▪ Given preference for response time among commuters and senior stakeholders' preference for the taxi subsidy solution, zone service is not recommended at this time.

Service Alternative	Benefits	Drawbacks	Public Feedback	Initial Recommendations
Taxi Subsidy Program	▪ New mobility option for seniors and people with disabilities ▪ Offers same-day transportation for people who otherwise have to schedule a day in advance ▪ Can offer lower cost per trip than ADA paratransit ▪ Opportunity to serve connecting trip to BART at discounted price for occasional need	▪ Requires administration costs ▪ Opportunity for fraud through re-sale of vouchers ▪ Due to cost constraints, could only serve occasional-need trips for the general public	▪ About 2/3 of respondents support program for seniors and people with disabilities; only 42% for the general public ▪ Lafayette residents most likely to support specialized program, but at least 50% of residents in Orinda and Moraga also support ▪ The older the respondent, the more likely to support (85% of people over age 65 support it) ▪ General public subsidy program gets most support from Moraga residents (54% of whom support it)—75% of respondents would use this type of program to get to/from BART ▪ Respondents hold a belief that such a program could attract new private transportation providers to Lamorinda. ▪ Strong level of support from key stakeholders; recommend to prioritize taxis over TNCs for the service. ▪ There is concern about finding continuous funding source. ▪ The demand for a general public subsidy program from residents of Moraga highlights the effect of BART parking constraints on residents' desire for additional mobility options.	▪ This alternative is recommended to continue into the Implementation Plan. ▪ It is clear that there is public support for a taxi subsidy program to supplement trips currently provided by County Connection's LINK paratransit and Lamorinda Spirit Van services. Also, it supports the goals of this study in providing enhanced midday service to the community. ▪ Because this option would serve a similar market to some of the other alternatives—which also garner significant support—and due to the costliness of opening a subsidy program to the general public, it is recommended to treat a general public taxi subsidy program as a secondary priority to one focused on seniors and people with disabilities at this time.

Service Alternative	Benefits	Drawbacks	Public Feedback	Initial Recommendations
School Transportation Services Expansion	▪ Increased school bus ridership ▪ Potential to reduce school trip-related congestion ▪ Addresses increasing school-aged population in Lamorinda ▪ Easy to implement from an operations standpoint through existing service provider	▪ Additional cost for expanded service	▪ High level of engagement with school transportation topic ▪ Widespread belief that school transportation plays a role in local traffic congestion, but some (~30% of respondents) lack confidence in school bus program's effectiveness at solving the issue ▪ About 66% of students that are currently dropped off by parents attend schools where new service is proposed (high potential for mode shift) ▪ High level of support for all the expansion options, but most support won for increasing existing capacity to Orinda Intermediate and Stanley Middle School • Parents of Orinda Intermediate students also among the most likely to use new service • New service (to Happy Valley, Del Rey, and Lafayette Elementary) is least supported, but parents of students at Happy Valley would be overwhelmingly likely to use it • Parents of students at Lafayette are least likely to take advantage of the new option; most currently walk or bike to school	▪ It is recommended that this service option continue into the Implementation Plan. ▪ Prioritize expansion of capacity to Orinda Intermediate and Stanley Middle and new service to Happy Valley Elementary. ▪ Initial considerations may include: o Creating a ballot measure to fund the expansion o Decreasing the cost of the program by creating more bulk pass options o Charging for permits to access school drop-off/pick-up zones o Charging for high school parking o Incentivizing taking the bus through monthly drawings/prizes o Supplementing investment with developing better biking and walking facilities and programs[44]

[44] Recent research suggests that school districts can save money by improving bicycling and walking conditions to shift current bus users to those modes; such a shift opens up bus services to students that live farther from school than reasonable walking or bicycling distance. See UNC Center for Urban and Regional Studies, "Economic Benefits of Safe Routes to School." Available online at https://curs.unc.edu/files/2013/05/SRTS-McDonald-FINAL-6.23.15.pdf.

Service Alternative	Benefits	Drawbacks	Public Feedback	Initial Recommendations
Increased School Transportation Program Coordination	▪ Increased awareness of program changes and offerings among program administrators and parents ▪ Coordination benefits—program changes can leverage other resources, outreach efforts, and strategically coordinate	▪ Requires in-person meetings ▪ Additional administrative burden to organize and attend quarterly or bi-annual meetings	▪ In free form comments, many respondents indicated an increased focus on bicycle and pedestrian safety improvements and programs to encourage more biking, walking, and carpooling to school ▪ Incentives and marketing programs were suggested	▪ It is recommended that this service option continue into the Implementation Plan, given the potentially low costs of implementing coordination. Possible implementation steps include: o Increase communication channels between County Connection, Lamorinda schools, and the Lamorinda School Bus Program o Coordinate/convene meetings between the Southwest Area Transportation Committee (SWAT), Lamorinda School District Superintendents, Countywide Bicycle and Pedestrian Plan Oversight Committee, 511 Contra Costa/Safe Routes to School, and Sustainable Lafayette Green Schools Committee to facilitate conversation around bike/ped issues at schools

SUMMARY OF ALTERNATIVES AND PRIORITIZATION

Figure 2-43 Summary of Alternatives

Alternatives	Service Approach	Market Focus	Priority*
BART Feeder Services	Vanpool to BART	Commuters	Not recommended
	Moraga/Orinda BART Shuttle/Increase frequency on Route 6	Commuters	1
	Downtown Lafayette BART Shuttle	Commuters	2
Flexible Transit Services	Zone Service	Commuters, Senior Mobility	3
	Deviated Fixed-Route Service	Commuters, Senior Mobility	3
	Taxi Subsidy Program	Senior Mobility	1
	Technology-based Transportation Solutions	Commuters, Senior Mobility, School Trips	2
School Services	Expansion of School Bus Program	School Trips	1
	Increased School Transportation Program Coordination	School Trips	1

* Initial priorities are as follows:

1 = immediate next steps; incorporate into Implementation Plan

2 = consider when demand becomes more apparent, technology develops, and/or additional funding becomes available

3 = reconsider at a later date

3 IMPLEMENTATION PLAN

This chapter presents recommended new service strategies for serving commute, midday, and school-based trips in Lamorinda. These recommended strategies are the result of an approximately nine-month planning process of identifying existing challenges and opportunities, collaborating with local stakeholders, and soliciting the feedback of the Lamorinda Program Management Committee (LPMC), its Technical Advisory Committee (TAC), local stakeholders, and the general public. Implementation of these strategies could begin in 2015; however, many strategies' implementation is contingent upon funding availability.

MORAGA/ORINDA BART SHUTTLE

Service Description

The primary goal of the proposed Moraga/Orinda BART shuttle service is to provide residents an alternative to driving and parking at BART during commute times. Parking at BART is constrained, so services that allow BART passengers not to park at the station are needed. Feedback from the general public and local stakeholders strongly suggests that high transit frequency is a necessary element of service if people are to rely on it for commuting and connecting to BART.

Figure 3-1 summarizes the service characteristics of two implementation options to achieve this goal:

- Option A: Creating a new standalone shuttle service between Moraga and Orinda BART
- Option B: Increasing frequency along existing Route 6 service

A notable difference between Option A and Option B is the express nature of the shuttle—only six stops would be made between Moraga and Orinda BART. These six stops are among the highest ridership on Route 6's current service, however this service structure would miss a potential ridership market along the route. If more than six stops is determined to be a high priority, especially since the shuttle would only stop at those bus stops where there are passengers, this modification can be further explored. However, given the current parameters for completing the full run, it would likely result in the need for an additional vehicle, thus driving up the costs under this scenario.

The density of housing projected for Moraga Center in the future could increase the feasibility of limited stops as the Moraga-based BART market would likely expand. In the near-term, Moraga Center provides the most feasible location for a park-and-ride along Route 6, which has the potential to further increase market size for the new shuttle.

