



Short Range Transit Plan

FY 2015/16– 2025/26

City of Petaluma

October 17, 2016

Federal transportation statutes require that the Metropolitan Transportation Commission (MTC), in partnership with state and local agencies, develop and periodically update a long-range Regional Transportation Plan (RTP), and a Transportation Improvement Program (TIP) which implements the RTP by programming federal funds to transportation projects contained in the RTP. In order to effectively execute these planning and programming responsibilities, MTC requires that each transit operator in its region which receives federal funding through the TIP, prepare, adopt, and submit to MTC a Short Range Transit Plan (SRTP).

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Chapter 1: System Overview

City of Petaluma

Located in southern Sonoma County, Petaluma lies approximately 39 miles north of the Golden Gate Bridge. California Highway 101 and Washington Street divide the community into quadrants. For example, the segment east of CA Highway 101 and south of Washington Street is referred to as the southeast sector of the city.

Petaluma has become increasingly attractive as a bedroom community for persons employed either within the San Francisco Bay Area, Santa Rosa, or neighboring Napa, Marin or Solano counties. Petaluma's population has increased by over 33% across the past three decades, with the Census 2014 Population Estimate at 59,953 residents.

Incorporated in 1858, the city includes 14 squares miles of land area. Overall density is 4,282 persons/square mile. The City maintains a proactive development review process, resulting in a balanced mix of residential and commercial development. Recent years have seen a more “pro-growth” sentiment, with resulting additions of two large commercial shopping centers that augment the local tax base, plug leakage in the local economy, and increase traffic congestion. The Petaluma River is at the heart of the community. A historic downtown flanks the river and contributes to the community's authentic Victorian charm. To the east lie Petaluma's 1970-90s constructed neighborhoods and retail centers. Surrounding the city, dairy ranches and agricultural-related land provide significant open space areas. Historically, Petaluma's economy was poultry-based. Today, most of the small, independently-owned farms have been merged into larger producers. Petaluma's core industries include poultry, dairy, telecommunications, and microbreweries/tourism.

Petaluma provides both fixed route (Petaluma Transit) and ADA complementary paratransit services within the Petaluma Urbanized Area (primarily City Limits). The Fiscal Year 2016 fixed route network features a four-bus base network, operating on six different routes, running seven days a week from early morning to late evening. Petaluma Paratransit operates the same time span as the fixed route, providing ADA (Americans with Disabilities Act) “premium” service, by providing rides to eligible persons to and from any location in the Petaluma Urbanized Area, regardless of the proximity to active fixed route bus service.

Governance

Petaluma is a charter city with a council-manager form of government. The city council is composed of seven members, one of whom functions as mayor and one as vice-mayor. The Mayor is directly elected during municipal elections held on even years. Council members are elected at-large for a four-year term, and serve on a city-wide basis. Terms overlap, resulting in at least three seats being open for election every two years. In 2007, to address concerns surrounding the performance of its transit system, City Council formed the Transit Advisory Committee (TAC) to guide staff in optimizing transit within the City and Petaluma's role and impact in regional transit issues. The TAC meets monthly to discuss a wide variety of transit issues, with a focus on Petaluma Transit. TAC is appointed by the City Council, with 1-4 spots opening each year.

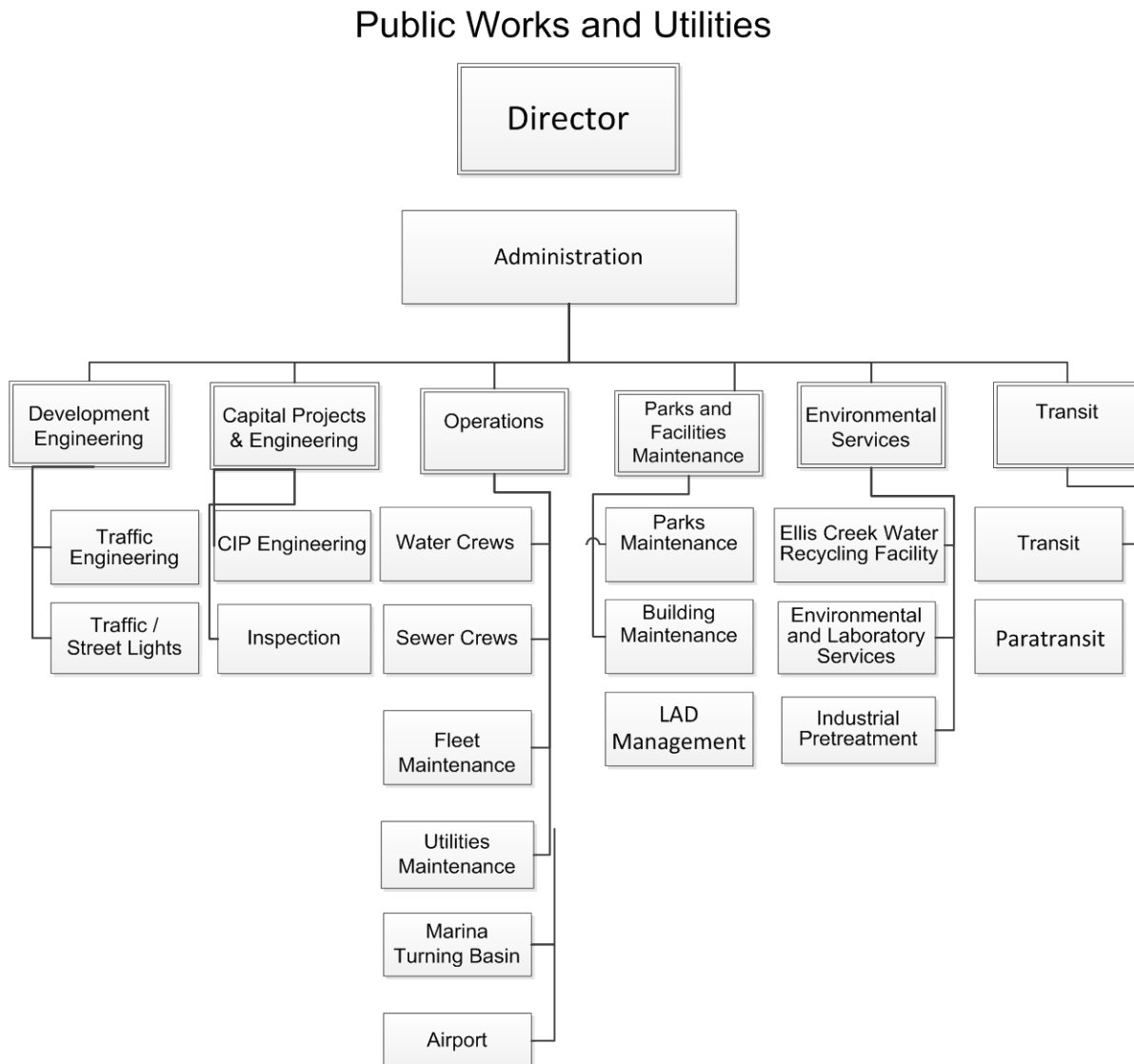
Organizational Structure

The City's public transit program, marketed as Petaluma Transit, features a single full-time employee, the City's Transit Division Manager, supported by two part-time positions. The title of Transit Division Manager was modified briefly in 2012 and retitled "Transportation Division Manager" with additional responsibilities for the Airport and Marina. However, the position was again fully dedicated to public transit and returned to "Transit Division Manager" in 2013, with Airport and Marina duties reassigned elsewhere.

The Transit Division Manager is responsible for control oversight, day-to-day program administration, service planning, capital project development and programming/grants and marketing. Prior to 2009, the City relied on the assistance of outside consultants with respect to service planning, marketing, and compliance activities. Since the hiring of the current Transit Division Manager in 2009, these functions have been executed "in-house", using skills possessed by existing City Transit staff. Since 2009, a part-time Senior Transit Specialist has assisted with overall program activities. This half-time Senior Transit Specialist position focuses on transit finance and grants management, compliance, and managing the ADA paratransit service, as well as providing backup to the Transit Division Manager when he is on vacation or out of the office. In 2011, the City obtained a Federal New Freedom grant to establish the part time position of transit travel trainer, and then a Federal JARC grant was obtained in 2013 to hire a part time Spanish Speaking Outreach Specialist. These positions were combined into a single .75 FTE position in 2015 under the combined title of Transit Travel Trainer and Marketing Assistant (TTTMA). The TTTMA does travel training and outreach in the community, utilizing her bi-lingual (Spanish) language fluency, teaches groups and individuals how to utilize the fixed route bus system,

and generates a wide array of marketing materials including bus schedules, brochures, posters . This function is a key part of the paratransit demand management strategy that maximizes available funding.

Figure 1: Public Works and Utilities Organizational Chart



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The operations, maintenance, and daily service delivery is provided through a multi-year contract with MV Transportation.

System History

Petaluma Transit officially began service in 1976 and has been under the general direction of the Public Works Department throughout its 40-year history. Like many municipal transit systems, the growth and development of the system has been impacted by the individuals within Public Works assigned to manage the system, as well as by the contractors hired to provide drivers, maintenance, etc. Petaluma Transit in the 1990s and 2000s focused on its “small town” heritage, choosing to operate a variety of small vehicles, often acquired after the vehicle had exceeded its useful life at another transit agency. While not comfortable for the riding public, these smaller transit vehicles seemed to “fit” the community and the modest levels of transit ridership during that period. System fixed route productivity was low, and many folks gravitated towards Petaluma Paratransit rather than learn how to navigate the challenged fixed route network. Fixed Route ridership fluctuated between 150,000 and 200,000 for much of this early period of the transit system, while annual revenue hours of service also fluctuated slightly with economic conditions, staying in the 13,000-15,000 annual hour range. How much of the unusual growth in paratransit versus fixed route can be attributed to the City’s contractor and staff marketing efforts is unclear. It does appear that City fixed route marketing efforts were limited, while the City’s longtime paratransit contractor was more aggressive in marketing their portion to the community. From its inception until 2011, Petaluma Transit (fixed route) and Petaluma Paratransit were delivered by two separate contractors under separate contracts. Not only inefficient due to duplicative management and support structures, this model is also susceptible to paratransit growth when that separate contractor seeks to increase the volume and value of the contract by aggressively promoting the service. This 35-year period saw paratransit ridership in Petaluma grow to well over 22,000 in the late 2000s, while fixed route languished near 150,000 in that same

period. It is highly unusual in U.S. small urban public transit agencies with both modes (fixed route and paratransit) to have paratransit ridership near 13% of total ridership.

Fixed route in the 19990s and 2000s was delivered by older, smaller buses that frequently encountered maintenance and reliability issues. The service was geared towards seniors perhaps, and for a long time the vehicles were named “schooners” in honor of Petaluma’s river heritage. The limited capacity of these vehicles precluded ridership growth in the bell-time oriented student market, and the system evolved under a mixed bag of consultant created service plans. City transit staff were not veterans of public transit, and the system in general failed to follow and implement industry best practices. The system lacked a permanent “home” for operations as well, relocating several times over the years from contractor-provided facilities to City-provided facilities before finally landing at the current location at 555 N. McDowell Blvd in 2000. This facility was acquired by the City from the Marin Sonoma Mosquito Control District using transit funds, then shared by transit with the Public Works Department for a time in the early 2000s. The “Triple Nickel” facility (named after the street number 555) was then turned over almost entirely to transit in the late part of the 2000s. Petaluma Transit finally had a permanent home, featuring two adjacent buildings, one for operations and maintenance, the other for administration.

Recent History

MV Public Transportation has been the contractor for fixed route operations and maintenance since 2001 via a series of contracts, the last of which was a five-year contract in 2011, with two one-year options. Prior to July 2011, Petaluma People Services Center (PPSC) was under contract to manage and deliver paratransit services. From July 2011 to May 2012, PPSC provided drivers (only), while MV Transportation assumed responsibility for scheduling and dispatch. In May 2012, the contract between MV and PPSC was terminated, and these services were brought fully under MV Transportation management. MV assigns a full-time manager, two road supervisors, one full-time and two part-time dispatchers (2.5 FTE total), a mechanic and 2 maintenance utility workers to the Petaluma contract. All MV staff on the contract are domiciled at the City’s Transit facility located at 555 North McDowell Boulevard.

The base five-year contract with MV Transportation runs through June 30, 2016. Operations and financial reports are submitted by the contractor on a monthly basis. An obvious benefit of this co-location of the City as well as contractor staff at the North McDowell facility is streamlined communications. The City’s Transit Division Manager

embraces an active role in program oversight, interacting with contractor staff throughout each day, and supporting operations in the office or field when required.

Petaluma Transit has completed a major modernization effort on its revenue fleet in recent years. Initiated in 2007 with the introduction of Petaluma's first full sized, heavy-duty transit buses (4 35-foot Gillig low-floor buses) and most recently by the addition of (3) 40-foot New Flyer low-floor buses recently retired by the City of Santa Rosa. Sandwiched in between these fleet milestones was the procurement of (4) 29-foot Gillig (BRT, or bus rapid transit styled) low-floor buses, featuring the new attractive periwinkle blue paint scheme in 2011. These buses allowed the complete transition away from using the rough riding and unreliable medium duty "cutaway" Chevy vans that comprised the fixed route fleet from 2003-2007. Re-branding of the fleet (brand standardization) was accomplished in the summer of 2012, as the (4) 2007 35' low-floor buses were repainted to match the new Petaluma Transit "brand" introduced with the 2011 bus purchase. This new look was designed by staff in collaboration with the Transit Advisory Committee and has quickly established itself a popular element of the Petaluma streetscape.

2007 Gillig Pre-"Rebranding"



The key funding that enabled this dramatic fleet overhaul in the last nine years was secured when the City successfully obtained "direct grantee" status with the Federal Transit Administration (FTA) in 2007 and began accessing its share of regional FTA funding, via participation in regional transit planning at MTC, shortly thereafter.

Transit vehicle maintenance and washing are also performed at the North McDowell facility. In 2010 the City was awarded \$1,750,000 in FTA State of Good Repair funds to increase the clearance height and length of maintenance bays, and to install a bus wash, reconfigure access to the facility, including ADA improvements, and upgrade the roof and HVAC system on the building.

Figure 2: Updated Transit Maintenance Facility - 2014



Beyond the procurement and transition into larger-capacity, more reliable and attractive buses that began in 2007, was a heightened focus on service planning and marketing that began in 2009. This close evaluation of the local transit markets, and the fixed route network happened to coincide with a dramatic loss of transit operating funds caused by the “Great Recession” of 2007-2009. Transit staff were compelled to reduce fixed route service hours in order to adapt to new budget realities. Concurrently, staff began the process of discovery by conducting the first in several waves of in-depth outreach to Petaluma Transit “core market” customers (youth and seniors), gaining insight into challenges and opportunities as seen through the eyes of customers and potential customers. The service change of 2010 created the Eastside Transit Center and reconfigured routes to reduce travel times and reallocate service onto the system’s most productive corridors. Additional “tripper” capacity was added to serve the school bell times at local secondary schools, and

ridership began to grow at unprecedented rates in the timeframe 2010-2014. Today's Petaluma Transit had begun to take shape.