Figure 3-1 Option A and Option B Service Summary

	Option A: Moraga/Orinda BART Shuttle	Option B: Increased Route 6 Frequency
Description	Shuttle between Moraga Center and Orinda BART along Moraga Way See Figure 3-4 and Figure 3-5.	Double frequency along Route 6 between Lafayette and Orinda BART stations See Figure 3-6.
Hours of service	6:00 a.m. – 9:30 a.m. 4:00 p.m. – 7:30 p.m.	6:00 a.m. – 9:30 a.m. 4:00 p.m. – 7:30 p.m.
Revenue hours	14 per day 3,570 annually	21 per day 5,355 annually
Frequency	20 minute headways	20 minute headways when combined with existing Route 6 service
Layover at Orinda BART	None; drop-off only	15 minutes in bus queue zone
Layover in Moraga	8 minutes at School Street bus bay	None; drop-off and pass through
Bus turnaround at Orinda BART	Same as existing Route 6 operations	Same as existing Route 6 operations
Bus turnaround in Moraga	From Viader Street stop: turn left onto Moraga Road and take first left into Moraga Center retail complex. Continue to Moraga Way. Turn right on Moraga Way and away next run at the School Street stop. See Figure 3-5.	N/A
Stops	In the westbound direction (a.m.): ▪ Moraga Way/School Street (park-and-ride) ▪ Moraga Way/Camino Ricardo ▪ Moraga Way/Hardie Drive ▪ Holy Shepherd Lutheran Church (park-and-ride) ▪ Camino Pablo/Wells Fargo Bank ▪ Orinda BART No stops would be made in the eastbound direction in the morning. In the afternoon peak, stops would be made in the reverse direction with no westbound boarding.	All existing Route 6 stops between Moraga and Orinda BART along Moraga Way: ▪ School Street (park-and-ride) ▪ Camino Ricardo ▪ Hardie Drive ▪ Eastwood Drive ▪ Coral Drive ▪ Whitehall Drive ▪ Southwaite Court ▪ Ivy Drive ▪ Hall Drive ▪ Ardor Drive ▪ Orchard Road (east) ▪ Holy Shepherd Lutheran Church (park-and-ride) ▪ Glorietta Boulevard ▪ Brookside Road ▪ Orchard Road (west) ▪ Camino Pablo/Wells Fargo Bank ▪ Orinda BART

	Option A: Moraga/Orinda BART Shuttle	Option B: Increased Route 6 Frequency
Number of vehicles	2	3
Number of drivers	2 full-time; 4 part-time	3 full-time; 6 part-time
Operations	▪ Split shift or part-time operators ▪ Potential to contract out operations ▪ Potential midday layover at nearby park-and-ride location (e.g. Orinda Fields on Camino Pablo)	▪ Split shift or part-time operators ▪ County Connection-operated ▪ Potential midday layover at nearby park-and-ride location (e.g. Orinda Fields on Camino Pablo)
Estimated annual cost	$267,750	$401,625 (additional cost over existing service)
Estimated farebox recovery (see Figure 3-8 for potential revenue)	9.3%	6.3%

Typical A.M. peak period drive times were identified using Google Maps, which is then used to calculate the number of vehicles required for a standalone shuttle service between Moraga Center and Orinda BART. Given existing boarding data, one-minute dwell time at each stop should be at least enough time to allow for passengers to board. This calculation is shown in Figure 3-2. The full cycle time—from departing Moraga Way at School Street to returning to the same location—should take approximately 32 minutes. This leaves 8 minutes buffer prior to the next scheduled departure. With 20 minute headways desired, two vehicles would be needed, with each vehicle departing every 40 minutes.

Figure 3-2 Option A: Moraga/Orinda BART Shuttle Run Time

Stop	Peak Period Travel Time (minutes)*	Peak Period Dwell Time (minutes)
Moraga Way/School Street (park-and-ride)	--	
Moraga Way/Camino Ricardo	2	1
Moraga Way/Hardie Drive	1	1
Holy Shepherd Lutheran Church (park-and-ride)	4	1
Camino Pablo/Wells Fargo Bank	5	1
Orinda BART	3	1
Return Time (Orinda BART to School Street bus bay)	12 minutes	
Cycle Time	32 minutes	

*Note: uses Google Maps A.M. peak period traffic data

Increasing frequency along Route 6's full route would require 3 additional vehicles—the route is about twice as long as would be needed for a standalone shuttle. This is shown in Figure 3-3—a 2-hour cycle time with 20 minute headways would require 6 vehicles (or 3 additional) to operate.

Figure 3-3 Option B: Increased Route 6 Frequency Operations

	Existing Route 6 Operations (h:mm)	Double Route 6 Frequency (h:mm)
Dwell time at Orinda BART	0:15	0:15
Cycle time	2:00	2:00
Headway	0:40	0:20
Vehicles required	3	6

Figure 3-4 Option A: Moraga/Orinda BART Shuttle

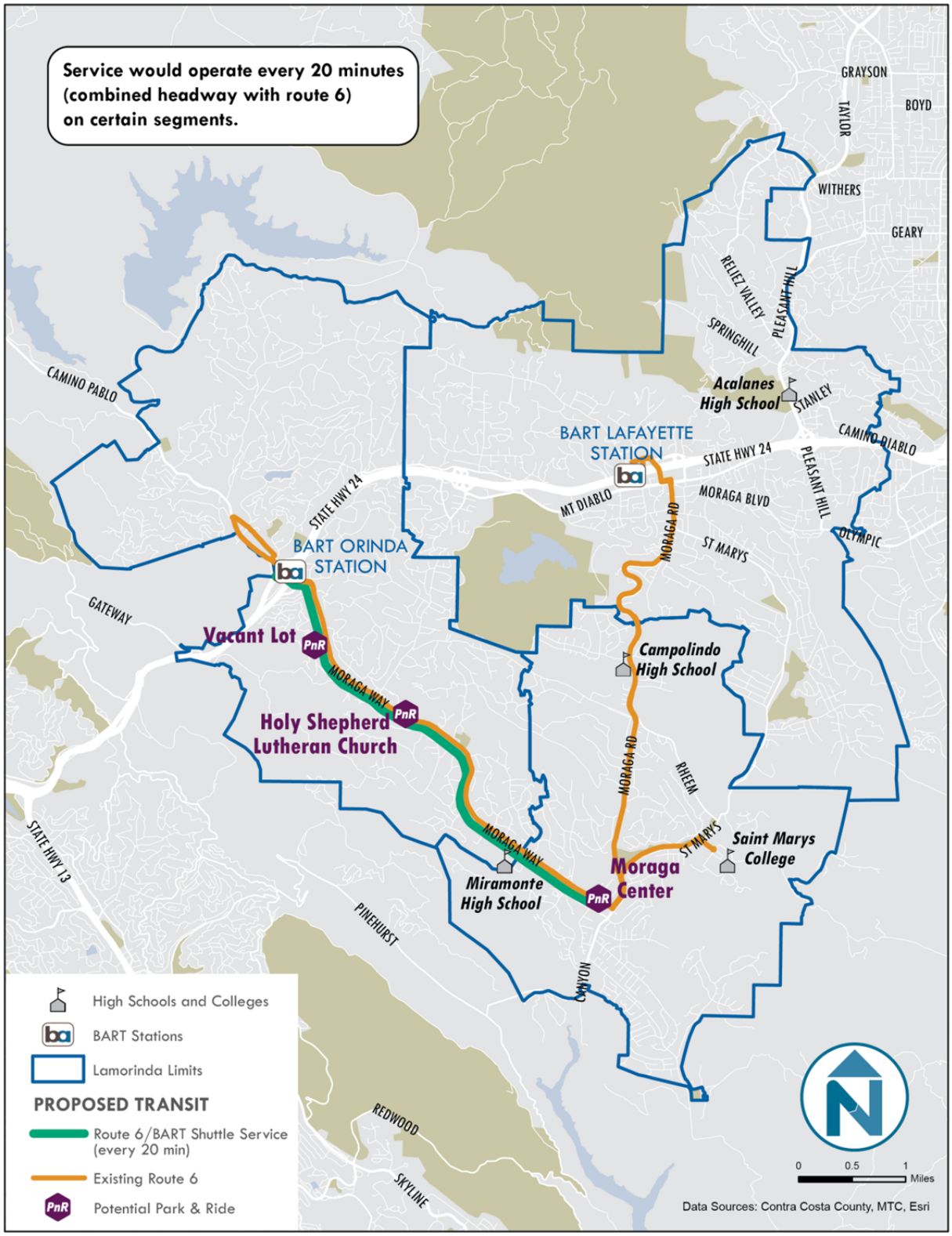


Figure 3-5 Option A: BART Shuttle Turnaround at Moraga Center

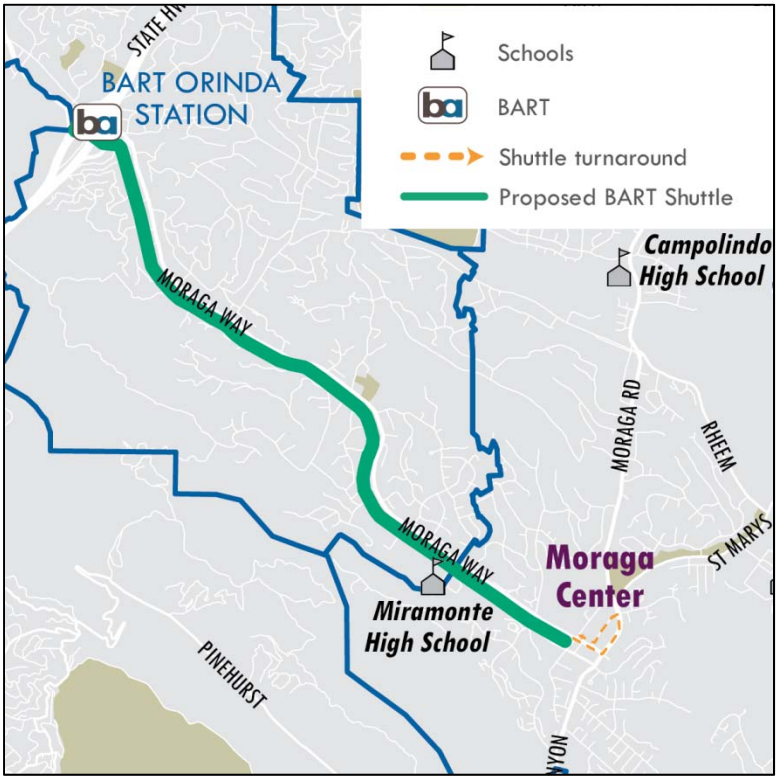
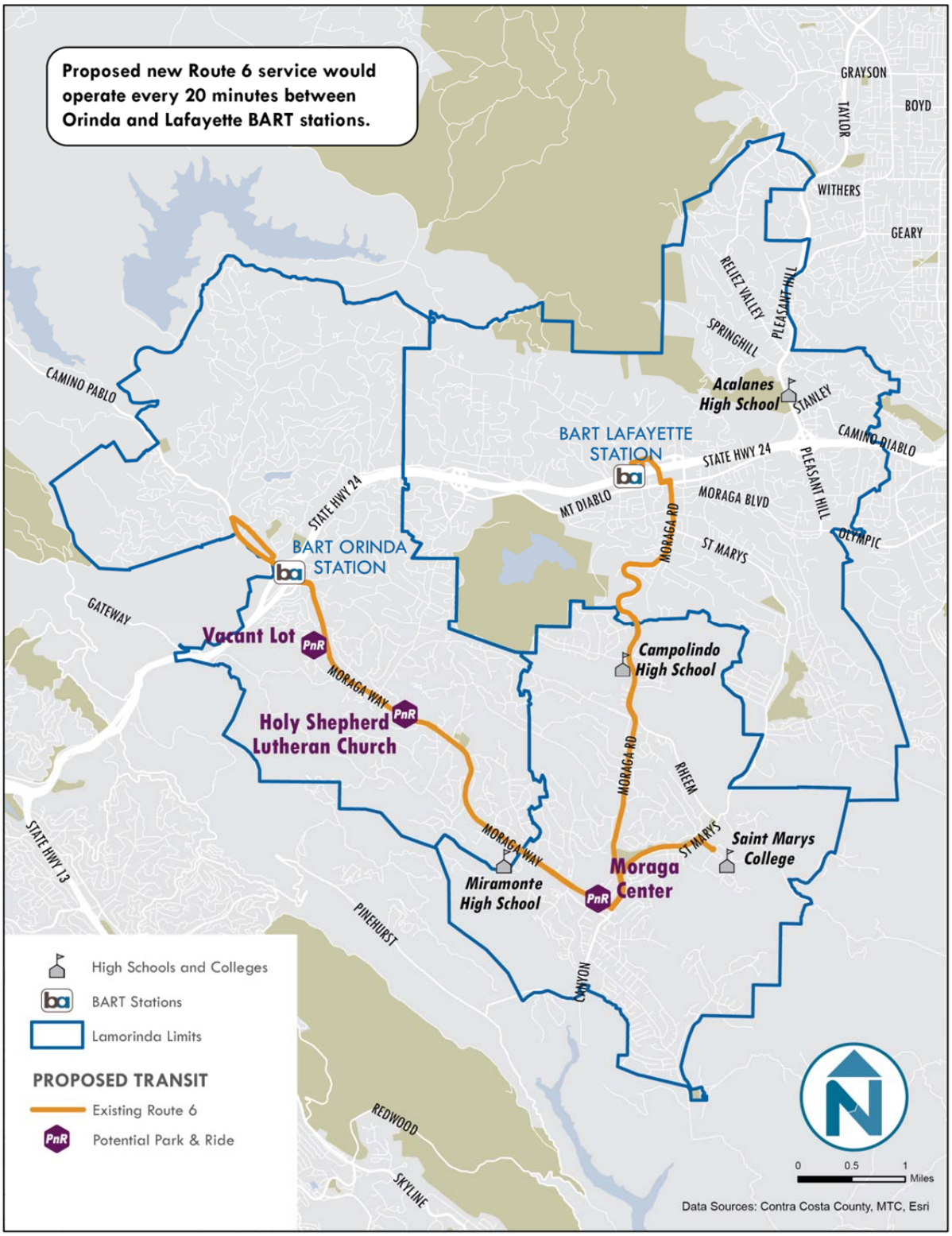


Figure 3-6 Option B: Increased Frequency on Route 6



Partnerships

Both implementation options present opportunities for partnerships. In regards to park-and-ride facilities, there is potential to collaborate with the Holy Shepherd Lutheran Church, Moraga Center and its ongoing Specific Plan Implementation effort, and the owner of the vacant parcel located at approximately 174 Moraga Way in Orinda. Each of these locations might serve as a park-and-ride for either BART feeder service. Moraga Center, with the Town's ongoing implementation of its specific plan and its proximity to Moraga residents, is perhaps the most important opportunity to explore in the short term.

In addition to the provision of park-and-ride facilities, marketing will be essential to creating demand for new services. Though most of this responsibility falls on the operator of the new service—County Connection—a partnership with BART should be pursued. BART has an interest in increasing ridership and cannot do this without support for non-drive-alone station access. Partnering to facilitate the success of new County Connection feeder service would also support BART's own objectives.

Additional marketing partnerships could be pursued with downtown Orinda businesses, residential complexes in Moraga, the City of Orinda, and the Town of Moraga. Of particular interest could be new residents—direct mailing campaigns to recently constructed, rented, or purchased properties may support a travel behavior change; Lamorinda cities and towns could work with developers to ensure new residents along this route are informed of their transit options. Lastly, promotions or incentives—free use of the shuttle during the first week of operations, for example—could attract new riders to County Connection service.

Branding and Messaging

Due to its overlap with existing County Connection service, branding, messaging, and marketing of new BART feeder service will be important for it success. If a standalone shuttle service is implemented, passengers should be able to quickly identify vehicles that offer limited stop service to BART and quickly differentiate them from overlapping local Route 6 vehicles. This could be achieved by renaming the peak period route as "6X" and/or by using unique vehicles and branding if an express shuttle is implemented.

The public survey response provides market insights on the opinions and needs of potential new customers. According to this feedback, new service branding and marketing should emphasize:

- Frequency
- Reliability
- Avoidance of BART parking

In addition to the marketing partnerships described above, the vehicles, existing Route 6 stops, and park-and-ride locations are opportune sites to advertise the new service.