Transit Service Overview

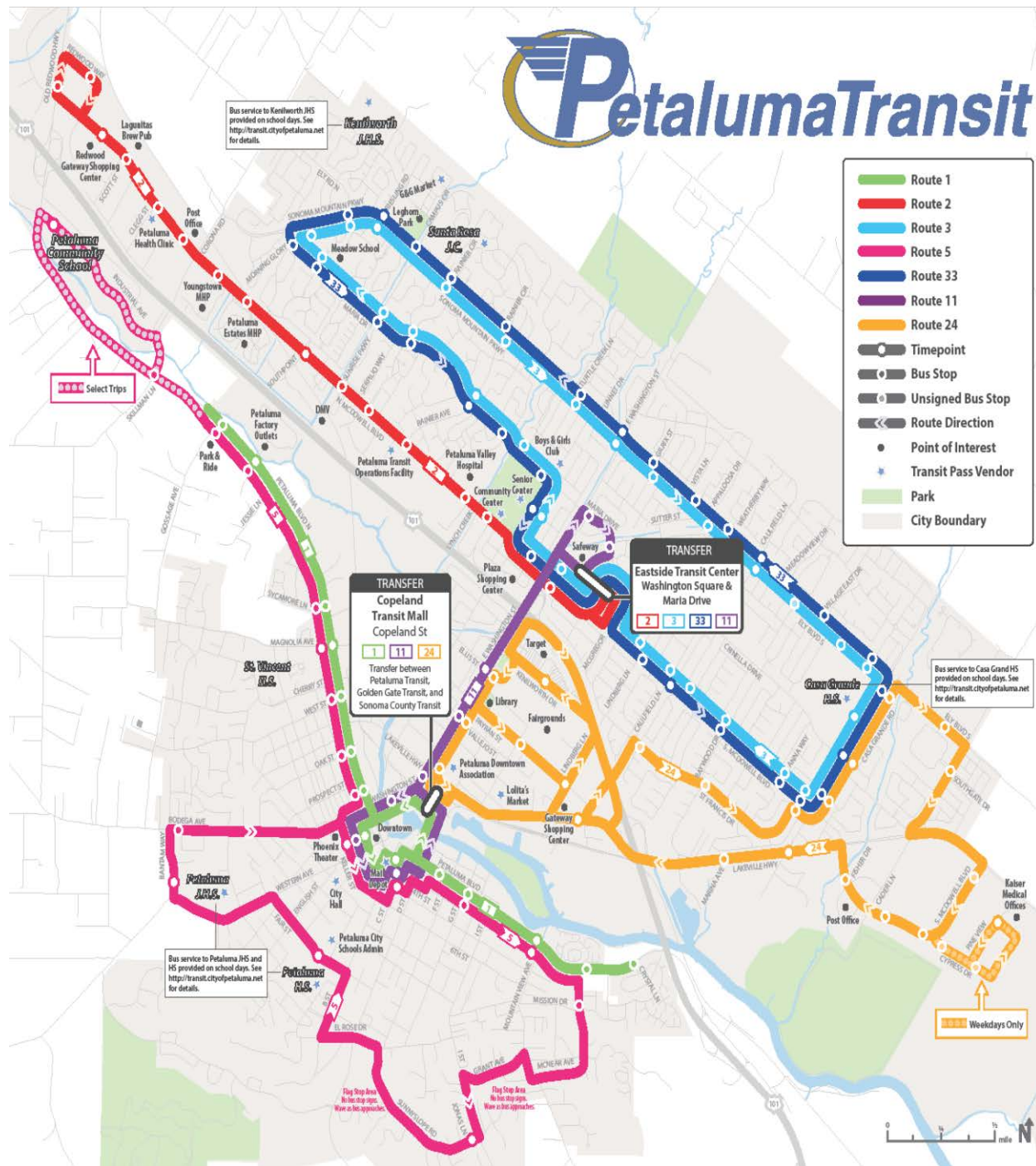
Fixed-Route Service

The City initiated fixed-route service in 1976. Today, Petaluma Transit provides scheduled service along six separate alignments using a fleet of Gillig and New Flyer low-floor transit coaches, varying in length from 29 to 40 feet. All active fixed route buses are low-floor for accessibility, hold 2 mobility devices, and feature bike racks.

From 2010 to 2014, all routes operated on 30- or 60-minute headways. In January of 2014, in an effort to provide close-in service to the newly opened East Washington Place (Target) Shopping Center, and to address consistent delays caused by the reconstruction of the Petaluma River Bridge (U.S. 101), Route 24 and 1 (interlined with the same bus) were reduced from hourly service to 75 minute headways. Route 24 added service along Payran Street (south of Washington) to access the single, northbound-only, bus stop on Kenilworth Drive provided by the new shopping center.

In FY 2015/16 service is provided from 6:15 a.m. to 10:10 p.m., Monday through Friday; from 7:15 a.m. to 10:10 p.m. on Saturday, and (since 2012) from 8:20 a.m. to 5:45 p.m. on Sunday. The 2015 route network is largely the same as created by the 2010 service restructuring, which was driven by the financial crisis of the Great Recession, and a need to improve connectivity & reallocate service hours to areas with greater transit demand. The July 2010 service changes reduced revenue hours by over 16%, while leading to unprecedented ridership growth in the 2010-2014 timeframe.

Figure 3: Current System Map 2016



Paratransit Service

The City's paratransit service was initiated in 1982. It functions as the ADA complementary component of the overall public transit network. As such, its operating schedule mirrors that of the fixed-route service. The service is open to ADA-certified patrons who travel in Petaluma. Service delivery is reservation-based, shared-ride. The program utilizes seven vehicles, owned by the City. As previously mentioned, the City goes beyond the minimum ADA-required level of service provision by extending rides to and from locations beyond $\frac{3}{4}$ mile from an active fixed route. Petaluma Paratransit serves eligible (as defined by ADA law) persons anywhere within the Petaluma Urbanized Area as defined by the 2010 U.S. Census.

Petaluma Paratransit Van #16, a 2012 Elkhart Coach Ford



Since 2013, the crucial eligibility determination process has been contracted out to CARE Evaluators, Inc., and includes a mandatory interview process for new applicants, to ensure only those truly eligible for the expensive service are granted eligibility.

Other Transit Services

Sonoma County Transit and Golden Gate Transit also provide transit service within Petaluma. Sonoma County Transit, the countywide public transit service, provides service along three distinct alignments within Petaluma: Lines 40, 44, and 48. While operating times vary by route, service is provided in Petaluma from 5:20 a.m. to 9:42 p.m. on weekdays, and from 7:05 a.m. to 9:37 p.m. on weekends.

Golden Gate Transit is a regional transit service linking Petaluma with San Francisco and Santa Rosa. GGT operates three distinct alignments within Petaluma: Routes 74, 76, 101.

Routes 74 and 76 are uni-directional commuter routes, southbound in the AM and northbound in the PM, with 7 and 5 AM trips respectively, and 6 and 5 PM northbound trips, respectively. Route 101 provides bi-directional, approximately hourly service seven days per week from 4:33 a.m. to 2:05 a.m. Similar to Sonoma County transit, connections with Petaluma Transit can be made at several co-terminal locations throughout the community.

Due to the limited road network linking east and west Petaluma, there is notable duplication of service between all three transit systems, especially Petaluma Transit and Sonoma County Transit. One positive aspect arising from this is the number of co-terminal service points affording inter-service transfers. All three operators have in place transfer agreements that allow for credits on inter-agency transfers to encourage the use of multiple systems without financial penalty. The upcoming SMART train service will also feature these same cooperative transfer agreements to encourage riders to use local transit to access SMART stations. A cooperative project to design and install “shared” bus stop signs at all bus stops that are served by more than one agency was completed in the late 2000s and accounts for about 65 % of the 150 or so official bus stops in Petaluma. The Copeland Transit Mall, located at East Washington Street and Copeland Street, features linear, curbside connections, with dedicated bus shelters for Petaluma Transit, Sonoma County Transit, and Golden Gate Transit.

Adjacent to the Transit Mall is a parcel owned by Sonoma Marin Area Rail Transit (SMART). Late in 2016, SMART will begin operations of their commuter rail service (and bicycle/pedestrian path) initially running from Airport Boulevard in Northwest Santa Rosa to the San Francisco-bound ferry at Larkspur Landing in Marin County. In Phase I, the train and bike-walk path will run from North Santa Rosa to San Rafael with a proposed SMART Connector dedicated bus service between Cloverdale, Healdsburg, Windsor and Santa Rosa as well as from San Rafael to Larkspur. SMART plans to launch the first 40-mile phase between Northwest Santa Rosa and Downtown San Rafael, with service to Petaluma, in late 2016.

SMART Commuter Rail Coming to Petaluma late in 2016



Existing Facilities

In partnership with the County of Sonoma, the City designed and constructed the Copeland Transit Mall, which opened in November 2007 on Copeland Street, between East Washington and D Streets. The Mall supplanted the previous on-street transfer site located Downtown at Fourth and C Streets as the focal-point for inter-agency transfers in the Downtown/Westside area. The Transit Mall serves as the most defined regional transfer facility in Petaluma, bringing together routes from Petaluma Transit, Sonoma County Transit, and Golden Gate Transit. In addition, the Transit Mall is served by private taxis and is equipped with bicycle racks, poster displays, and an information kiosk.

Although Copeland has been open for 8 years, both Amtrak and the Sonoma Airport Express continue to operate from the Fair Grounds (E. Washington just west of Highway 101). These regional bus providers feel that Copeland Transit Mall is not an optimal operations location for Amtrak and the Airport Express, due to the lack of parking. In addition, all three transit providers that serve Petaluma (PT, SCT, GGT) serve along E. Washington in front of the fairgrounds enabling transit access.

The City constructed the Eastside Transit Center (ETC) in 2010 along the side of the Washington Square Shopping Center on Maria Drive, just east of S. McDowell Blvd. The new facility offers a transfer point for routes serving the East side of Petaluma (11, 2, 3, and 33). The ETC features four curbside bus bays, two passenger waiting shelters, and several benches. Early in 2016 the ETC received an electronic “real-time” bus arrival sign as one of the initial locations of this technology. The real-time signs are driven by the data generated by the new automated vehicle location (AVL) project that was deployed in 2015. The ETC is by far the City’s busiest passenger transfer facility, serving well over half of the 1600 daily weekday riders.

Fare Structure

Petaluma Transit implemented its most recent fare increase in August 2014 in conjunction with the long-anticipated expansion of evening services. Adult fare for fixed-route service is now \$1.50. Up to two children (under the age of five) may ride free with each fare-paying adult. The student rate, for youth 6-18 remains at \$1.00. Seniors (age 65 and above) and persons with disabilities ride at a reduced rate of \$.75 (up from \$.50 prior to August 2014). Drivers do not make change for fares. Petaluma Transit offers a 10-ride transit pass, although there is no monetary savings realized with this option and few are sold. Prior to 2014, fares were last raised in July of 2010, when Adult fares went from \$1 to \$1.25.

Petaluma Transit also offers a monthly pass for unlimited rides (within the month of issuance) priced at \$30. A student monthly pass is available for \$20 dollars and a senior/disabled version at \$15. Passes have remained at the same price over the last 5 years, as cash fares have increased, to incentivize purchase and use. While use of monthly passes often dilute an agency's average fare indicator, this is offset by increased patron loyalty as well as speed of boardings. Passes may be purchased at 14 locations in Petaluma, including City Hall, the Community Center, Mail Depot, G&G Supermarket, Lolita's Market, Boys & Girls Club, Petaluma City School Admin Offices, and at each of the four major public Jr. High and High School campuses. Early in 2016, staff introduced an internet option for purchasing passes through the Petaluma Transit mobile website.

In 2012, the City worked collaboratively with its Transit Advisory Committee (TAC) and the Petaluma City School District (PCSD) in the development of a means-based student discount pass. The pilot project created a new "quarterly pass", available to PCSD secondary school students at each campus, for a current price of \$40 per quarter (3 months). Students whose families participate in the national free and reduced price lunch program (low-income) are able to purchase the new quarterly pass at half price, for only \$20 per quarter. This means-based pass has proven highly popular and has added to the overall level of pass usage and undoubtedly provided financial incentive for transit use, and budget relief for many local low-income families. The program has evolved over the first four years to adapt to changes within PCSD and to enable internet purchase and eligibility verification.

Intra-system transfers are free with paid fare. Transfers from other transit systems within Sonoma County connecting with Petaluma Transit are worth one free one-way trip. Petaluma Transit transfers are worth one dollar fifty cents (\$1.50) on Golden Gate Transit (and SMART, once it begins operations) and one free fare zone on Sonoma County Transit. The City's paratransit service features a single fare of \$3.00 (reflective of ADA policy). The last paratransit fare increase was in August 2014, when fares went from \$2.50 to \$3.00.

Table 1: Current Fare & Pass Structure

Service Mode	Classification	Fare
Fixed-Route	Adults - cash	\$1.50
	Students (18 & under) - cash	\$1.00
	Seniors (65 & older) & Disabled with RTC card - cash	\$0.75
	10-Ride Pass (Adult)	\$15.00
	10-Ride Pass (Senior / Disabled)	\$7.50
	Monthly Pass	\$30.00
	Student Monthly Pass	\$20.00
	Senior/Disabled Monthly Pass	\$15.00
	Quarterly Student Pass (income dependent)	\$40/\$20
	Transfers	Free
Transfers	Petaluma Transit (within 2 hours)	Free
	To Sonoma County Transit / Golden Gate Transit/SMART Train* (within 2 hours)	\$1.50 credit (or 1 zone)
	From Sonoma County Transit / Golden Gate Transit/SMART Train* (within 2 hours)	Free
Paratransit	One-Way Trip	\$3.00
	Round Trip	\$6.00
	Rider Card (12 one-way rides)	\$33.00

***SMART Transfer Credit Rules Adopted (Via of This SRTP) to Mirror Existing Agreements between Petaluma Transit and Golden Gate Transit and Sonoma County Transit.**

Clipper Regional Fare Card

After many years of planning, Petaluma Transit, Sonoma County Transit, and Santa Rosa CityBus all began accepting the regional Clipper Fare Card in early 2016. Clipper is designed for ease of use by transit riders who regularly use multiple transit agencies, eliminating the need for exact change and facilitating easier transfers between systems. E-cash or transit agency unlimited ride passes are both loadable on Clipper.

Existing inter-operator transfer agreements (see above) that allow for free and reduced price travel between multiple transit agencies are programmed into Clipper to mimic the existing paper transfer discounts. To comply with regional business rules, Petaluma Transit is currently only allowed to grant one free bus ride after exiting GGT/SCT/SMART vehicles. PT Clipper Card users should ask their PT driver for a paper transfer should a 2nd PT bus be needed to complete their one-way journey. Petaluma and Santa Rosa staff are negotiating with Clipper to modify this arrangement, as both systems would like a 2nd free tag option.

Demand Assessment

Of the 500,292 (Census 2014 Population Estimates) residents in Sonoma County, 11.9 percent live in Petaluma. Between 2000 and 2010, the City's population increased approximately 6.2 percent, reflecting a much slower rate of growth than the previous decade, which showed a 26 percent population increase. The greatest population concentrations are located in northeastern Petaluma. While Petaluma has seen an increase in the number of residents 65 years and older, the increase for those 85 years and older has been even greater. This trend brings with it an increased demand for public transit services, paratransit services in particular. Petaluma's strategy in recent years of approving development of senior housing may indeed offer the City fiscal relief in other arena's (police, for example) but it aggravates Petaluma Transit's struggle to meet the unfunded mandate of ADA paratransit while maintaining robust fixed routes.

Ride-Dependent Population

Typically, a community's ride-dependent population is composed of youth, seniors, persons with disabilities, persons at or below the federal poverty level, and persons lacking access to a personal vehicle.

Youth Population

For the purposes of this study, youth is defined as individuals under 18 years of age. In 2014, the number of youth in Petaluma was equal to 23.4 percent of the city's population¹. School-age youth are a core customer component of most transit programs as they reflect a high degree of ride-dependency (i.e., lack a driver's license and/or access to a personal vehicle). Given the concentration of youth population combined with the location of schools, public transit as a home-to-school travel alternative is important. In conducting our surveys of current transit riders, it is apparent that school is a popular travel motivator.

Based on 2000 Census data, a concentration of youth resides in the southeastern quadrant. This is logical given the concentration of single-family dwellings located therein, as well as the supporting infrastructure (i.e., schools). Petaluma's largest high school, Casa Grande High is located on Casa Grande Road. Although not a target market for Petaluma Transit, three of the 14 elementary schools in Petaluma are in the southeastern area. In addition the Kaiser Medical Center is located on the far southeast edge of Petaluma, and is a popular medical destination. In the northeast quadrant, Santa Rosa Junior College (Petaluma

¹ 2014 American Community Survey (ACS)

Campus) on Sonoma Mountain Parkway, and Kenilworth Junior High School on Riesling Road are major trip attractors.

Petaluma High School and Petaluma Junior High are the major trip attractors in the southwest quadrant, and are surrounded by primarily single family residential developments. Other secondary schools in Petaluma include San Antonio High School on Vallejo Street, Carpe Diem High School on Fair Street, and Saint Vincent's High School on Keokuk Street.

Elderly Population

For purposes of this study, elderly population is defined as individuals over the age of 65. In 2010, the number of elderly in Petaluma was equal to 13.1 percent of the city's population, an increase from 11 percent in 2000. Several new "55+" senior living apartments have been constructed in recent years, adding to the segment growth in elderly population, and applying pressure on Petaluma Paratransit to meet growing demand.

Based on the 2000 Census data, significant concentrations of seniors reside within the northern and southeastern portions of the city. A high senior concentration correlates with transportation needs to local medical facilities. Kaiser Permanente Medical Center is located at the far southeastern edge of the City, at the intersection of Lakeville Highway and Pine View Way, while Petaluma Valley Hospital is more centrally located at the intersection of Professional Drive and North McDowell Boulevard. The large senior population in this area may also correlate with the concentration of assisted living establishments in northeastern Petaluma, such as Vintage Chateau Apartments, Springfield Place, Sunrise Senior Living Centers, and scattered PEP (Petaluma Ecumenical Properties) housing complexes. In addition, senior activity centers, such as the Petaluma Senior Center and Senior Café (lunch program) on Novak Drive, are located in this segment of the city.

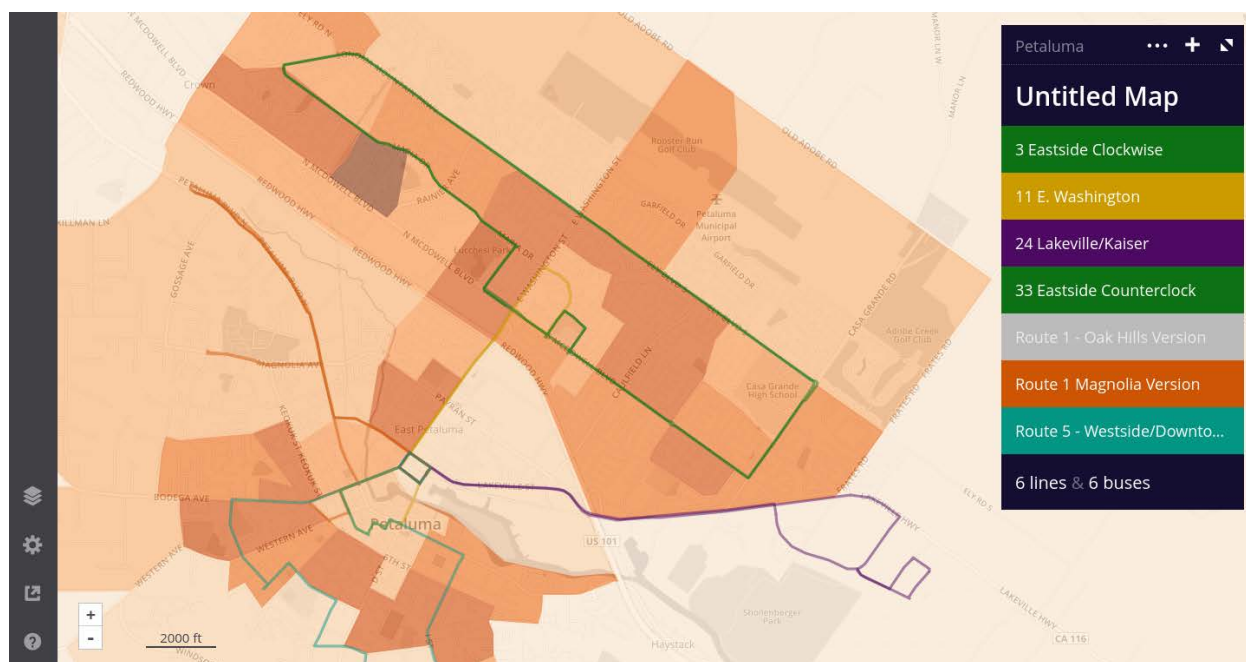
In addition, there is an area on the West side of Petaluma that boasts a high concentration of seniors, which is attributed to the area's medical facilities: Evergreen Health and Rehabilitation Center (300 Douglas), the Oaks Alzheimer's and Dementia Clinic, (450 Hayes Lane), Petaluma Post-Acute Rehab (1115 B Street), and Windsor Care (523 Hayes Lane).

In this hilly area formerly served for many years by the unproductive Route 1S, this cluster of medical facilities poses a tremendous challenge to serve with fixed route, due to the hilly nature (making walking, especially for seniors, very difficult) and surrounding high-end residential single-family housing developments in this area. However, due to the nature of

“residents” of these skilled nursing homes, there is almost no demand from the residents for fixed route service (Petaluma Paratransit does provide trips to these facilities) and to this date, little interest has been expressed from the facilities’ employees.

Petaluma Ecumenical Properties (PEP) provides low-income senior housing at the following locations. Nearby fixed routes are in parenthesis. PEP housing locations marked with an “*” are off of main streets and very difficult to serve by fixed route transit:

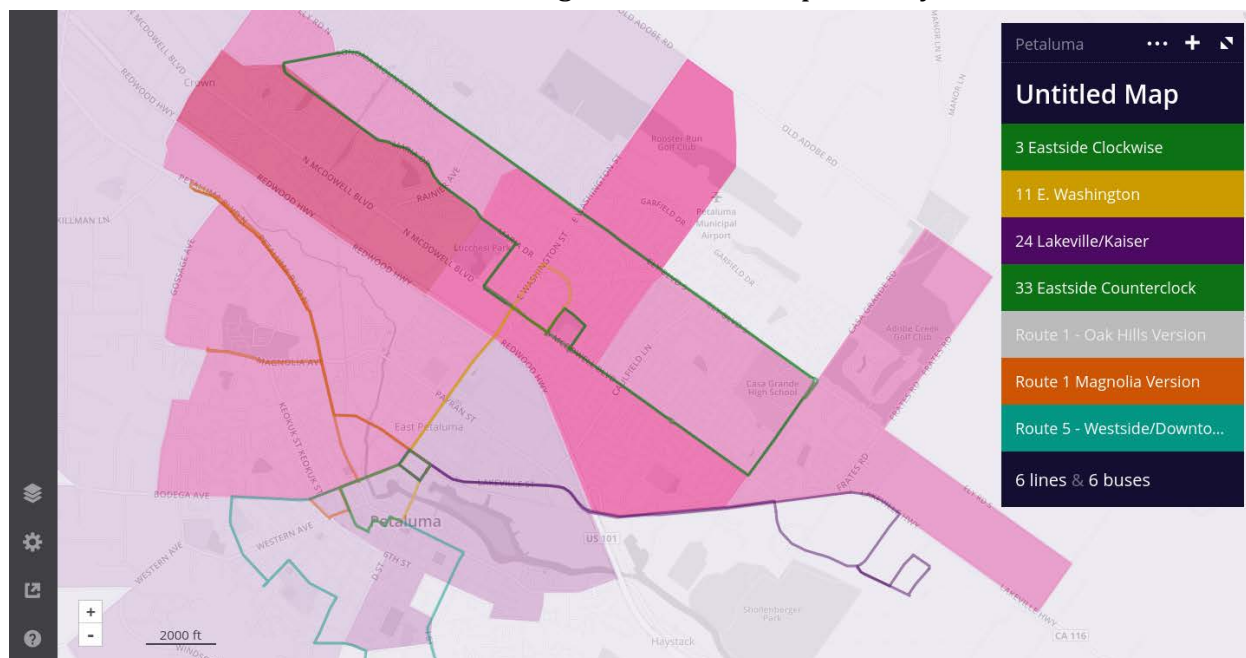
- 700 Daniel Drive
- 231 Wilson Street (11)
- 1275 Lindberg Lane* (24)
- 306 Mountain View Avenue (1)
- 210 Douglas Street* (5)
- 167 Edith Street (11)
- 1400 Caulfield Lane (3, 33)
- 739 South McDowell (3, 33)
- 1405 Caulfield Lane (3, 33)
- 575 Vallejo Street* (24)
- 579 Vallejo Street* (24)



Petaluma’s Senior Population in relation to the route network

Disabled Population

Under the Rehabilitation Act of 1973, disability is defined as “a physical or mental impairment that substantially limits one or more major life activities” (29 U.S.C. §705(9)). According to Census 2010 there are 4,716 disabled persons within the study area, translating to approximately 8.3 percent of the total population. Based on the 2000 Census, the highest concentrations of disabled individuals live in areas east of the Petaluma River. This could be attributed to lower housing costs, as well as proximity to medical facilities.

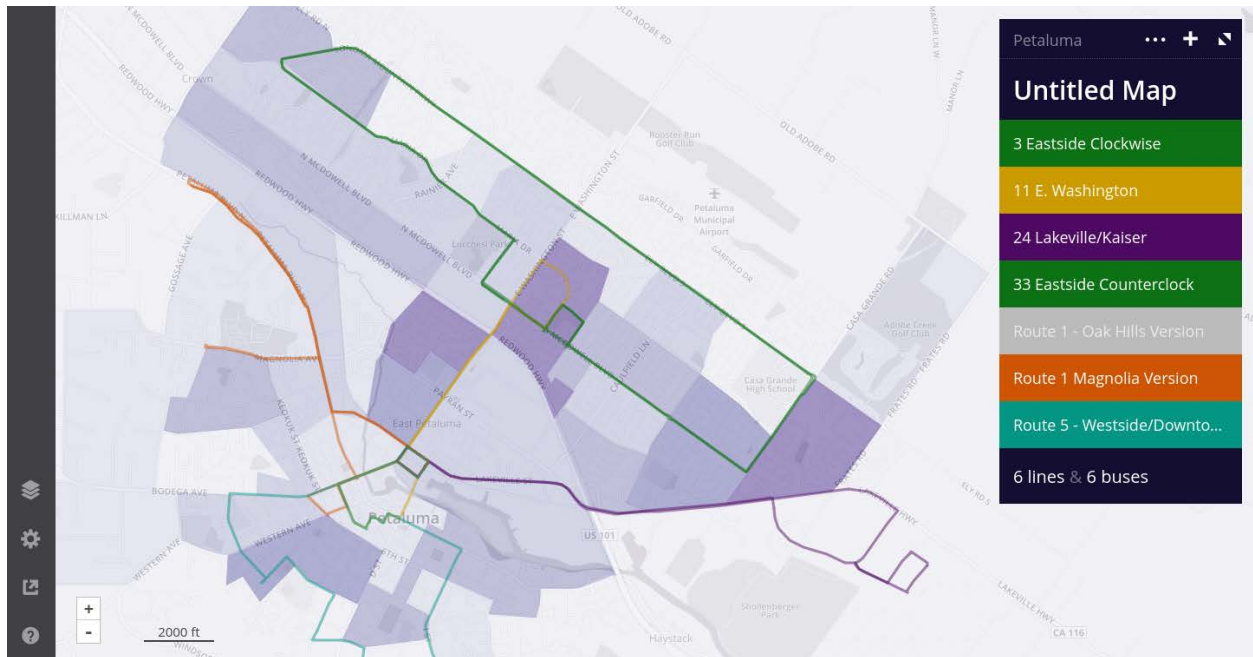


Petaluma's Disabled Population in relation to the route network

Low Income Population

According to Census 2010, approximately 7.5 percent of the residents of Petaluma are living at or below the poverty federal poverty level. This is an increase from six percent in 2000. Based on the 2000 Census, the greatest concentration of persons of lower income is in the central and southeastern portions of Petaluma. These individuals may not have access to a personal automobile as their primary mode of transportation. Therefore, many rely on the public transit service.

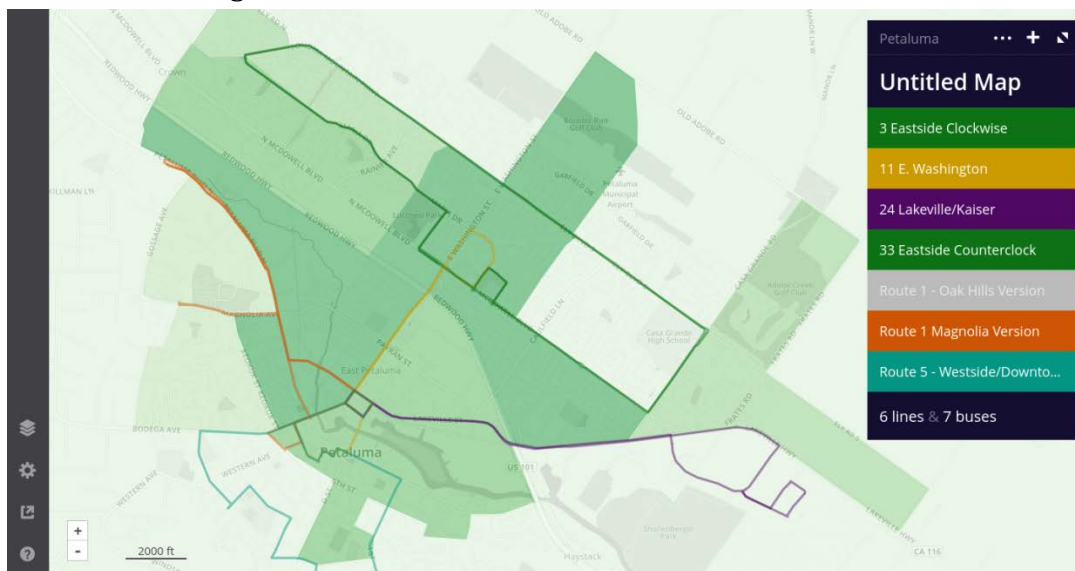
The Committee on the Shelterless (COTS) is located at the Mary Isaak Center at 900 Hopper Road, in central Petaluma, near Route 24. COTS provide temporary housing for the homeless and families in transition. At 1500 Petaluma Boulevard South, in southwest Petaluma on Route 1, Petaluma People Services (PPSC) has its Sonoma-Works program, which is the southern Sonoma County Welfare-to-Work program.



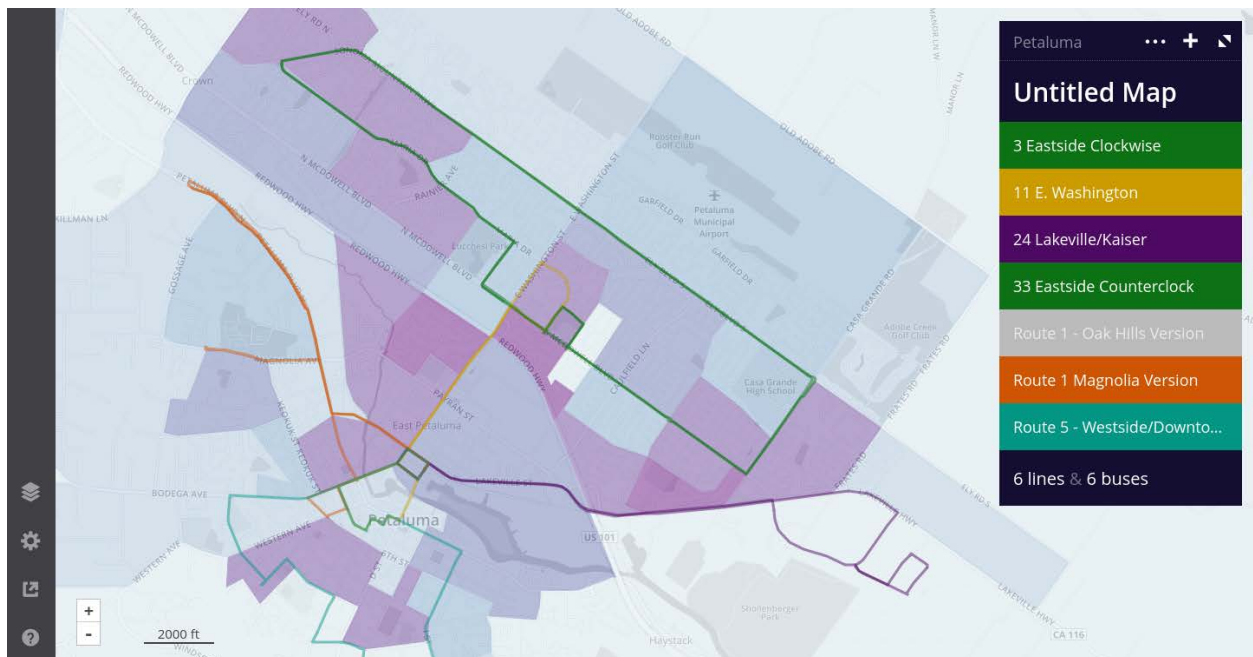
Petaluma's Low Income Population in relation to the route network

Incidence of Vehicle Ownership

The number of households in Petaluma reporting no access to a personal vehicle in 2010 is 1,228. This translates to almost 6 percent of households. The distribution of households without access to a personal vehicle corresponds to those areas featuring high populations of youth, seniors, and the disabled. The highest concentration of these ride-dependent populations is in south central, Downtown, and eastern Petaluma; this indicates demand for public transit services in these areas, and used in 2010 to restructure services to better serve areas of high demand.



Petaluma's Zero-Vehicle Households in Relation to the Route Network



Petaluma's Minority Households in Relation to the Route Network

PT Ridership surged after introduction of 2011 Gilligs & New Branding



CHAPTER 2 – Goals, Objectives, and Standards

The following section advances a Performance Measurement System for the City of Petaluma’s public transit program. The foundation for this Performance Measurement System reflects the data gathered as part of the required TDA compliance audits and other industry-standard statistics.