Cost and Revenue

Given increased frequency, new service could potentially be provided with smaller vehicles, however smaller vehicles are not necessarily cheaper to operate. Operations costs are driven

primarily by labor costs, which are different for County Connection-operated services and those that are contracted out.

Figure 3-7 summarizes the capital, operations, and maintenance costs expected in the first year of operations (assuming new vehicles would need to be procured).

Figure 3-7 Summary of Expected Cost

	Option A: Moraga/Orinda BART Shuttle	Option B: Increased Route 6 Frequency
Capital[45]	$1,042,000 (40' diesel bus) $240,000 (cut-away under 26')	$1,563,000 (40' diesel bus) $360,000 (cut-away under 26')
Annual Operations and Maintenance[46]	$267,750	$401,625
Total FY15/16 Cost	$1,309,750 (with 40' buses) $507,750 (with cut-away)	$1,964,625 (with 40' buses) $761,625 (with cut-away)

It is recommended that new service charge the same standard fare that applies to passengers riding Route 6 today—$2.00 Regular Adult/Youth Fixed-Route fare. Figure 3-8 presents a calculation of expected revenue based on these fares and potential new ridership. Research suggests that doubling frequency could increase ridership by as much as 50%.[47]

Figure 3-8 Summary of Expected Revenue

	Existing Route 6 Boardings[48]	Expected Boardings (double frequency)
A.M. Peak – Moraga to Orinda BART	28	42
P.M. Peak – Orinda BART to Moraga	72	108
Total Weekday Peak Boardings	*100*	*150*
Total Weekday Peak Revenue ($2 Adult/Youth Fare)	*$200*	*$300*
Total Annual Peak Revenue (255 days)	*$51,000*	*$76,500*

[4545] Based on a FY15 new vehicle cost listed in County Connection's 2014 Short-Range Transit Plan, p. 30

[46] Based on existing County Connection fixed-route marginal cost per hour ($75/hour)

[47] TCRP Report 95, Chapter 9: *Transit Scheduling and Frequency: Traveler Response to Transportation System Changes*, pg. 9-5. Average elasticity of demand for increased frequency is 0.5 (for every 1% increase in frequency, a 0.5% increase in ridership could be expected).

[48] As of October 2014, as reported by County Connection; includes all ridership categories

Funding

A mix of local and state funding sources may be appropriate for the capital, operations, and maintenance expenditures associated with new BART feeder service. These options include:

- **Contra Costa County Measure J Sales Tax Revenue.** The Bus Services and Commute Alternatives programs covered within the Measure J expenditure plan each provide funds for this type of service. In FY 15, Measure J is expected to provide over $4.2 million in revenue for County Connection transit service, as identified in the agency's Short Range Transit Plan. Over the 20 years of Measure J, the Bus Services program is expected to provide $100 million in funding (about $5 million per year) and $20 million from the Commute Alternatives program (about $1 million per year).
- **Transportation Development Act (TDA) Article 4 Funds.** County Connection expects to receive almost $16 million in TDA Article 4 funds from the state in FY 15. These funds are eligible to be used for public transit. Demonstration projects in particular are called out as an eligible use. Article 4 funds are also eligible to be used for funding peak-period contracted services.[49]
- **TDA Article 4.5 Funds.** The City of Orinda or Town of Moraga is eligible to receive TDA Article 4.5 funds for Community Transit Services. A partnership between County Connection and these localities may open up new funding opportunities.
- **State Transit Assistance (STA) Funds.** County Connection is projected to receive over $2 million in STA funds in FY 15. These funds are available for capital and operations expenses.
- **BART.** As discussed earlier, BART has an interest in increasing ridership without exacerbating parking demand. A funding partnership with BART may be appropriate.
- **Moraga Center Implementation.** Currently, the Moraga Center Specific Plan Implementation Project is ongoing. Implementation of this plan for increased, mixed-use density at the intersection of Moraga Road and Moraga Way includes the potential for new development in the heart of Moraga and at the origin of the proposed new BART feeder service. There could be opportunities to seek in-kind donations—such as improved pedestrian access, stop amenities, and park-and-ride improvements—from eventual developers on this site. This is a longer-term funding strategy.

Evaluation

Evaluation of this service should inform several key decisions and questions. Figure 3-9 summarizes several purposes of evaluation, which metrics to track, and how often to track them.

Figure 3-9 Evaluation Summary

Key Question	Metric / Measurement Tool	How often?
Is the service addressing the public's demand for higher frequency service?	Survey of riders (e.g. Textizen survey) and non-riders (e.g. windshield survey of BART parkers)	After first 6 months of service

[49] California Public Utilities Code Section 99260-99273, http://www.leginfo.ca.gov/cgi-bin/displaycode?section=puc&group=99001-100000&file=99260-99273

Key Question	Metric / Measurement Tool	How often?
Does it reduce parking pressure in Orinda BART parking lot? In adjacent neighborhoods?	Survey of riders (e.g. Textizen survey) – before and after behavior questions	Every 6 months for first year
Has it increased County Connection and BART ridership?	Existing County Connection ridership tracking Survey of riders (e.g. Textizen survey)	Every 6 months for first year
Has it increased County Connection productivity?	Existing County Connection ridership tracking	Every 6 months for first year
Should stops be added or removed?	Existing County Connection ridership tracking	Every 6 months for first year
Should route-end spurs be added to increase ridership?	Survey of non-riders (e.g. windshield survey of BART parkers)	Every 6 months for first year
Should the increased frequency service continue to operate?	Existing County Connection ridership tracking	Every 6 months for first year
Are the park-and-ride facilities well-utilized?	Two weekday midday parking counts	Every 6 months for first year
Are passengers able to make important transit connections (to BART in the morning; to County Connection in the evening)?	Survey of riders (e.g. Textizen survey) and non- or former riders (e.g. BART exit survey)	After first 6 months of service

Implementation Schedule and Administration

Figure 3-10 summarizes a potential implementation schedule. Because implementation is contingent upon funding availability, the schedule begins with secured funding.

Figure 3-10 Potential Moraga/BART Connecting Service Implementation Timeline

Timeline	Action
Month 1	Funding secured
Months 1-6	Choose Option A (shuttle) or Option B (increased Route 6 frequency) and finalize service planning
	Release RFP for new vehicles (if needed)
	Release RFP for contracted service operations (if needed)
	Pursue partnership with Holy Shepherd Lutheran Church to establish park-and-ride
	Pursue partnership with Safeway/Moraga Center ownership to establish park-and-ride at School Street
Months 6-9	Design marketing and outreach plan
	Implement marketing and outreach
Months 9-12	Establish baseline ridership figures
	Launch revenue service
Ongoing	Continue to monitor and refine as needed

TAXI SUBSIDY PROGRAM

Service Description

Taxi subsidy programs can be designed around several different models. The main distinction is whether the subsidy is offered through reimbursement (in which the participant temporarily bears the full cost of services; providers are compensated at the time service is rendered) or as an upfront subsidy via the purchase of vouchers or scrip (the participant bears only a portion of the cost; providers are compensated after services are rendered). For clarification, scrip is a temporary substitute for actual currency; a participant would purchase booklets of "scrip" in $1, $5, or $10 denominations. A voucher program usually differs in that it does not function as cash, but rather as proof that an individual is a registered participant and eligible to receive fare discounts. These concepts are sometimes used interchangeably.

Figure 3-11 describes the pros and cons of voucher- and reimbursement-based programs.

Figure 3-11 Voucher versus Reimbursement Taxi Subsidy Programs

Taxi Subsidy Service Model	Pros	Cons
Voucher- / Scrip-based	Participant bears only portion of cost Cost can be contained by raising portion of fare contributed by participants, limiting scrip purchases, or possibly charging more for purchases over a monthly limit Can be built on an electronic taxicard system, rather than paper-based scrip booklets	No existing wheelchair-accessible taxis in the Lamorinda area Taxi providers bear upfront cost of trip until reimbursed by the city/transit agency Administratively cumbersome, open to fraud if relies on paper scrip Difficult to control fraud issues, especially with paper-based scrip system
Reimbursement-based	Participants do not need to obtain or keep track of paper vouchers Administrator does not need to staff a voucher sales window Taxi providers are compensated immediately following trip Cost can be contained by raising portion of fare contributed by participants, limiting subsidy over a monthly trip value limit Reduces administrative burden on taxi companies	No existing wheelchair-accessible taxis in the Lamorinda area Participant must bear cost of trip until reimbursed by city/transit agency Difficult to control fraud issues

It is possible to administer voucher and scrip programs with the use of an electronic taxicard, rather than paper-based scrip or vouchers. Taxicards are specialized debit cards; these programs are fairly new and are most appropriate in areas with card swipe technology reliably present in taxicabs (see Figure 3-14). To determine the feasibility of this technology in Lamorinda, further research would be needed to establish whether the existing swipe feature in Lamorinda taxis is compatible with that required by the two primary taxicard vendors. There may be other upfront costs that make the small volume of anticipated trips too limited for a viable taxicard program.

In both cases, sales can be offered in person at the transit agency offices and select locations such as senior centers. Paper vouchers or scrip are sometimes made available by mail. In the case of electronic vouchers, purchases can be made online.

In addition to the voucher versus reimbursement program parameter, there are several program rules to establish before implementation, which include:

- Size of subsidy
- Trip or fare value limits
- Expiration of vouchers / scrip (e.g. after one year)
- Gratuity (typically, burden is on the customer)
- Eligibility requirements
- Reservation process
- Requirements of service providers

Figure 3-12 summarizes other taxi programs in the Bay Area. Voucher-based models are more common than reimbursement-based programs, but some peer examples do exist. The typical subsidy offered is around 75% of taxi fare. Program administration in Alameda County often is handled by a municipal department, however other models exist—non-profit or transit agency administration, for example.

Figure 3-12 Example Taxi Programs in Alameda County

City	Taxi Fare Value	Cost to Customer	Subsidy Limits	Eligibility
Albany	Reimbursement-based; 70% discount		Per-trip limit of $25	Age 80+ Age 18+ and ADA-certified
Fremont	$16	$4	Limit one per trip, 20 vouchers per quarter	ADA-certified Age 80+ (Fremont residents) Age 70+ (Newark residents)
San Leandro	$14	$3.50	Limit 72 vouchers per year	Age 60+ Age 18+ and ADA-certified
Union City	$16	$4	Limit one per trip	ADA-certified

Figure 3-13 Taxi Program Recommended Service Parameters

Program Parameter	Recommendation
Fare media	Electronic taxicard if feasible, otherwise voucher-based model
Size of subsidy	75%
Subsidy limits	$10 per trip after payment of initial voucher cost; passenger pays excess beyond voucher and subsidy
Expiration	After one-year of non-use
Gratuity	Responsibility of participant

Program Parameter	Recommendation
Eligibility	Age 60+ or ADA-certified
Reservation process	Individual arranges ride with partnered taxi companies
Administration	City- or non-profit administered (although County Connection could be considered if Federal requirements such as drug and alcohol testing could be met)

Partnerships and Future Considerations

Successful taxi subsidy programs rely heavily on community partnerships. Taxi companies are necessary partners for a voucher-based system in which drivers must be aware of the program and any special fare-processing requirements. Other partners, such as senior centers, senior housing facilities, the Lamorinda Spirit Van, and the Lamorinda city staff and elected officials can help facilitate communication about the program, driver training, voucher/smartcard distribution, and funding opportunities.

Figure 3-14 summarizes local taxi providers' existing fleets. All four taxi providers contacted have credit card swipe capability available in their vehicles, which makes the implementation of a smartcard-based voucher system less costly. None of the companies currently has wheelchair-accessible vehicles, though one company—Orinda Taxi—is considering a purchase. Each offers a 5-10% discount to Lamorinda seniors already; there may be an opportunity to share the costs of the subsidy with the taxi companies.

Figure 3-14 Summary of Local Taxi Providers

Company	Discounts for Seniors	Swipe Capability	Wheelchair Accessibility	Pick-up / Drop-off	Fleet Size
Orinda Taxi	5-10%	Yes	No, considering purchase	Pick up anywhere in Bay Area, including airports	12
Moraga Taxi	5% 10% (within Moraga)	Yes	No, just started business in 2015	Pick up anywhere in Bay Area	4
Taxi Bleu	10%	Yes	No, chairs for babies	Pickup within Lamorinda, Walnut Creek	10
Contra Costa Yellow Cab/Desoto	10%	Yes	No	Pickup Lamorinda, and anywhere within central Contra Costa County	10

The taxi voucher program would increase the subsidy available and the amount of mobility options for seniors and people with disabilities (at least those who do not use wheelchairs). In the future, County Connection, the LPMC, or other local stakeholders might be able to create a loan or grant program to facilitate taxi companies' purchase of wheelchair-accessible vehicles and their increased operating costs. In communities where there are no requirements or incentives for taxi

companies or associations to provide a certain number or percentage of wheelchair accessible taxicabs, transit agencies and municipalities have used FTA and municipal funding, respectively, to help with the purchase of accessible taxicabs in order to infuse accessible taxicabs into the community. Transit agencies, for example, have used 5317 (New Freedom grants) at an 80%/20% match to buy accessible vehicles and lease them to taxi companies for a nominal amount, but under the condition that they participate in the taxi subsidy program. Additionally, municipalities have created incentive programs and funding schemes to also help defray the capital and operating cost of such vehicles

Branding and Messaging

No special branding needs to be established for the taxi subsidy program. Some existing example programs have developed a special name for their program (e.g. "Taxi Up and Go!"), however most describe it directly as the "Taxi Program." If a smartcard is pursued, it presents an opportunity to communicate a particular brand or logo, in which case it could make sense to piggyback on County Connection's existing LINK branding, or County Connection may wish to keep the identities of these two programs separate. The Mobility Manager would be responsible for developing branding.

Cost and Revenue

The Cost of Taxicards

Taxicards would eliminate the need to print and distribute scrip, which can cost thousands of dollars for a relatively small program. Taxicards do have their own costs; we are aware of two vendors involved in this industry. One of them provided the following sample costs for a small program:

- The cost of the taxicards ($1 each for a basic card or $2 for a photo ID card) – this cost could be passed onto the customer
- An initial setup cost is between $10,000 and $20,000 to program a custom fare structure and establish a payment website
- On-going payments to the vendor of $5,000 per year for up to 10,000 trips plus an additional $0.50 per trip if trip volumes exceed 10,000
- Swipe payment capability in each vehicle (already established in the Lamorinda area)

Calculating the ongoing costs requires an estimate of the number of annual trips that would be generated by such a program. Based on existing County Connection paratransit data from the National Transit Database, there are approximately 150,000 annual unlinked ADA passenger trips on LINK. The taxi program could attract some of those existing trips as well as new trips from non-ADA-certified individuals (e.g. seniors without disabilities). Given that the taxi program is open to a wider population and would offer taxi trips at a significant subsidy, it is likely to attract more than the 10,000-trip threshold for a flat $5,000 annual operating fee.

However, some savings could be achieved through the shift of longer paratransit trips to taxi trips; one of the key pieces of feedback we heard is the need for seniors to make trips outside the Lamorinda area. Existing paratransit operations cost approximately $45 per trip on average—and more for longer trips. A 10-mile trip—say from Moraga to Berkeley—would cost approximately $33 per trip in a taxi.

Fares

The only revenue associated with this program would be the portion of voucher costs covered by participants—usually about 25% of the taxi fare. Given that existing taxi companies in the area already offer up to 10% discount to seniors, there may be a cost sharing opportunity to have up to 35% of overall fares covered by parties other than the public sector.

Funding

Taxi subsidy programs are commonly funded through local sales tax revenues, cities' general funds, and federal and state programs for seniors and people with disabilities. Further detail on these sources is below.