Goals, Objectives, and Measures

An effective Performance Measurement System is composed of goals, objectives, and standards.

- Goals are statements that qualify the desired results. They are the end toward which efforts are directed. They are general and timeless, yet theoretically attainable.
- Objectives provide quantifiable measures of the goals. They are more precise and capable of both attainment and measurement.
- Standards set quantifiable targets for achieving the adopted goals.

Introduction: Petaluma Transit Goals, Policies and Service Standards

The following Chapter outlines potential goals, objectives, policies and service standards for Petaluma Transit’s fixed route and paratransit services. The intention is to provide a policy framework and “toolkit” to direct the ongoing operation of existing services and guide the planning of future services. Goals, objectives, policies and service standards provide a framework for the effective utilization of transit resources and available revenue sources, as well as the setting of service priorities within dynamic financial realities. Transit service goals are guiding principles reflecting the City of Petaluma’s vision for public transit. Objectives and policy statements should be achievable and designed to support the approved goals for transit. Service standards provide benchmarks for the effective planning, evaluation and operation of transit services. Petaluma Transit objectives, policies and standards should be reviewed and approved by City Council. This will be accomplished through the approval of the 2016 SRTP. An approved set of transit goals, objectives, policies and standards provides direction to transit management and staff.

The Petaluma Transit Goals, Policies and Service Standards chapter is organized into the following sections:

- **The Role of Transit and the City of Petaluma General Plan** – explores the relationship between transit goals and the community and development goals

defined in the **City of Petaluma: General Plan 2025** (Revision Date: January 11, 2012).

- **Petaluma Transit Mission Statement** – provides a suggested Mission statement for Petaluma Transit in support of Mobility Goals presented in **City of Petaluma: General Plan 2025**.
- **Petaluma Transit Goals** – identifies transit goals defined in in **City of Petaluma: General Plan 2025**.
- **Petaluma Transit Goals, Objectives and Policy Statements** – provides a series of potential service objectives supported by related policy statements.
- **Service Standards and Guidelines** – summarizes proposed efficiency, service quality and design standards.
- **New Service Warrants** – provides guidelines for the introduction of new services.
- **Title IV and Environmental Justice Considerations** – summarizes Title VI service planning requirements.



The Role of Transit and the City of Petaluma General Plan

Transit is a means to an end. That end is getting people where they need, or want to go. Transit should also support other community goals as these may relate to equity issues, the environment, and economic and land use development plans. The **City of Petaluma: General Plan 2025**, completed in May 2008, provides a community vision and a set of Goals, Policies and Programs to achieve this vision.

Chapter 5: Mobility of the City of Petaluma: General Plan 2025 document summarizes the Mobility Element of the General Plan. The Mobility Element identifies long-range transportation needs for moving people and goods in and around Petaluma. It considers bicycle, motor vehicle and pedestrian travel as well as public transit, rail, air, and water travel as well as a range of public safety, environmental, and social equity issues associated with transportation.

The following mobility priorities are laid out in the General Plan:

- “Improve Petaluma’s transportation system to *increase mobility for all modes of travel*, especially for automobiles, pedestrians, bicycles, buses, and freight and/or passenger rail transit;
- *Provide cross-town mobility enhancements* for Petaluma residents that make crossings of Highway 101, the Northwest Pacific Railroad Tracks and the Petaluma River easier and more convenient;
- Create a pedestrian environment that is safe, attractive, encourages walking, and is accessible to all;
- Implement a bicycle network free of gaps that permits easy bicycle travel to all schools and major City destinations;
- Support efforts to provide regional commuter rail service to neighboring cities in Sonoma and Marin Counties; and
- Improve the existing bus transit system so that it is convenient and provides more frequent, regular service along major City corridors. Better coordinate the local transit system schedule and service with Sonoma County Transit, Golden Gate Transit, local paratransit services, and school schedules.”

The above priorities provide a framework for the near and long term planning of Petaluma Transit service. The last bullet provides a particular emphasis for the setting of Petaluma Transit priorities:

- The provision of convenient and more frequent service along major City corridors, and better coordination with regional public transit providers and student class times.

General Plan Transit Strategies

The General Plan recognizes that while Petaluma Transit did not (as of 2008) currently play a major role for travel within Petaluma, it will become increasingly important in the future:

“This General Plan seeks to foster increased transit use and a greater emphasis on

transit in planning for future transportation. In the long term, this will include commuter rail service, increased frequency bus service with transit priority, transit-oriented development practices and the development of transit signal corridors (including potential “bus rapid transit” routes) along Washington Street and Petaluma Boulevard. Future enrollment growth at the Petaluma Campus of Santa Rosa Junior College could also generate a need for additional transit amenities to serve students and faculty. In addition, a local nonprofit group is pursuing funding for restoration of a historic trolley line that would connect Downtown and the Factory Outlets and would be intended to facilitate tourism and riverfront activity.”

“The mode share for transit could be enhanced through increased frequency of service within the city, especially between the neighborhoods and Central Petaluma, and to neighboring cities along the 101 corridor, where many of Petaluma’s residents work. However, as mentioned above, the dispersed land use patterns throughout the North Bay make transit infeasible for many trips. In addition, expanded service hours would necessitate increased transit subsidies, which would likely need to come from local sources. Implementation of a transportation demand management (TDM) program with a funding mechanism dedicated to transit is recommended to achieve the goals outlined in this section.”²

General Plan Transit Goal and Policies (2008)

Goal 5-G-6: Public Transit

Promote the expansion of the transit system and the intensification of use by the public.

Policies and Programs:

- **5-P-42** Expand the bus transit system so that it is convenient and provides frequent, regular service along major City corridors serving education, shopping, and employment destinations, and SMART park-and-ride lots. Identify increased funding sources for local transit service and improvements.
- **5-P-43** Support efforts for transit oriented development around the Petaluma Depot and along the Washington Street, Petaluma Boulevard, McDowell Boulevard, Lakeville Street, and other transit corridors. Reserve and plan for future bus stop enhancement and transit signal priority along Washington Street and Petaluma Boulevard. Enhance the use of the Park and Ride facility at the Fairgrounds through education and marketing.

² City of Petaluma: General Plan 2025, page 5-22.

- **5-P-44** Maintain a transit system of nominal cost, or no cost, to riders. Investigate the creation of subsidies for designations such as education, significant employment, and/or recreation destinations. Collaborate with Santa Rosa Junior College to promote measures to enhance transit access and service at the Petaluma Campus.
- **5-P-45** Coordinate transit improvement efforts and schedules among Petaluma Transit, Sonoma County Transit, Golden Gate Transit, airport shuttle services, paratransit, taxi services, commuter rail, and schools; coordinate local transit to include after-school activity schedules.
- **5-P-46** Consider benefits to the possible consolidation of transit serving agencies.

Petaluma Transit Mission Statement

Currently there is no specific Mission Statement for Petaluma Transit. A mission statement should reflect the City's vision for public transit services. It should provide general philosophical support for General Plan Goals. The following proposed Petaluma Transit Mission statement is drawn from a draft mission statement for the Petaluma Transit Advisory Committee³:

Create and maintain a transit system with a commitment to enhance the quality of life for the people in Petaluma by providing and promoting transportation choices that support accessible and sustainable community mobility.

Petaluma Transit Goal Statement

The SRTP adopts the General Plan Goal 5-G-6: Public Transit for Petaluma Transit: *"Promote the expansion of the transit system and the intensification of use by the public."*

The following provides a summary of more operational and service planning objectives and policies to guide the administration and planning of Petaluma Transit services.

Petaluma Transit Objectives and Policy Statements

An objective is a more clearly defined target, or direction to achieve a goal. Policies define an organization's approved course of action to achieve specific objectives. The following objectives and policy statements support the service goal defined for Petaluma Transit.

³ Transit Advisory Committee Meeting Minutes, Thursday, June 7, 2007.

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

1. Priority should be given to serving the travel needs of the primary transit markets in Petaluma – carless or single car households, students, seniors, persons on fixed and/or limited income, and persons with disabilities.
2. After ensuring the availability of reliable and convenient service to the primary transit markets, design and operate services to attract and serve the “choice” transit market for local travel needs within Petaluma and as public transit feeders to and from regional commute services provided by Golden Gate Transit, Sonoma County Transit, SMART, and Airport Express.
3. Ensure sufficient service capacity to maximize service availability to all primary transit markets throughout the service day. Although service capacity is ultimately determined by funding, ensure that a reasonable level of service is available.
4. Provide an adequate number of vehicles to meet all bus pullout requirements for scheduled Petaluma fixed route and Paratransit services.
5. Practice a zero tolerance policy for the cancellation of scheduled fixed route and paratransit service due to the lack of in-service vehicles or operator availability.
6. Ensure availability of sufficient bus capacity to avoid passenger pass-ups on fixed route service. This can be accomplished by increasing bus size or service frequencies, or by operating peak overlay trippers. Provide Paratransit back-up service to avoid fixed route bus pass-ups of persons using wheelchairs when wheelchair capacity has been reached.
7. Ensure sufficient Paratransit capacity to avoid denial of trip requests by ADA eligible registrants made at least one day before desired travel.
8. Ensure adequate bus capacity to accommodate passenger loads within the adopted maximum load standards established for Petaluma Transit.
9. Ensure sufficient round trip travel times for fixed route services to facilitate on-time performance within an adopted on-time performance standard.
10. Ensure on-time performance by scheduling adequate recovery time into all fixed route and (if applicable) flexroute schedules.
11. Establish timed transfers between local services (top priority) and key regional services at transfer locations.
12. Establish schedules around critical arrival or departure times at key local destinations such as class start and dismissal bells at secondary schools served by Petaluma Transit; retail hours at key malls and other major retail concentrations served by Petaluma Transit; common work shift start and finish times⁴, and program start and finish times for the developmentally disabled. Criteria will vary

⁴ Buses should be scheduled to arrive at key employer concentrations 10 to 15 minutes prior to work start times and depart 10 to 15 minutes after shift end times.

from route to route and concessions will have to be made to ensure timed transfers at planned transfer locations.

13. Operate clockface schedules where practical.
14. Scheduled fixed routes will not depart a timepoint before the published departure time in the schedule.

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

Policies:

1. Establish minimum productivity performance policies for local fixed route services. A minimum productivity standard as measured by the number of passengers carried/revenue hour should be based on achieving a passenger revenue recovery ratio based on State's minimum 20% for urban fixed route services (inclusive of Measure M revenues allocated to Petaluma Transit annual operating budgets). Minimum productivity policies shall be incorporated in Petaluma Transit fixed route service performance and design standards, and subject to annual review as operating costs and revenues change. Services (by route or time of day) that fall below minimum productivity performance standards should be considered for cancellation or reduction when funding is insufficient to meet full program requirements.
2. Establish a minimum productivity performance policy for Petaluma Paratransit service based on achieving the State's minimum 10% farebox recovery ratio for demand response services (inclusive of Measure M revenues allocated to Petaluma Transit annual operating budgets). Minimum productivity policies shall be incorporated in Petaluma Paratransit service performance and design standards, and subject to annual review as operating costs and revenues change. Petaluma Paratransit should be included in service contract expectations.
3. Evaluate and consider requests for the extension of service hours, the expansion of service area coverage, and the introduction of additional service based on the potential of the new services to achieve minimum productivity performance benchmarks. The City of Petaluma will introduce or implement new services on a pilot project basis for a trial period not to exceed 24 months. During this period, the new service will be evaluated and adjusted to improve performance. Productivity expectations shall be established for the evaluation of new services during the pilot project period.
4. Maintain a vehicle retirement program that recognizes the effective life cycle of the various heavy, medium and light duty service vehicles.
5. Maximize ride-sharing, linked trips and productive Petaluma Paratransit vehicle utilization by using scheduling trip assignment parameters and procedures that ensure the achievement of the minimum productivity benchmark.

6. Subject to the availability of appropriate funding, provide technical assistance and promotional fare discounts in support of public agency initiatives to “travel train” persons with disabilities.

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

Policies:

1. Operating productive and efficient services to minimize fare increases.

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

Policies:

1. Actively monitor service performance through the review of operating and cost performance reports, operational data from the new AVL system, and regular field spot checks.
2. Separate in-house fixed route and paratransit Scheduling Committees should be formally established to meet, at a minimum, on a regular basis for the ongoing review and resolution of operations and service quality issues, and to obtain input on ongoing service and budget planning.
3. Actively engage the Petaluma Transit Advisory Committee in the evaluation and planning of fixed route and paratransit services.
4. Petaluma Transit planning staff will regularly ride the service to develop a firsthand understanding of who uses the service, operating issues, and key destinations. This requirement should be included as a formal position objective.
5. Based on ongoing service monitoring and evaluation, amend service performance and design standards as appropriate.
6. Ensure sufficient full time and/or part time staff resources to conduct service monitoring and contract oversight in support of service planning, contract compliance and budget adherence.
7. Ensure sufficient full time and/or part time staff resources to prepare NTD reports.

Objective E: Actively participate in the development approval process.

Policies:

1. Petaluma Transit planning staff actively participates in the development review process to ensure that transit operations are considered as part of new developments (location and site design) at the initial planning stages.
2. Maintain transit service standards that support **City of Petaluma General Plan** goals and policies.

3. Ensure sufficient full time and/or part time staff resources to actively participate in the development review process

Objective F: Adhere to prudent budgeting and financial practices.

Policies:

1. Annually prepare a ten-year financial plan covering operating and capital financial needs and revenue sources preceding the annual budget process. Monitor service delivery and performance and prepare monthly budget variance reports. Corrective measures will be developed and implemented as required on a monthly and/or quarterly basis to correct and avoid negative budget variances.
2. Report financial performance and anticipated service adjustments to the Director of Public Works, City Manager and the general public on an annual basis.
3. Use realistic and fiscally conservative estimates of costs and revenues in preparing the five-year financial and service plan.
4. When feasible, maintain annual operating and capital reserves to cushion against sudden drops in revenues. This will facilitate a planned and strategic response and minimize a “reactive” response.
5. Ensure sufficient full-time and/or part-time staff resources to carefully process invoices, prepare financial plans, and prepare monthly budget variance reports.

Objective G: Promote public/private partnerships to increase transit revenue and ridership.

Policies:

1. Explore joint promotions with retailers, business organizations such as the Chamber of Commerce etc., and corporate sponsors for the production of Petaluma Transit information brochures, and the operation of extended holiday or special events services.
2. Actively pursue the joint promotion of transit as a “green” transportation alternative to single occupant vehicle (SOV) use.
3. Where appropriate explore the cost sharing of operating costs with developers and public agencies to extend service to new development or facilities located off the route network.
4. Ensure sufficient full time and/or part time staff resources to participate in the promotion of public/private partnership initiatives.

Service Standards and Guidelines

Service standards and guidelines are critical to the administration, operation and planning of public transit services. Standards should reflect and support the achievement of service goals, objectives and policies. Standards can be set by federal or state requirements, as well as by goals, objectives and service priorities adopted by the City of Petaluma.

While specific standards vary from agency to agency, industry practice generally uses the following three categories for service performance and design:

1. Efficiency standards.
2. Service quality/reliability standards.
3. Service design standards.

Efficiency and service quality/reliability standards set rules and guidelines for the delivery of transit services. Where service operations are contracted out, key performance standards provide contractual expectations and performance benchmarks⁵. ***Monitoring service performance remains an important task for transit providers.***

Efficiency Performance Standards

Efficiency standards set parameters for the productive operations of transit services and guide planning within available operating budgets and funding ceilings.

Efficiency standards use operational performance data to measure the performance of a transit system. Monitoring operational efficiency and productivity requires data such as operating cost, passenger fare revenue recovery, vehicle revenue miles, vehicle revenue hours, and boardings (revenue passenger trips). These data are consistent with operating and cost data already collected by the City.

Transit monitoring and evaluation should be kept simple to free administrative resources for service marketing, problem solving and planning. Petaluma Transit should spend time and resources optimizing the performance of its new AVL/CAD system. This will ensure the AVL produces reliable operations data, making monitoring and evaluation feasible with current staffing.

Petaluma Transit Efficiency performance should be monitored and reviewed by transit planning staff on a monthly basis and reported to the public on an annual basis. The City should limit its range of efficiency performance measurements to a few key indicators.

These include:

- **Operating Cost per Passenger:** Calculated by dividing all operating and administrative costs by total passengers (with passengers defined as revenue trips). The subsidy cost per passenger is a further refinement of this measure and is calculated by subtracting farebox revenue from gross operating and administrative costs and dividing by total passengers.