- **City general funds.** Cities often contribute a portion of the cost through their general fund.
- **Measure J.** The Measure J Expenditure Plan states that "Additional funding to address non-ADA services, or increased demand beyond that anticipated, can be drawn from the "Subregional Transportation Needs Funds" category, based on the recommendations of individual subregions and a demonstration of the financial viability and stability of the programs proposed by prospective operator(s)." Central Contra Costa County can expect approximately $16.2 million in revenues from this funding category—the most of any region within the county. These funds would be programmed by TransPAC, which has funding available for seniors' transportation needs above and beyond ADA services.
- **Federal Transit Funding and California TDA/STA funds.** Taxi programs sponsored by transit agencies typically pull from a variety of federal and state sources. In California, agencies often rely on Transportation Development Act funds to support these programs. Commonly used federal sources include Section 5310 and Section 5317—formerly referred to as "New Freedom" funding, which are distributed through states or regional planning organizations.

Evaluation

Performance monitoring of a taxi subsidy program needs to ensure that fraud is minimized, that costs justify the subsidy, and that its original goals are being met. Example metrics and monitoring practices include:

- Review of random sampling of taxi invoices to monitor fraud
- Cost per trip
- Number of ADA and non-ADA-eligible individuals served
- Total trips provided
- Customer outreach costs
- Requests for wheelchair-accessible trips

Implementation Schedule and Administration

Figure 3-15 summarizes a potential implementation schedule. Because implementation is contingent upon funding availability, the schedule begins with secured funding.

Figure 3-15 Potential Taxi Subsidy Program Implementation Timeline

Timeline	Action
Month 1	Funding secured
Months 1-3	Choose service parameters (voucher versus reimbursement; smartcard or paper-based) and program "business rules" (e.g. percent subsidy)
	Outreach to local taxi companies
	Release RFP for electronic taxicard system (if determined feasible)
	Establish baseline performance metrics
Months 3-6	Develop marketing and outreach plan
	Develop monthly monitoring and card distribution processes
	Outreach to local senior centers, existing ADA-certified LINK passengers
	Establish baseline ridership figures
Months 6-9	Launch service
Ongoing	Continue to monitor and refine as needed

EXPANSION OF SCHOOL BUS PROGRAM

Service Description

New school bus service would operate on the same model that it does today—operations would be contracted out to First Student by the Lamorinda School Bus Program. The operations contract is based on a per-bus fee of approximately $80,000 per year, inclusive of operations and maintenance.[50] Expansion would require contracting 6 new buses beyond the 21 already in use; given different school bell times, some buses are capable of serving multiple schools.

To address existing capacity issues, additional service to the following schools is recommended:

- Orinda Intermediate School
- Stanley Elementary School
- Miramonte High School
- Campolindo High School

To expand existing service to new schools with observed demand, new service to the following schools is recommended:

- Lafayette Elementary School
- Del Rey Elementary School
- Happy Valley Elementary

At the request of the LPMC, additional service expansion to Camino Pablo Elementary and Acalanes High School was considered. Camino Pablo formerly had school bus service, but this was discontinued due to low ridership; Lamorinda School Bus Program staff indicate very minimal demand from Camino Pablo parents. Parents of students at Acalanes High School were surveyed within the last year and expressed very little interest in additional service.

To capture the full potential of new services, further route planning needs to be completed to ensure routes and times match demand patterns. During the route planning phase, whether to expand to both morning and afternoon service or simply to provide morning capacity also needs to be considered. Initially, it appears that additional demand for service to Campolindo comes from parents in Lafayette;[51] for Stanley Middle School, it appears there is additional demand from the west, particularly north of CA-24.[52] Raw survey data is available to be shared for further route planning analysis.

Lastly, it is recommended not to mix students from middle or elementary schools with students from high schools; recent pilots of mixed service including Acalanes High and Stanley Middle students revealed that high school students are less likely to use the bus when mixed with middle school students.

[50] The Lamorinda School Bus Program expects the 2017/2018 School Year contract to reflect this rate

[51] Parent communication with the Lamorinda School Bus Program

[52] Results from 2015 parent survey

Partnerships

Like other new services, partnerships to enhance marketing, funding, and coordination will help to make new school bus service a success.

Partnership Opportunity	Potential Partner
Marketing	Acalanes Union High, Lafayette, and Orinda School Districts Last Trampas Creek Council Lafayette Elementary School PTA Stanley PTA 511 Contra Costa Individuals students and school groups Individual parents and families Sustainable Lafayette
Funding	Lamorinda School Bus Transportation Agency (LSBTA) – elected officials from Lamorinda jurisdictions Contra Costa Transportation Authority
Coordination[53]	County Connection Southwest Area Transportation (SWAT) / 511 Contra Costa

Branding and Messaging

No changes to existing Lamorinda School Bus Program branding and messaging are recommended at this time. New services should operate under the existing branding and messaging framework.

Cost and Revenue

At approximately $80,000 per bus per year, annual operations and maintenance costs associated with 6 new buses will total approximately $480,000. This is in addition to the cost of the 21 buses that provide existing services (approximately $1.6 million).

As reported by Lamorinda School Bus Program staff at the LSBTA meeting in April 2015, approximately two-thirds of the program funding comes from Measures C and J (local transportation sales tax revenues) and about one-third from parent contributions (through fares).[54] If this ratio remains for new service, approximately $320,000 new Measure J funding and $160,000 additional fare revenue would be necessary. The CCTA is considering a 2016 ballot measure to increase local transportation funding. To acquire $160,000 in additional fare revenue, assuming existing average fare revenue per student served, approximately 400-450 new students would need to utilize the service.[55]

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[53] See next section for further detail on coordination

[54] http://www.lamorindaschoolbus.org/uploads/LSBTA_Agenda_and_Packet_04-13-2015.pdf

[55] The existing average revenue raised per student served is approximately $375 per year. This figure was estimated by calculating the total annual operations and maintenance cost (21 buses multiplied by $80,000 per bus per year)--$1.680 million—dividing by 3 (one-third of funding from fares) and further by 1,500 (the total number of students served per year).

A final note on costs: the recommendation to procure six additional vehicles for service to seven schools is based on an assumption of one run per bus in the morning and one in the afternoon in almost all cases. Given recent experience in Orinda and Moraga, greater efficiencies can be achieved through the adjustment of school bell times, which could allow for two runs per vehicle in the morning and/or afternoon period. This additional vehicle use could result in a significant cost savings. Though there have been barriers to adjusting school bell times in the past, this option could be explored in the future as a way to expand school service with limited cost increases.

Funding

Starting in early 2014, the Contra Costa Transportation Authority has discussed the possibility of adding a 2016 ballot initiative to raise additional local transportation funding through a sales tax measure. As of March 2014, local polling indicated that approximately 68% of local voters would approve the measure.[56] Given the widespread support of school bus expansion, there is potential to use the possibility of new service to increase support for the ballot measure.

In addition, the Lamorinda School Bus Program plans to increase parent contributions by 2.5% each year (an annual bus pass costs $480 per year for FY 15/16).

Evaluation

Evaluation and monitoring is most effective when targets for each performance measure are established beforehand. Prior to launching new service, a Census of existing operations would establish baseline performance, to which new service could be compared.

To assess the success of new bus routes, the following metrics should be tracked and compared to existing or baseline measures:

- Cost per trip by route
- Average ridership by route / round-trip equivalents by route
- Point in time (calendar year) at which each route's enrollment fills available capacity
- Percent of operations and maintenance costs covered by fares
- Periodic parent surveys (assessing cost appropriateness, desire for new service)

Implementation Schedule and Administration

Figure 3-16 summarizes a potential implementation schedule. Because implementation is contingent upon funding availability, the schedule begins with secured funding..

Figure 3-16 Potential School Bus Expansion Timeline

Timeline	Action
School Year 15-16	Continue to discuss possible ballot measure at LSBTA, CCTA board meetings
	Continue to track parent sentiment and requests

[56] https://www.google.com/url?q=http://www.ccta.net/about/download/Full%2520Packet.pdf&sa=U&ved=0CAUQFjAAahUKEwju48yqo8XHAhWTCZIKHZo-BiA&client=internal-uds-cse&usg=AFQjCNHtI2gHlntZoEn2TKJNYw0I05wISg

Timeline	Action
School Year 16-17	Develop marketing and outreach plan for ballot measure
	Promote passage of 2016 transportation sales tax measure with Lamorinda School Bus Program current and former parents
	Establish baseline ridership figures
Month 1	Funding secured
Months 1-3	Initiate detailed route planning and vehicle assignment process
Months 3-6	Promote new service alternatives to parents
Months 6-9	Launch service
Ongoing	Continue to monitor and refine as needed

INCREASED SCHOOL PROGRAM COORDINATION

Description

There is general consensus among Lamorinda residents that school-based trips play a significant role in morning and evening traffic congestion. As such, several programs and services exist to encourage students not to drive to school and offer non-driving alternatives to parents. These programs include the Lamorinda School Bus Program, County Connection's School Tripper routes, the Student Transit Ticket Program, and the High School Carpool Program.

However, there are limited forums in which program staff can collaborate and coordinate efforts. To ensure the effectiveness of each of these programs, we recommend a formalized coordination initiative. Specifically, this initiative would lead to:

- Increased coordination between County Connection and Lamorinda School Bus Program service planners
- Increased communication between Lamorinda school administrators and Country Connection service planners
  - To improve County Connection service for altered school schedules, such as during in-service days
  - To promote the Student Transit Ticket Program

Partnerships

County Connection, the Lamorinda School Bus Program, and school superintendents will be essential partners in this initiative. Within each organization, one individual should be identified as the point person for all other organizations. For example, one staff person within the Lafayette School Superintendent's Office would be responsible for notifying County Connection of altered school schedules or specific feedback on bus service from schools and parents. One person within County Connection would be identified to receive and distribute this information internally.

In addition, at least two annual meetings between County Connection and Lamorinda School Bus Program staff would enable:

- Pre-school year planning (meeting in spring)
- Mid-school year adjustments (meeting in late fall/winter)

Lastly, parent clubs are very active and engaged among Lamorinda schools. There could be an opportunity to leverage their efforts to increase the level of coordination and create feedback loops. Similar to each of the public entities, a transportation point-of-contact could be identified within each of the parent clubs.

Cost

The cost of such a program is staff time-only; it is included in existing administrative costs for each of the organizations mentioned. A one-to-two hour pre-year and mid-year meeting, plus preparation time, would account for approximately 20-25 total staff hours across organizations. Ongoing coordination as needed is not counted in this estimate.

Evaluation

Such an approach is recommended for one year. At the end of the year, the group should decide whether to continue formalized coordination efforts for an additional year. Items to confirm at the end of the first year include:

- Was a representative from each organization identified?
- Was ad-hoc communication effective?
- Was there support from higher-level management within organizations?

Implementation Schedule and Administration

Figure 3-17 summarizes a potential implementation schedule; implementation may be contingent upon funding availability, however this proposal requires additional staff time only.

Figure 3-17 Potential School Program Coordination Implementation Timeline

Timeline	Action
School Year 15-16	Identify points of contact within County Connection, Lamorinda School Bus Program, and school superintendents' offices
	Ongoing ad-hoc communication among representatives
Spring 2016	Gather for pre-2016/2017 planning meeting
	Establish goals for SY 16/17
School Year 16-17	Ongoing ad-hoc communication among representatives
Winter 2017	Mid-year evaluation/adjustment meeting
Ongoing	Discuss effectiveness of initiative and feasibility of continuation

SUMMARY AND NEXT STEPS

This chapter specified the implementation of four service alternatives that address commuter, senior, and school-based trips. These four alternatives were selected through a two-phase process of public feedback and consultation with local staff and elected officials. They represent top priorities for Lamorinda over the next one-to-two years.

Other alternatives were discussed. Those that were classified as "priority 2"—the Downtown Lafayette BART Shuttle and On-Demand/Technology-Based Transportation Solutions—received an indication of support and should be reconsidered in the future as demand becomes more apparent, technology develops, or additional funding becomes available.

The immediate next steps for the TAC include pursuing approval of this plan by the County Connection Board and the elected officials of Lafayette, Orinda, and Moraga.

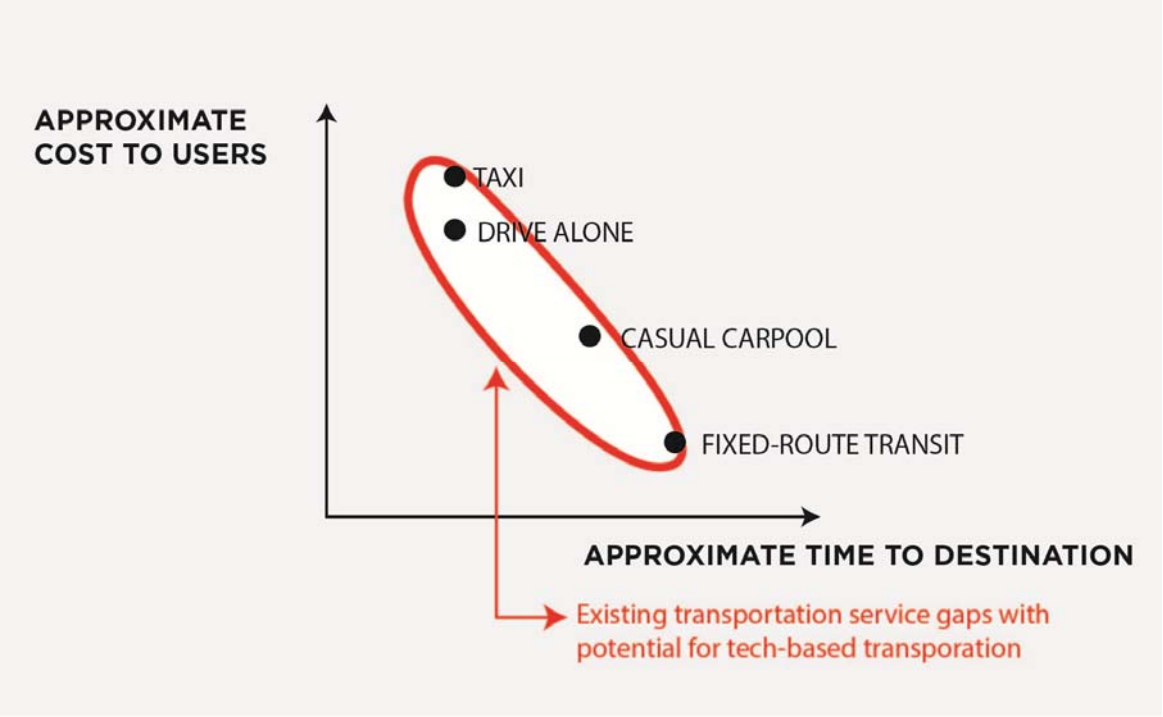
Appendix A Leveraging New (Technology-Based) Transportation

Given the rapid growth of new transportation options supported by mobile phone technology (tech-based transportation), this list of alternatives—with a specific charge to develop effective transit alternatives—would be incomplete without acknowledging new opportunities that might exist for Lamorinda. These new services range from providing on-demand, point-to-point options (also known as "transportation network companies" or "ridesourcing" apps) to private fixed-route services that rely on 15-passenger vans or buses. As a burgeoning industry, many of these companies are young and all of them come from a culture of experimentation, frequent change, and optimization.

Despite the dynamic nature of these companies and their services, many offer transportation options that could benefit the Lamorinda area. As previously mentioned, existing public transportation options only serve a portion of the spectrum of transportation needs—most notably, low-cost, commute type trips. These new private sector transportation options attempt to offer supporting services that address the gaps unfilled by traditional transit.

Error! Reference source not found. illustrates the spectrum of existing transportation options (with a focus on commuter trips) and their location on a scale of time and cost.[57] Transportation needs often span a long list of factors. But, simplified to time and money, current options are limited.

[57] Throughout this section, "new" transportation options will reference service providers that, as of 2015, have not operated in the Lamorinda area for at least five years.