⁵ While service standards proposed in this document may not reflect those currently in the City's current service agreement, they can be considered for the RFP and contract documentation for the next contracting cycle.

- **Operating Cost per Revenue Hour:** Calculated by dividing all operating and administrative costs by the total number of vehicle service hours (with revenue hours defined as the time when the vehicle is actually in passenger service).
- **Passengers per Revenue Hour:** Calculated by dividing the total number of passengers (revenue trips) by the total number of vehicle service hours. The number of passengers per hour is a good measure of service productivity and critical to the establishment of design standards and benchmarks for the expansion of transit service. Passengers per service hour should be calculated separately for fixed route and paratransit services. Fixed route passengers per service hour standards should be established for different time periods, such as peak, midday, weekends, and evenings. In the case of fixed route services, passengers per revenue hour should be measured by individual one way bus trip. For paratransit service, passengers per hour should be summarized by hour of the day and day of the week. Passengers per hour standards should be calculated annually based on a consistent efficiency target that is not subject to annual operating cost fluctuations, such as a farebox recovery target.
- **Passenger Revenue Recovery Ratio Targets:** Calculated by dividing all passenger revenue by total operating and administrative costs. Passenger revenue recovery ratio targets are critical to the establishment of passengers per revenue hour efficiency standards. To this end farebox recovery targets should be established and monitored separately for fixed routes and paratransit.

Petaluma Fixed Route and Paratransit Efficiency Performance Standards

The operating cost per revenue hour will likely increase annually as operating costs increase. While it is more difficult to control increases in the cost per revenue hour because of increasing labor (wages and benefits) and fuel costs, the cost per passenger can be more effectively controlled, and potentially lowered, by increasing service productivity. *With transit operating costs fluctuating annually, the operating cost per revenue hour, although it should be monitored for contractual compliance, is not a good efficiency performance standard.*

Under the Transportation Development Act (TDA) urbanized jurisdictions such as Petaluma are required to achieve a 20% farebox recovery ratio for fixed route transit services and a 10% farebox recovery ratio for paratransit services. Petaluma Transit is able to use Measure M funding to top up farebox revenues in order to achieve the TDA farebox recovery goals. With fluctuating operating costs, farebox recovery targets remain a consistent financial measurement base for calculating other standard efficient performance standards such as:

- The number of passengers/revenue hour; and
- The operating cost/one-way passenger trip.

Passengers/Revenue Hour

Passengers/revenue hour standards are recommended as a key efficiency measure for both Petaluma fixed route and paratransit services. Separate passengers/revenue hour standards should be calculated separately for each service. The following are recommended for as passengers/revenue hour service performance standards:

Fixed Route	Number of passengers/revenue hour to meet 20% farebox recovery ⁶
Paratransit	Number of passengers/revenue hour to meet 10% farebox recovery

Example: with Petaluma Transit's FY 2016 fully loaded cost per revenue hour of \$73.84 and average fare per passenger of \$0.60, an overall system productivity (passengers per revenue hour) target of 24.6 pax/hr is needed to produce \$14.77 in hourly farebox revenue (20% of \$73.84).

Passengers per revenue hour standards will vary from year to year, depending on the number of passengers required to achieve the passenger revenue recovery targets for each service type. Operating costs should include invoiced contract operating costs, fuel costs, maintenance and parts costs, and all direct Petaluma overheads assigned to the transit program. The farebox revenue targets should be based on fares collected from passengers and not on any local top up revenue contributions. The minimum number of passengers required per revenue hour is calculated as follows:

Passenger Revenue Recovery Required per Revenue Hour = $a \times b = c$

Where: a = cost per revenue hour (for each service type).

b = passenger revenue recovery targets (calculated for low and high measures for each service type).

c = actual total revenues per revenue hour required.

Number of Passengers Required to Achieve Farebox Recovery Minimum = c divided by $d = e$

Where: c = actual total revenues per revenue hour required.

d = average fare collected per passenger carried (by service type).

e = passengers/revenue hour standard (calculated for low and high measures for each

⁶ Should be established for each individual route and as a system-wide efficiency standard.

service type).

As operating costs increase, a greater number of passengers carried per revenue hour will be necessary. Generally, with fixed route service this is accomplished through a shift from less productive service coverage to services with a higher ridership potential – eliminating unproductive service coverage hours or individual bus trips, and short turning buses. With paratransit this is accomplished by reducing capacity (bus pull-outs) and increasing productivity through more effective scheduling, dispatching and trip negotiation.

Operating Cost/one-way Passenger Trip

Operating cost/one-way passenger trip standards are also recommended as a key efficiency measure for both fixed route and paratransit services. Operating cost/one-way passenger trip standards should be calculated separately for fixed route services and ADA paratransit service. A maximum operating cost/one-way passenger trip can be calculated annually for each service type by:

- Dividing the operating cost/revenue hour by the passengers/revenue hour standards set for each service type.

Monitoring, Evaluation and Corrective Measures

Actual service performance can be monitored on a monthly basis and compared with the approved annual efficiency performance standards. If a fixed route is performing below the approved standards, a trip by trip analysis can be conducted to identify specific trips that could be considered for elimination in order to improve overall route performance. In the case of paratransit, trip assignment policies and procedures could be changed to enhance overall productivity. Petaluma Transit has the systems in place (AVL, Trapeze) to make comprehensive monitoring possible, but will require adequate staffing.

Service Quality and Reliability Standards

Service quality and reliability standards should reflect system goals and support the measurement of success in achieving specific objectives and policies. Table 2 summarizes the key service quality and reliability standards and numeric values for Petaluma Transit. Service quality and reliability standards will be monitored and reviewed by Petaluma planning staff on a monthly basis and reported to TAC and/or City Council annually.

Service Design Guidelines

Service design standards are critical planning tools to justify and prioritize the expansion of service to new areas and potential markets, and to guide how the service will be delivered.

Transit service design incorporates a mix of interrelated social, political, geographical, and economic factors. Generally these can include:

- The community's vision, goals, and objectives for transit.
- The marketability of the service(s) to be provided.
- Environmental and energy issues.
- Available technology.
- Topography, land use design and right-of-way design characteristics and limitations.
- Budget limitations.

Recommended service design standards are provided for Petaluma’s fixed route and paratransit services in Table 2.

Table 2: Recommended Petaluma Transit and Paratransit Service Quality/Reliability Standards

Quality/Reliability Standard	Local Fixed Route Service	ADA Paratransit
On-Time Performance	<p>80% of all revenue bus trips must depart the route start point and arrive at the route end point no later than five minutes after the time published in the schedule.</p> <p>No in-service revenue bus will depart a time point before the time published in the schedule.</p>	<p>Drop offs 90% of all drop offs will be at or before the drop off time requested by the passenger.</p> <p>In accordance with ADA scheduling guidelines drop offs can be up to 60 minutes before the drop off time requested by the passenger.</p> <p>Pick Ups 90% of all pick-ups must be within the policy 30 minute pick up window (15 minutes before to 15 minutes after the pick-up time confirmed with the passenger).</p> <p>In the case of work, program or school-related trips, the return trip pick up window should not begin before the shift, program or class finish time.</p> <p>In the case of medical trips, the return trip pick up window should not begin before the anticipated appointment or treatment finish</p>

		time. Where finish times are uncertain, “will calls” should be considered for medical return trips. That is, the passenger calls to request a pick up when they are ready and/or able to travel.
Passenger Complaints/ Passengers Carried	The number of valid complaints shall not exceed 0.10 % of the total boardings. Benchmark = 1 complaint/2,000 boardings.	The number of valid complaints shall not exceed 0.30 % of the total boardings. Benchmark = 3 complaints/1,000 boardings.
Preventable Accidents / Miles Operated (While there should be no preventable accidents, a benchmark has been established to permit some flexibility in the evaluation of training efforts.)	The number of preventable accidents shall not exceed 0.0013% of total service miles operated. Benchmark = 1 preventable accident/75,000 service miles.	The number of preventable accidents shall not exceed 0.0013% of total service miles operated. Benchmark = 1 preventable accident/75,000 service miles.

Roadcalls ⁷ / Miles Operated	Benchmark = 1 roadcall/10,000 service miles.	Benchmark = 1 roadcall/10,000 service miles.
Bus Trips Cancelled	<p>No scheduled bus trips shall be cancelled because of vehicle shortages or staff absenteeism.</p> <p>Benchmark = zero tolerance.</p>	<p>No confirmed passenger trips⁸ shall be cancelled because of insufficient vehicles or staff to meet the scheduled in-service pullout requirement.</p> <p>Benchmark = zero tolerance.</p>
ADA Paratransit Trip Refusals	<p>Passengers with disabilities who are able to use fixed route service cannot be refused fixed route service because of their disability.</p> <p>Where pass-ups are necessary because all wheelchair spaces are occupied, passengers with disabilities may have to wait for the next bus with capacity.</p> <p>In the cases where pass-ups occur on the last</p>	<p>ADA regulations mandate a <u>zero trip refusal rate</u> for eligible ADA Paratransit trips requested at least 24 hours in advance of the requested travel time.</p> <p>However, ADA regulations permit the negotiation of trip pick up or drop off time within a 1 to 2 hour scheduling window. There are two allowable scheduling window interpretations, depending on the situation.</p>

⁷ The term “road call” is commonly used for any difficulty or trouble with a bus that requires transit maintenance staff to switch out a bus, to repair it on the road, or to tow it back to the garage.

⁸ A confirmed passenger trip is a trip where a pick up time has been confirmed with the passenger.

	<p>scheduled in-service bus, a road supervisor or ADA Paratransit vehicle will have to provide service to the passenger unable to board the fixed route bus.</p>	<p><i>Scenario One: Non Appointment</i> A pick up or drop off time can be negotiated with a passenger up to 1 hour before or 1 hour after the desired drop off or pick up time when there is no appointment or required time for the "going to trip" (an example would be a shopping trip) or when on the "return trip" there is not a specific time when the passenger can be ready for a return trip. (i.e. getting off work, out of a class, a concert ends, the likely time when they are finished dialysis or a medical appointment).</p> <p><i>Scenario Two: Appointment</i> A set appointment or arrival time on the "going to trip" could range from a medical appointment, start of a class or work shift, an interview, show time for a movie, graduation, or sports event, visiting hours at an institution etc.). Dispatch staff can assess the need for a nondiscretionary arrival time while asking what time they need to arrive - this can set the scheduling parameters for the return trip. When there is a critical arrival time the ADA interpretation is that a passenger cannot be dropped off more than 1 hour before the critical arrival time on the "going to trip", and on the</p>
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		return trip the passenger should not be picked up more than 1 hour after they claim they are ready to be picked up. Interpretation Two assumes you will not schedule them to be dropped off after their defined critical arrival time or pick them up on the return trip before they are free to travel.
Processing of ADA Applications	Not Applicable	100% of all valid ADA applications will be processed and applicants informed of certification decision within a 21-day window of the interview date.
Maximum Walking Distance	Generally a $\frac{1}{4}$ mile walking distance is used as a guideline for local fixed route service network design in built up areas <i>where there is sufficient population density to support minimum fixed route passengers/revenue hour standards.</i>	Not Applicable
Bus Stop Spacing	<p>Local service bus stops should be spaced $\frac{1}{3}$ mile apart in urbanized service areas to support a maximum walking distance of $\frac{1}{4}$ mile.</p> <p>Limited Stop Express or BRT bus stops can be spaced approximately $\frac{1}{2}$ mile or more apart, or limited to</p>	Not Applicable

	major trip generators or attractors along the route. Bus stops can be placed closer or further apart than 1/3 mile in special circumstances (e.g. Senior Facilities in low density areas).	
Bus Stop Location	<p>Bus stops should be placed at the far side corner of intersections to allow clearer traffic view lines for pedestrians, wherever possible, and more effective use of signal priority systems.</p> <p>Mid-block bus stops should be limited to major trip generators or attractors.</p>	Not Applicable
Minimum Bus Stop Design	<p>All bus stops should be clearly marked with proper signage including the designated Stop ID numbers. Where feasible, bus stops should have well-drained access, concrete, or hard surface pads, and adequate lighting for passenger security and safety.</p> <p>Where feasible, all bus stops should be ADA accessible. An annual accessible bus stop program with a dedicated budget should be established to gradually upgrade bus stop accessibility on a</p>	Not Applicable

	<p>prioritized basis.</p> <p>Benches should be considered for bus stops with higher than average passenger volumes or senior boardings. A suggested general guideline for consideration by Petaluma Transit is:</p> <ul style="list-style-type: none"> - 15 or more boardings per day <p>Shelters should be considered for bus stops with higher passenger volumes, available right-of-way, and at transfer locations where passengers may have to wait to make their connections. Priority should be given to facilities catering to seniors and persons with disabilities. A suggested general guideline for consideration by Petaluma Transit is:</p> <ul style="list-style-type: none"> - 20 or more boardings per day <p>Annual bench and shelter budgets should be established in conjunction with an installation prioritization program based on stop passenger volumes.</p>	
Passenger Loads	<p>Maximum loading on buses traveling short distances at low speeds should not exceed 167% of seated capacity or the vehicle's official capacity displayed on the manufacturer info plate, whichever is higher, on</p>	<p>Maximum loads on ADA Paratransit buses should not exceed seated and/or wheelchair capacity.</p>

	<p>a continual basis.</p> <p>Passenger loads should not exceed Gross Vehicle Weight Ratings.</p>	Passenger loads should not exceed Gross Vehicle Weight Ratings
Service Headways	<p>Fixed route service headways should be such that passenger load standards are not exceeded on a continual basis.</p> <p>Capacity issues on high passenger volume routes can be more effectively addressed by increasing bus size.</p>	Not Applicable
Recovery Time	For each bus trip, build a minimum of 10% recovery time into the fixed route schedule.	Built sufficient time in the ADA Paratransit schedules to support on time service standards.
Interlining	Where feasible, design strategic interlines to minimize inter-route transfers. Route interlining should not negatively impact the built-in 10% recovery time.	Not Applicable
Timed Transfers	Schedules should, where feasible, be built to ensure timed transfers for priority connections at established transfer locations.	Not Applicable

	Where feasible, connections should be designed to limit passenger transfer wait times to five minutes or less.	
Fleet Management	<p>Adopt a 12 to 15-year life cycle for medium and heavy duty buses.</p> <p>Effectively cycle buses in-service to evenly utilize fleet resources.</p> <p>Operate with a 20% spare bus ratio (2 spare buses for every 10 peak pullout buses).</p>	<p>Adopt a 5 to 8-year life cycle for light duty buses.</p> <p>Effectively cycle buses in-service to evenly utilize fleet resources.</p> <p>Operate with a 20% spare bus ratio (2 spare buses for every 10 peak pullout buses).</p>

New Service Warrants

New Service Warrants provide a tool for judging when new services or service extensions are appropriate. A new fixed route or route extension could be introduced when ridership forecasts based on population, school enrollment, or job density are sufficient to achieve minimum passengers/revenue hour standards by service type. New services should be introduced on a trial basis and given a minimum of twenty-four months to achieve the required minimum passenger revenue recovery ratio.

As new residential areas or business developments build out, there may initially be only sufficient potential ridership to support peak-only service. With eventual build out, there may be sufficient potential ridership to support midday, evening and weekend service. New service expansion and/or service frequency increases should always be assessed in terms of potential ridership and the achievement of the minimum passengers/revenue hour standard. Prior to the recommendation of new services, an analysis of ridership potential and passenger revenue recovery is required.

The potential ridership in a new or proposed service area can be calculated by:

- Multiplying the population within $\frac{1}{4}$ mile of the proposed new service by the per capita transit trip rate of the Petaluma Transit fixed route service area.

or

- Daily ridership can also be calculated by multiplying the population in the new area (employees in a business park or students in a school) to be served by an accepted daily per capita trip rate. Hourly productivity can be calculated by dividing the projected daily demand by the number of revenue hours needed to operate the service.

The decision to introduce new service should be contingent upon the number of potential passengers per revenue hour being equal to or greater than the minimum passengers per revenue standard. A Go/No Go decision can be based on the probability of attracting sufficient ridership to meet the approved passengers per revenue standard within a formal pilot project timeframe.

In some cases, new services may only be warranted during weekday peaks when hourly productivity is sufficient to support passenger revenue recovery requirements. In other cases, *service requests to new business parks or new residential subdivisions could be considered through a joint partnership with major employers or developers to offset*

passenger revenue recovery shortfalls when initial ridership during the early phases of development is too low to support the approved passengers per revenue hour minimum.