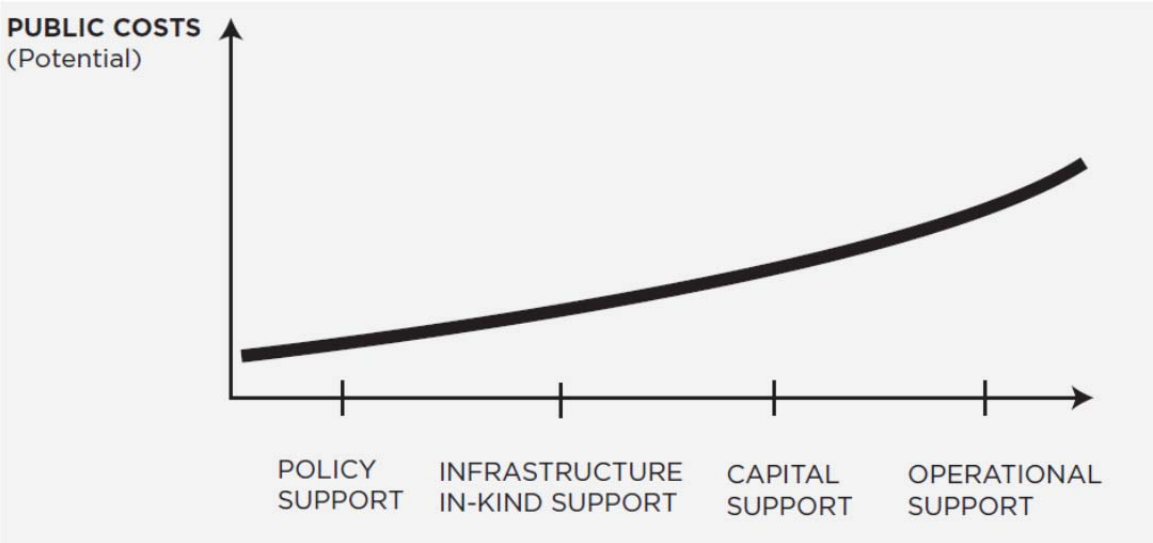
Existing Transportation Market Gaps in Lamorinda

Given the existing gaps and the understanding that new private transportation options have potential to address a range not served on the time and cost scale, the question remains on how public sector entities can engage, guide, attract, and/or support these companies to fill important transportation needs in Lamorinda. Specifically, market opportunities exist for:

- Faster/more frequent fixed-route transit
- More convenient casual carpool
- Cheaper on-demand, point-to-point transportation

Encouraging/Supporting Tech-based Transportation Services in Lamorinda

Various arrangements are possible and each has potential benefits and drawbacks. It is impossible to predict actual results since there are few case studies of this in practice. **Error! Reference source not found.** describes potential public sector strategies to leverage tech-based transportation services and their associated costs. On the lower end of the cost scale, cities can offer policy support by specifying the "rules of the road" for these new companies; making policy statements that clarify the rules and are supportive of new options may encourage companies to proactively locate services in particular jurisdictions. Higher levels of support would be more costly, such as in-kind support like sharing bus stops and other existing facilities, capital support through vehicles or park-and-ride lots, or operational support by providing drivers or rider subsidies.



Potential Level of Public Investment to Support Tech-based Transportation

Challenges

While there are gaps in existing service offerings in Lamorinda that could be filled by new, smaller transportation services at costs lower for consumers or public entities, the primary challenge is to determine how to "meet in the middle." Companies, the general public, and public entities who govern and/or operate existing transportation services in the area each have their own expectations for service availability and cost. Even if public entities agreed to encourage tech-based transportation (through financial means or otherwise), companies launching new businesses could choose not to respond in particular markets for factors outside the public entity's control.

A second key challenge in finding middle ground between tech-based transportation providers and public agencies is inherent differences in risk-taking and levels of commitment. As a result, using public funds for operational support is unlikely, due both to the public sector's need to tie funding to requirements for serving the public at large and private companies' need for operational flexibility.

Error! Reference source not found. provides comparisons in terms of the offerings and desires of technology-based transportation providers, public agencies, and the riding public.

	Tech-based Transportation Providers	Public Agencies	Traveling Public

	Tech-based Transportation Providers	Public Agencies	Traveling Public
Offers	• Transportation services that can quickly change, adapt, or grow to meet market demands • Private funding to experiment and refine potential solutions • Willingness to take risks on new service types	• Support mechanisms (policy, in-kind, capital, operational) • Ability to coordinate among other transportation providers	• Financial support (fares) • Supply (drivers) and demand (riders) • Marketing support (word of mouth)
Desires	• Flexible regulatory environment to experiment/innovate • Access to potential markets • Access to flexible funding options	• Stable (long-term) and legal service options • Equitable and accessible service options • Options that support community goals or general public good	• Cost-effective and convenient service • Equitable and accessible service options • Options that support community goals or general public good

Public Feedback

Almost 81% of respondents indicated that the primary focus of an on-demand type service should be faster response times with smaller service areas, rather than larger service areas at the expense of longer response times. This preference indicates a desire for transportation network company-type service in Lamorinda, which has been developed to serve requests very quickly and to communicate to passengers exact expected wait time.

While private providers such as Lyft and Uber were not covered directly in the survey, several participants made comments related to their service models. The comments corroborate the desire for the more frequent and convenient service that TNCs could provide, but caution that price makes the private solutions inaccessible for more than just occasional trips.

- "If there were vans or on-demand transportation or shuttles from satellite parking areas to BART, etc. could there be a Clipper Card type of payment, so that those of us without Smart phones to pay for Lyft-type services could have it deducted? Having $1.55 of $2.50 exactly is not always convenient."
- "I currently use Route 6 for morning and evening commute from Moraga to Orinda BART. Commute times seem to work well, but on the odd day when traveling outside of commute hours, bus service is extremely limited. It would be nice to have a more flexible option (even if slightly more expensive), like on-demand option."
- "I would like to see gitney buses used to service within communities such as Campolindo, Happy Valley, Burton Valley, Reliez Valley, Condit. It would provide more access to these neighborhoods and decrease the demand on the arterial roads."

- "I love that you are doing this! An on demand service is the best option...sort of like a county/district run Uber shuttle line where people can schedule a week at a time..."
- "Like the idea of uber type on demand service"
- "Use Uber/Lift model"
- "The on demand one is least attractive. Reasonably regular service from a park and ride would be great. School traffic creates a real mess, in particular on Moraga Way (Miramonte, etc) and on Moraga Rd in Lafayette."

Interim Recommendation: Capital and In-Kind Support

Given the challenges discussed above, public sector support for tech-enabled transportation options through the sharing of capital or in-kind facilities (park-and-ride lots, bus stop sharing, bus staging areas) likely is the best strategy to satisfy both the public sector's need to keep costs low and private companies' desire for flexible operations. These strategies keep public and private entities at arm's length while still fostering partnerships.

As the new transportation companies mature and establish a more permanent operating model, public-sector rider subsidies could be offered to increase access to public transportation options in Lamorinda, but it is not recommended at this time. Prior to such an arrangement, policies specifying details such as driver, vehicle, insurance, and pricing requirements may have to be established that take both public safety and private sector constraints into account.

Summary

Service Alternative	Benefits	Drawbacks	Public Feedback	Recommendations
Technology-based Transportation[58]	▪ Offer supporting services that address the gaps unfilled by traditional transit ▪ New services range from providing on-demand, point-to-point options (also known as "transportation network companies" or "ridesourcing" apps) to private fixed-route services that rely on 15-passenger vans or buses	▪ Companies launching new businesses could choose not to respond in particular markets for factors outside the public entity's control ▪ Using public funds for private operational support is unlikely, due both to the public sector's need to tie funding to requirements for serving the public at large and private companies' need for operational flexibility	▪ Almost 81% of respondents indicated that the primary focus of an on-demand type service should be faster response times with smaller service areas, rather than larger service areas at the expense of longer response times. ▪ Desire for the more frequent and convenient service that TNCs could provide, but caution that price makes the private solutions inaccessible for more than just occasional trips.	▪ Facilitate potential future partnerships through capital and in-kind support ▪ Remain open to partnerships as technology improves and new opportunities arise

[58] Note: to date, this topic has not been described as a standalone option. A full description of the challenges and opportunities are described in the following section.