Introduction of New Services on a Trial Basis

New or expanded services should be introduced on a pilot basis for a trial period not to exceed 24 months. During this period, the new service will be evaluated and adjusted to improve performance. Productivity expectations should be established for the evaluation of new services during the pilot period.

New service should achieve at least 50% of the system-wide minimum passengers per revenue hour within the first 18 months of operation⁹. Any new service not achieving this minimum should be considered for discontinuation at the end of the pilot project period. The revenue hours could be reallocated to other planned service improvements. Following the pilot period, the service could be discontinued or reconfigured if it continues to fall below the minimum performance standard for the service type.

Title IV and Environmental Justice Considerations

In accordance with Federal Transportation Administration requirements, the planning of new Petaluma Transit services and the operation of current services must adhere to the objectives of Title VI of the Civil Rights Act of 1964, as well as the policies set forth in the Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (1994).

FTA Title VI Objectives

Title VI objectives for transit service planning include:

- Ensure FTA-assisted benefits and related services are equitably distributed without regard to race, color, disability or national origin.
- Ensure that both the level and quality of transit services provide equal access and mobility for any person without regard to race, disability, color or national origin.
- Prevent the denial, reduction, or delay in benefits related to programs and activities that benefit minority populations or low-income populations.

⁹ Given lower levels of ridership, new weekend or evening services should within the first 18-months achieve a minimum of 50% of the farebox recovery ratio established through historic trends for these lower demand periods.

- Ensure that decisions on the location of transit facilities and services are made without regard to race, disability, color, or national origin.
- Ensure meaningful access to programs and activities by persons with limited English proficiency.

Environmental Justice Principles

FTA requires transit agencies to incorporate environment justice and non-discrimination principles into transportation planning and decision making processes as well as environmental review for specific projects. Meaningful consideration should be given to minorities and low-income populations when planning service to ensure transportation and mobility needs in these communities are addressed. Principles guiding the environmental justice process include:

- To avoid, minimize, or mitigate disproportionately high or adverse human health and environmental effects, including social and economic effects, on minority and low-income populations.
- To ensure the full and fair participation by all potentially affected communities in the transportation decision-making process.
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

2011 Gillig Interior – Note side-facing seating towards front



CHAPTER 3 – Fixed-Route Service and System Evaluation

On-Time Performance

In the 2007 SRTP, on-time performance (OTP) was identified as a critical problem for Petaluma Transit. Since 2009, schedules have been repeatedly optimized, moving running times where needed, placing as much recovery time at the end of trips as financially possible (if significant additional funds were available, minutes could be added without negatively impacting the service), and popular routes paired through interlining. These efforts initially improved OT, and the most recent, 2012 SRTP did not call out OTP as a major issue. Unfortunately, a dual threat emerged in recent years significantly degrading Petaluma Transit's on-time performance.

Increased ridership

While this is the source of great pride for Petaluma Transit, it is also a double-edged sword. More ridership means stopping more often, and for longer periods of time to board and alight passengers. There are also more passengers utilizing mobility devices (wheelchairs, power chairs, scooters, walkers) which slow down the boarding/alighting process. These normally positive factors have coalesced to bring down Petaluma Transit's OTP.

Increased traffic congestion

Traffic congestion has dramatically increased in Petaluma since 2012 with a combination of the recovering and growing economy, and the addition of the East Washington Place Shopping Center just west of U.S. 101 on the already congested E. Washington Street Corridor. This acute congestion on E. Washington peaks in the mid-afternoon and does not recede until after 6pm, causing Petaluma Transit severe transfer reliability and general on-time performance problems, particularly in the late afternoon.

From July 2010 until January 2014, Petaluma Transit featured a “dual timed-pulse” route network, which puts pressure on each route to maintain schedule adherence to avoid passengers missing transfer connections on either side of town. OTP importance is critical. If one route falls significantly behind schedule, due to mobility devices, road congestion, or whatever reason, transfers are missed at key points in the system. The impact of this is that passenger trips that were planned to take 20-30 minutes are delayed and can take an hour or more.

*Schedule Adherence***Jan 1, 2016 - Dec 31, 2016**Report By: [Route Run Driver Trip Pattern Stop](#)

Route	Operational Status				Number of Departures
	% OnTime	% Late	% Early	% Specials	
Deadhead	44.4	24.2	31.4	0	631
Route 1	59.2	30.2	10.6	0	5273
Route 11	72.3	23.8	3.9	0	15704
Route 2	52.7	44.4	2.8	0	10461
Route 24	68.4	24.4	7.2	0	5010
Route 3	71.7	19	9.3	0	7818
Route 33	78.9	13.1	8	0	10459
Route 5	63.8	23.7	12.5	0	2449
Total	67.7	25.6	6.8	0	57805

These summary OTP reports are generated from the newly installed Avail AVL/CAD dispatching system. Of note are the overall OTP numbers in the low 60% range, which is far from optimal, meaning that nearly 40% of the time, a PT bus will be 6 or more minutes behind schedule at a published timepoint. This is a bit misleading, in that the scheduler for PT deliberately creates “tight” schedules to keep the buses moving and places any available “extra” time at the end of each trip, at the transit centers where restrooms are available and time can be maximized for passenger transferring. If the AVL report could be altered to look only at the first and last stops along each route, the OTP rate would improve. Other notables in this Early 2016 OTP Report include:

- Deadhead times (buses to/from yard) are a part of the base report – disregard this line as this does not impact the passengers
- Route 1 features a 10% Early ratio, which is unacceptable and under monitoring
- Route 2 was further “tightened” by the scheduler in advance of the Transit Signal Priority (TSP) Pilot Corridor Project in August 2015. Unfortunately, the TSP project was delayed a few months, causing OTP to worsen on Route 2.

- Route 5 (formerly 1T) also shows a 12.5% Early ratio, which is not ideal, but due to its role as a school bell oriented tripper route, is not as serious a problem. Scheduling will move minutes to fix in the next schedule change.
- Route 33 is the most reliable PT route, with 79% on-time performance.

In January 2014, reacting to requests for close-in service to the new East Washington Place Shopping Center (Target) the Western end of the “dual timed pulse” system was broken apart in order to add more minutes onto the running time cycle of the interlined Routes 24 and 1. This not only allowed new service along Kenilworth Drive, at the front of the new shopping center, but also added needed minutes to the Route 24 segment on Lakeville Highway under the US 101 Freeway Bridge over the Petaluma River, which was under major expansion construction and causing severe traffic congestion and bus delays. This change meant that only a few of the Route 24 departures from Copeland Transit Mall actually “pulsed” with Route 11. This means that many connecting trips to/from Routes 1 and 24 to Route 11 (Crosstown) had to endure significant waits at Copeland, unlike before.

In the transit industry, and in Petaluma, the following criteria are used to evaluate on-time performance:

- **On-time:** defined as trip departure between no more than one minute prior to the published time and no more than five minutes past the published time.
- **Early:** defined as any departure more than a minute prior to the published scheduled time.
- **Late:** defined as any departure occurring six or more minutes after the published time.
- **Missed:** a trip that is not delivered, often in order to “reset” the buses on their routes and get the buses back on schedule after severe delays.

Factors that are challenging Petaluma Transit’s on-time performance include, in order of magnitude:

- Traffic congestion, especially in the afternoon school bell hour
- Lack of funding to mitigate OTP issues with more buses on longer running cycles
- Lack of transit signal priority to assist buses with schedule adherence
- Wheelchair/mobility device boardings/alightings
- Local road construction.

Route Descriptions and Analysis

A route-by-route analysis was conducted to identify strengths and weaknesses of the current (2015-16) route network.

Route 1

Route 1 provides weekday and Saturday service to Petaluma Boulevard, primarily from its northern extent at Gossage Ave , at the Gossage Park & Ride and the Petaluma Village Premium Outlets, to the entry to the Quarry Heights neighborhood at the southern edge of the west side of Petaluma. The Route serves downtown, stopping at the Phoenix Theater and Petaluma Market, Fourth and C, and the Transit Mall.

This route serves the fairly productive Petaluma Blvd. North Corridor, with its most productive stop at the Factory Outlets, then traverses Downtown albeit in a uni-directional manner going southbound to the lightly used Petaluma Blvd South segment. To illustrate this, the stops a passenger would use to board the Route 1 to go to the Factory Outlets are located at Copeland Transit Mall, and E. Washington at the “River Stop” by the River Apartments. It is not possible in the current alignment to board the Route 1 in Downtown proper to travel to the Factory Outlets or any Boulevard North destinations, due to the one-way configuration of the route and its interlining with Route 24 upon its completion of its route at Copeland Transit Mall.

Prior to 2010, Route 1 was combined with what is now Route 5 (formerly Route 1T until 2015) to provide service on two half-hour variants, 1S and 1N, both featuring extremely low productivity, especially outside school bell times. This configuration was transformed in 2010 to the all-day, Petaluma Boulevard oriented Route 1, and the school bell focused Route 5 (1T). Route 1 ran on clockface hourly schedules from 2010 to 2014, when, due to severe construction-induced congestion on the interlined Route 24, 15 additional minutes were added to the 1/24 to produce 75 minute (non-clockface) headways. This service scheme was a temporary measure and is planned to undergo a major transformation with the start of SMART service.

Highest Productivity: Factory Outlets, Pet Blvd North at Magnolia

Lowest Productivity: Petaluma Blvd South, PBN between Downtown & Magnolia

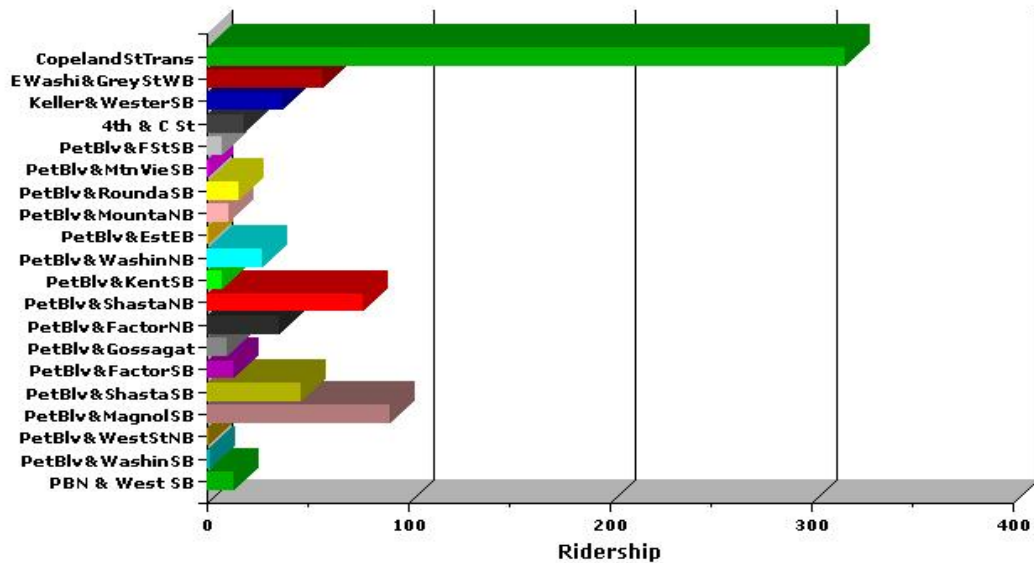
The Avail-generated ridership by stop for Route 1 is shown below. This analysis reports rides by Route and by stop. Copeland Transit Mall is by far the most used stop on Route 1, with other busy stops on PBN at Shasta NB, PBN at Magnolia SB, and the Factory Outlet

stops. Note the very poor ridership on PBS, with only PBS at the Quarry Heights Roundabout and PBS at Mtn. View Northbound showing significant boarding activity.

Penry Park in Downtown Petaluma, on Route 1



Figure 4: Ridership by Stop, Route 1 (Oct. 2015)



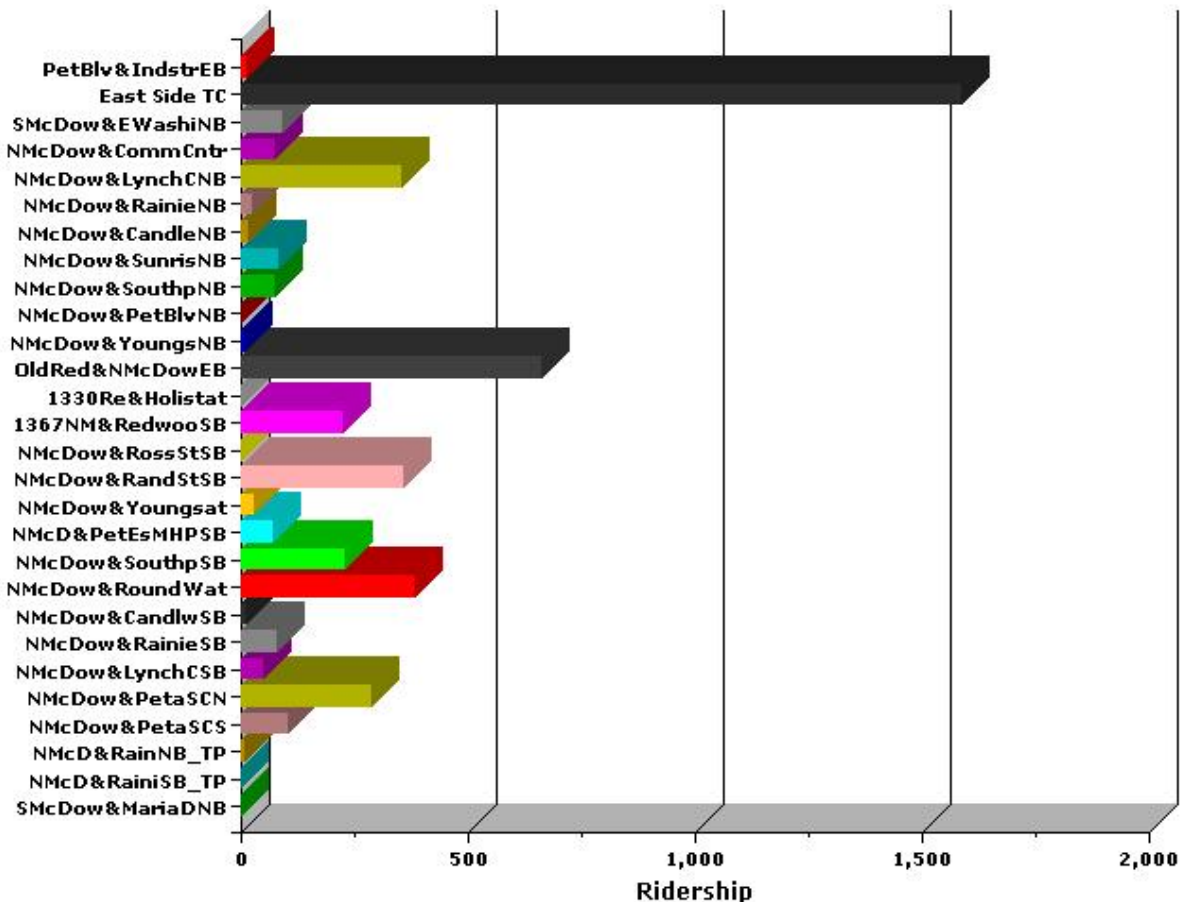
Route 2

Route 2 provides service to North McDowell Boulevard, from the Eastside Transit Center (ETC) at Maria Drive in the south, to Old Redwood Highway in the north. Located along this route are Petaluma Valley Hospital and adjacent medical offices, the Petaluma Health Center, a post office, several retirement communities, major retail centers, and the employment-rich area around Old Redwood Highway. Route 2 also features an important transfer point to and from Sonoma County Transit at the IHOP on Old Redwood Highway.

Highest Productivity: ETC, Petaluma Plaza SC, Petaluma Health Center, Lynch Creek (medical), Old Redwood Highway at McDowell (IHOP) transfer point to SCT 44/48

Lowest Productivity: North McDowell between Professional & Candlewood (MHP)

Figure 5: Ridership by Stop, Route 2 (Oct. 2015)



Route 3 / 33

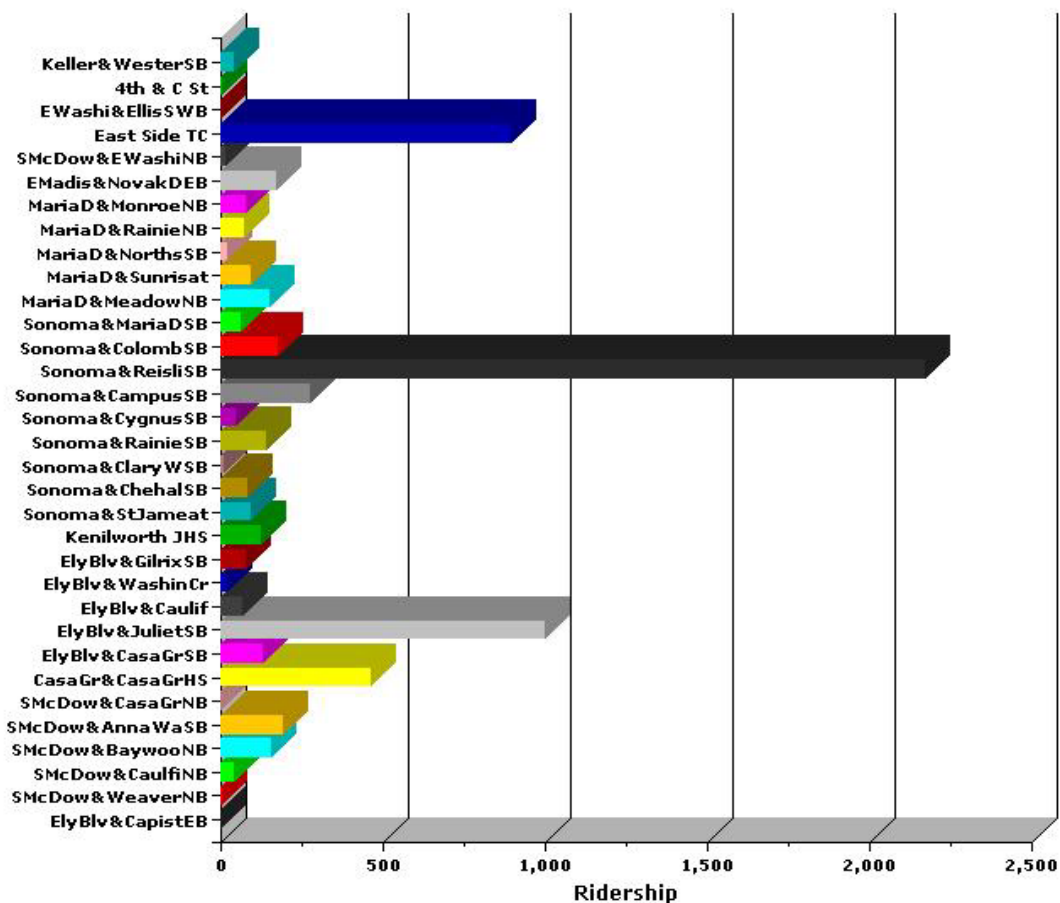
This route sees significant ridership from Casa Grande High School and Kenilworth Junior High School, and the Petaluma Campus of the Santa Rosa Junior College. Routes 3/33 also serves to provide access to Petaluma's major retail centers from the primarily residential areas of the East side, east of McDowell.

Highest Productivity: 3T at PM school bell times at KJHS & CGHS, ETC, SRJC, S. McDowell

Lowest Productivity: N. Maria Drive Segment, SMP between SRJC & Washington

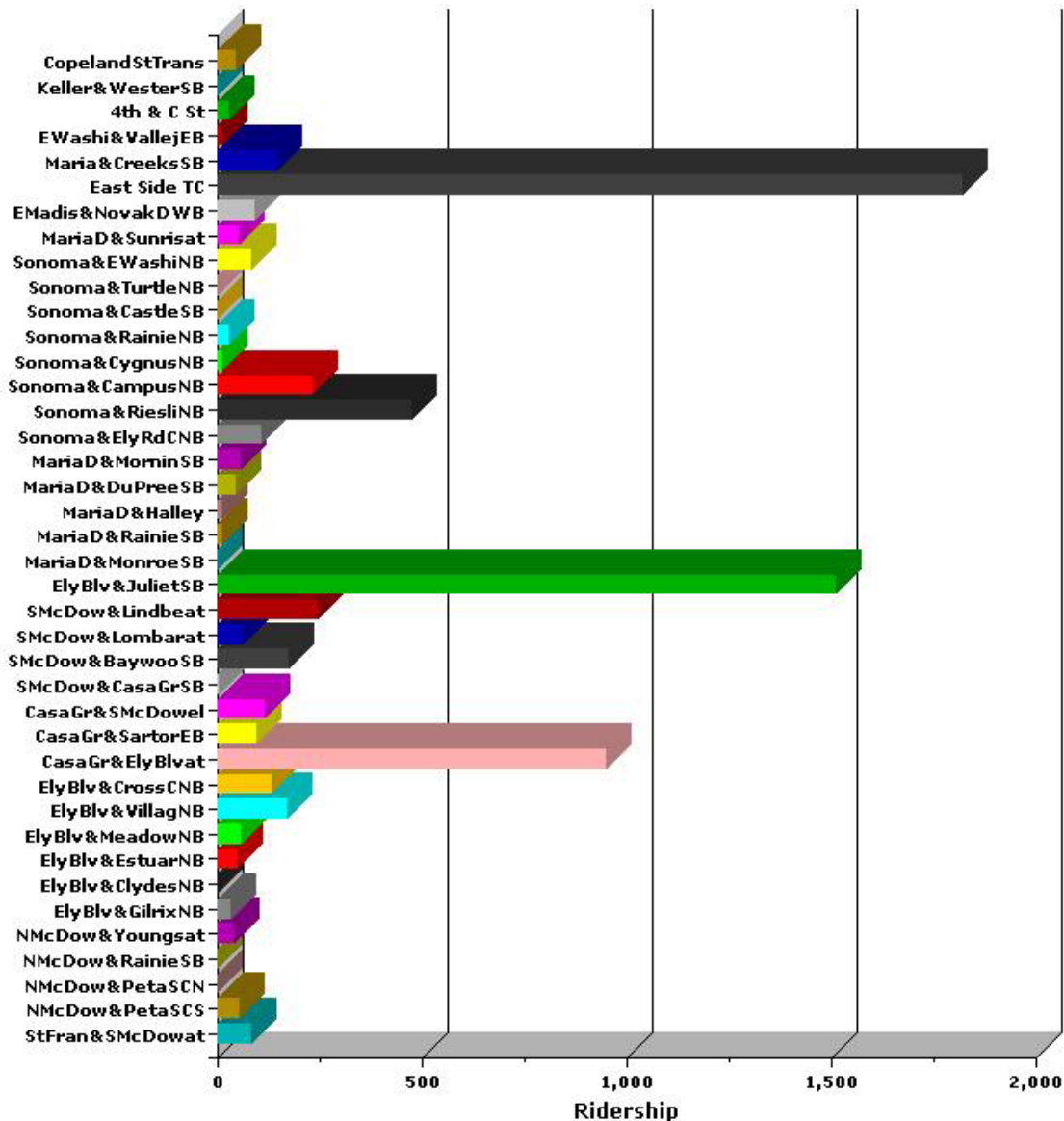
Both Routes 3 and 33 follow nearly identical alignments, and see significant ridership from Casa Grande High School and Kenilworth Junior High School, and the Petaluma Campus of the Santa Rosa Junior College. Other notably busy stops include S. McDowell at Lindberg Lane, Baywood Drive, and St. Francis and Maria Drive at Creekside. Ridership on the North Maria Drive segment is sparse with the exception of the Meadow School area.

Figure 6: Ridership by Stop, Route 3 (Oct. 2015)



Route 3 differs from Route 33 mainly in a higher % of boardings at ETC, and more productivity along Sonoma Mtn. Parkway south of the SRJC, and on North Maria Drive.

Figure 7: Ridership by Stop, Route 33 (Oct. 2015)

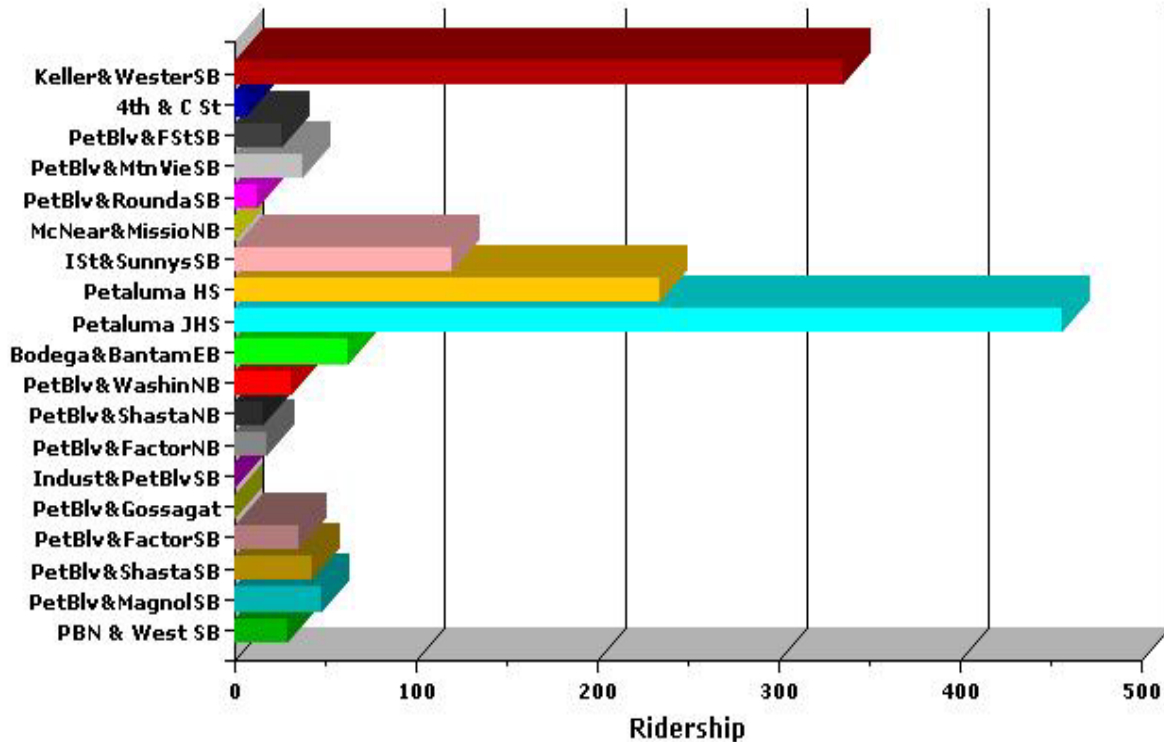


Route 5

The Route 5 (formerly Route 1T) alignment serves the residential neighborhoods on the west side of Petaluma, Petaluma High School and Junior High School, as well as areas along Bodega Avenue and Petaluma Boulevard, near St. Vincent High School. The 5 operates 6 trips per day, at the school bell times, and is highly productive on schooldays.

Route 5V is an extension north on Petaluma Boulevard of Route 5, serving the morning bell time at Headwaters Academy at Industrial Ave. The 5V happens once per weekday for the AM bell. The PM bell at Headwaters Academy is served by a variation of the Route 2. This was implemented to address input received from students at PJHS who had some negative experiences with students from Headwaters riding on the same bus in the PM.

Figure 8: Ridership by Stop, Route 5 (Oct. 2015)



Route 5 has its busiest stops at the two major schools, and at the Keller & Western (Petaluma Market) stop, where the 5 meets the Route 11 for crosstown transfers before and after school. Outside these stops, and as a proxy for where Route 5 riders live, I Street & Sunnyslope, Bodega & Bantam, and the Route 1 stops along PBN are all productive.

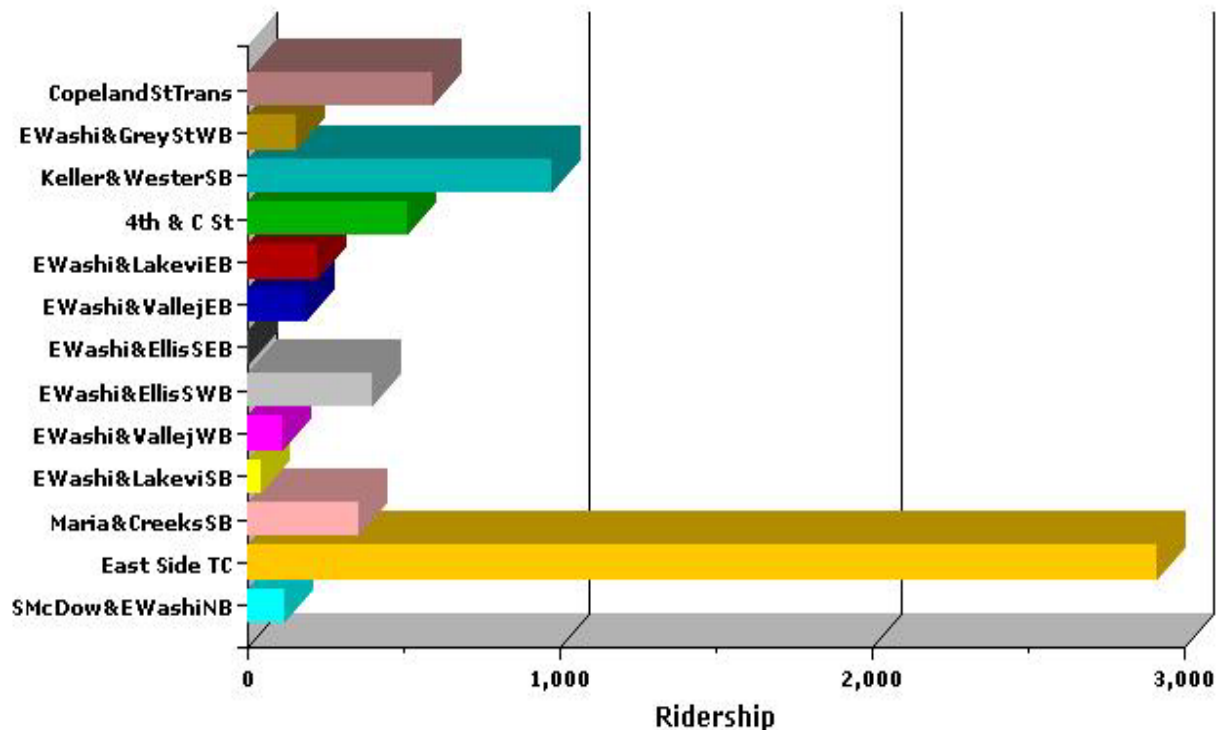
Route 11

Route 11 provides a connection between the east and west sides of Petaluma, linking up with Route 1 downtown at Petaluma Market, 4th and C, and the Copeland Transit Mall, with Route 24 at the Transit Mall, and with Routes 2, 3, and 33 at the Eastside Transit Center. The alignment serves Downtown via Washington Street, Keller, 4th & C, and D Street, then easterly from the Copeland Transit Mall, along Washington, serving the Library, Whole Foods, the Swim Center/Library, and the Eastside Transit Center (ETC) at the Washington Square (Safeway) Shopping Center.

Highest Productivity: Eastside Transit Center (ETC), Downtown, Copeland, Library

Lowest Productivity: Washington & Lakeville

Figure 9: Ridership by Stop, Route 11 (Oct. 2015)



Route 11 ridership shows the dominance of the Eastside Transit Center (ETC) followed by the emerging Keller & Western (Petaluma Market) Downtown stop, which has evolved as a transfer point between Route 11 and the Route 5, with bulk transfers occurring at the main bell time trips of Route 5. Copeland Transit Mall is also a busy stop on Route 11, as is 4th and C, E. Washington and Ellis (Fairgrounds), and Maria at Creekside near the Eastside Transit Center.

Route 24

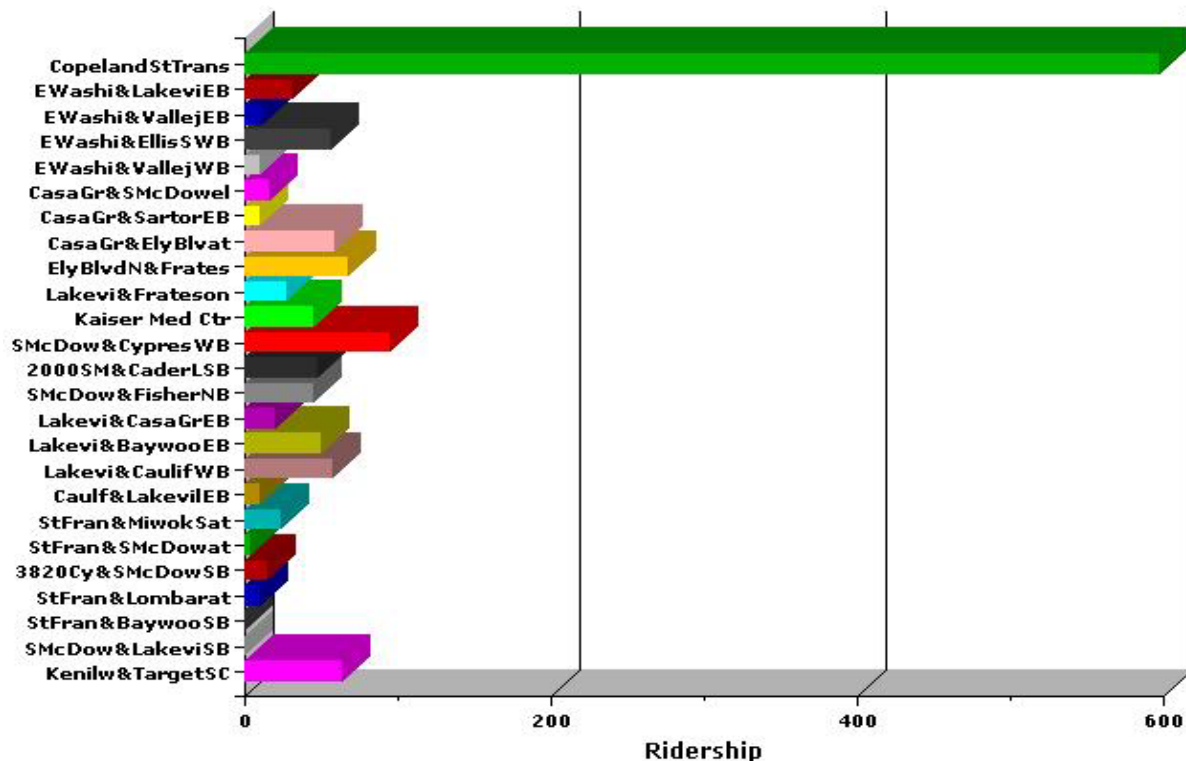
Route 24 serves the Lakeville Highway corridor, from the Copeland Transit Mall out to the Kaiser Medical Offices, at the southeast edge of town. South of Lakeville and Caulfield, the route is largely a one-way loop, with the legacy outbound alignment serving St. Francis Drive, Casa Grande Road, and Ely Blvd, providing service to Casa Grande High School. The Route then loops out to the Kaiser Medical Offices, provides service to the large Lakeville Office Park, then returning via Lakeville Highway, serving the Gateway Shopping Center,

and then returns to the Transit Mall via Lakeville Hwy. This route is challenged by the high percentage of one-way loops, and is being modified to be more bi-directional to better serve the SMART station.

Highest Productivity: Kaiser, Copeland Transit Mall, Lucky's SC, Casa Grande HS

Lowest Productivity: St. Francis Segment, Lakeville between S. McDowell & Caulfield

Figure 10: Ridership by Stop, Route 24



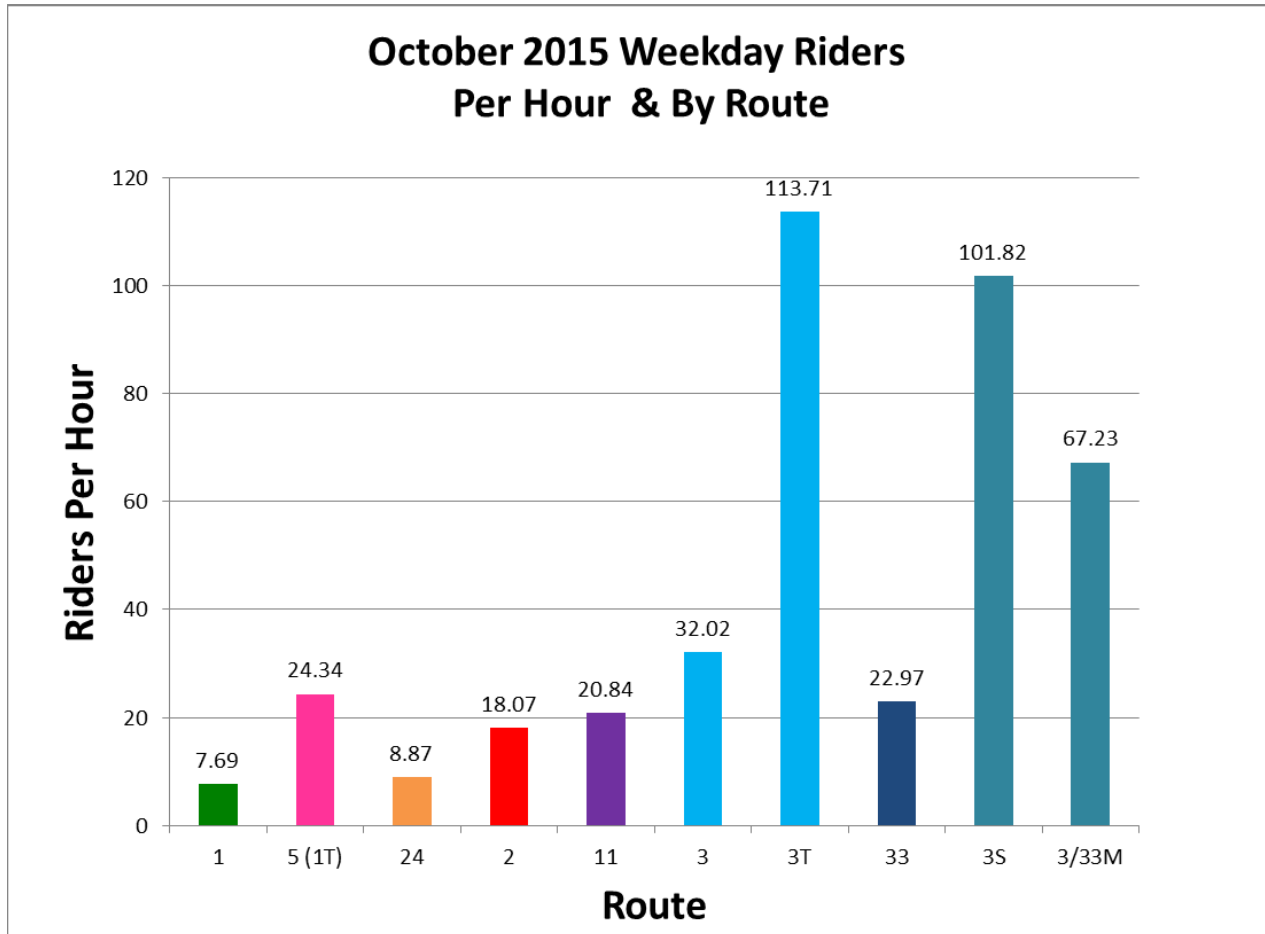
Route 24 ridership is predominantly from Copeland Transit Mall, indicating a high percentage of people accessing Route 24 from another PT bus, most likely Route 11. The unsigned stop at S. McDowell Extension and Cypress (Mrs. Grossman's) along with Lakeville & Caulfeld, Lakeville & Baywood, and Ely & Frates, and the Target Shopping Center stop on Kenilworth Drive are Route 24's most productive stops.

Eastside Trippers

Route 3T is a twice-daily Tripper (extra trip) running between the Kenilworth Junior High School and Casa Grande High, providing double capacity during this high-demand period at PT's two highest ridership schools. Unfortunately, at this time the Avail data is unavailable

to isolate the 3T/33T/3S/33M tripper data from the base Route 3/33 data. However, this overall ridership graphic shows the incredible productivity of these bell-time services.

Figure 11: October 2015 Weekday Riders (Per Hour & By Route)



These trippers in general carry over 100 passengers per hour based on their innovative design to closely meet the needs of local students. The graph above shows the impacts felt by PT of the local student commuter markets, as the most productive routes are all enhanced by, or purely driven by student boardings (even 3/33 enjoys a bump in ridership around bell times, and Route 5 is the west side tripper mainly used by students).

Service Evaluation

Petaluma Transit like many smaller transit agencies has struggled to obtain a high level of detailed ridership/productivity data historically. However, with the recent implementation of the Avail Technologies AVL/CAD System (Automated Vehicle Location/Computer Aided Dispatch) a huge volume of daily stop-level, and trip-level data is beginning to appear. Hence, some of the data presented here is very recent and lacking historical background, but helpful to construct the overall system performance story of Petaluma Transit. Staff then uses actual system performance data comparatively against City-adopted performance standards (revised performance standards contained herein as Chapter 2). Figure 11 presents productivity by route, measured by the number of total boardings divided by the revenue hours of service. This fresh sample was taken from October 2015.

As is shown, Petaluma Transit's most productive routes are the bell-time oriented "tripper" routes that are added as overlays onto existing routes (Shadow, 3T, 33M) or run only at bell times (Route 5). This is consistent with the data contained in the 2012 Short Range Transit Plan, as shown below as Figure 5. It should be noted that other routes, beyond the trippers (3T, Shadow, 3/33M), carry a significant amount of student commuters daily, particularly (regular) Routes 3 and 33, both of which would be below Routes 2 and 11 in overall productivity were it not for their bell time trips that serve riders at Casa Grande HS and Kenilworth JHS. Of the routes that are relatively un-impacted by school bell ridership, Routes 2 and 11 are very productive all day long (averaging around 20 riders per revenue hour in their long spans of service) while Routes 1 and 24 lag far behind. It should be noted that PT's main trunk routes (11, 2) are producing at or above 20 riders per hour, which is very successful in a suburban environment.

Service frequency attracts riders, providing that the demand in that area supports service. Routes 2 and 11 run every half hour all day, and Route 3 and 33 cover the same alignment in opposite directions to provide a "net 30 minute frequency". Petaluma Transit's only two routes that run a lifeline-level, less than half-hourly frequency, are Routes 1 and 24. These routes are and always have been in recent years the worst performers in the system, with slightly above and under 10 passengers per hour respectively. AS noted earlier in this plan, in January 2014 15 additional minutes were added to the (interlined) cycle times for the 1/24 bus, diluting frequency even further from hourly, to every 75 minutes. It is difficult to predict how productivity would react on these routes should frequencies be increased in the future but there is little doubt that customers who use Routes 1 and/or 24 would like to see more frequent service.



Table 3 presents performance measures and indicators for the entire fixed-route service. The measures and indicators were evaluated across a nine-year period facilitating trend analysis.

Items of note on Table 3 include:

- 17% increase in operating cost compared with a 38% increase in revenue hours; this is a direct result of streamlining of operations through a single contract and the more efficient route network implemented in 2010.
- 82% rise in passengers compared with a 62% rise in fare revenue; this is attributable to the easier and free transfers between routes and the greater use of monthly and quarterly flash passes. This can also be seen in the 38% increase in productivity compared with the 11% decrease in average fare per passenger.
- Declining cost per hour is due to the streamlining of the operations contract and expansion of hours, plus the reform of cost allocations, which historically were over-allocated to fixed route.

Table 3: Fixed Route Performance Trends FY06-FY15

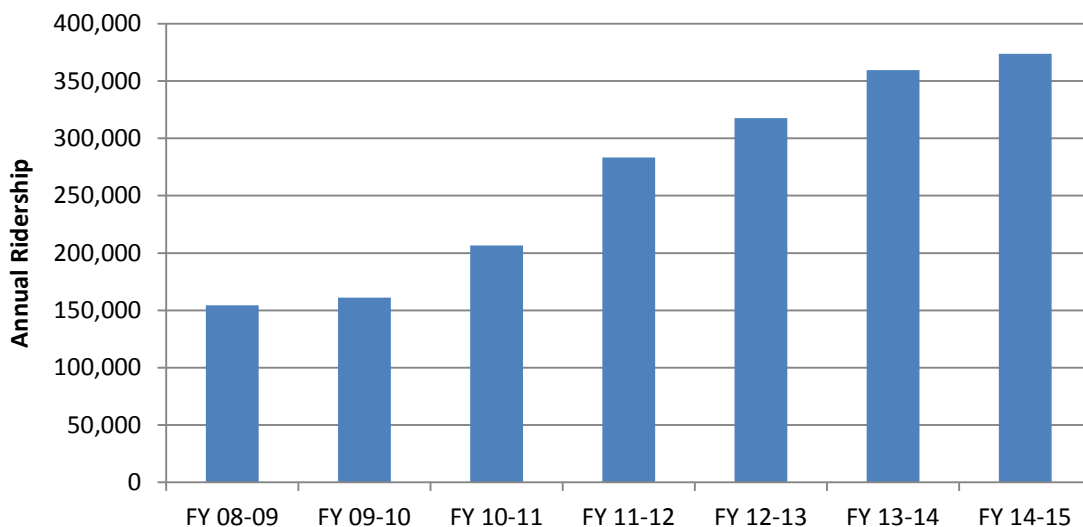
Performance Measure	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Proposed Standard	Change FY11 to FY15	% Change FY10 to FY15
Fixed Route Performance Indicators													
Operating Cost	\$1,061,228	\$1,190,068	\$1,534,447	\$1,395,999	\$1,420,418	\$1,178,637	\$1,253,316	\$1,156,505	\$1,367,877	\$1,374,835		\$196,198	17%
Fare Revenue	\$126,168	\$132,620	\$126,363	\$134,408	\$130,032	\$138,370	\$170,639	\$195,914	\$218,933	\$224,011		\$85,641	62%
Revenue Vehicle Hours	14,700	11,894	15,410	15,606	15,804	13,498	14,063	15,881	17,118	18,620		5,122	38%
Revenue Vehicle Miles	193,000	158,011	205,663	192,531	198,334	186,383	195,453	215,751	227,229	246,124		59,741	32%
Passengers	160,800	160,782	159,738	153,357	161,337	205,512	283,554	317,671	359,520	373,950		168,438	82%
Operating Cost/Revenue Hour	\$72.19	\$100.06	\$99.57	\$89.45	\$89.88	\$87.32	\$89.12	\$72.82	\$79.91	\$73.84	\$85.00	-\$13.48	-15%
Operating Cost/Passenger	\$6.60	\$7.40	\$9.61	\$9.10	\$8.80	\$5.74	\$4.42	\$3.64	\$3.80	\$3.68	\$4.50	-\$2.06	-36%
Passengers/Revenue Hour	10.9	13.5	10.4	9.8	10.2	15.2	20.2	20.0	21.0	20.1	20.0	4.9	32%
Passengers/Revenue Mile	0.83	1.02	0.78	0.80	0.81	1.10	1.45	1.47	1.58	1.52	1.33	0.42	38%
Farebox Recovery	11.9%	11.1%	8.2%	9.6%	9.2%	11.7%	13.6%	16.9%	16.0%	16.3%	20.0%	4.6%	39%
Fare/Passenger	\$0.78	\$0.82	\$0.79	\$0.88	\$0.81	\$0.67	\$0.60	\$0.62	\$0.61	\$0.60	\$0.70	-\$0.07	-11%

Ridership Trends

After many years of stagnation around 150,000 to 165,000 annual boardings, ridership has been on a dramatic rise since 2010, but slowed noticeably in 2015. The Great-Recession driven revamping of the route network around a new, eastside transit “hub” that occurred in July 2010 has dramatically impacted Petaluma Transit for the better, as Figures 13-19 depict.

However, the leveling off of ridership growth in the last year is troublesome. While the causes are not clearly defined, it is likely an accumulation of headwinds such as: continued free parking throughout the community, the financial inability of Petaluma Transit to provide better frequencies to attract the true “choice rider”, and a notable drop in gasoline prices. Petaluma is located in the northern sector of the Greater San Francisco Bay Area, an area traditionally known as transit friendly and urbanist, but is still very much a suburban, auto-centric society that generally turns to public transportation only when driving alone is not an option, or would be more expensive or slower than using transit. Petaluma offers free parking and at a macro level does very little to dissuade auto usage. Thus, Petaluma Transit’s market remains those who cannot drive or do not have access to a car, due to age, disability, or income. Making matters bleaker is the recent enrollment losses suffered by the local school systems. It appears that a rapid rise in local housing costs may be driving people of more limited means (local transit’s main market) out of town to more affordable locales to the north and east of Petaluma.

Figure 12: Total Fixed Route Passengers FY 2008-09 to 2014-15



Both Figure 13 and Figure 14 highlight the more efficient and rider-friendly system developed in 2010 (impacts FY 2011 and later) and the recent leveling off of ridership growth. The productivity declines shown in FY15 are a combination of slightly lowered productivity on weekdays, plus the addition of night service that began in August 2014. Night service is rarely as productive as service during the day, and was anticipated to lower overall system productivity.

Figure 13: Passengers per Revenue Vehicle Hour

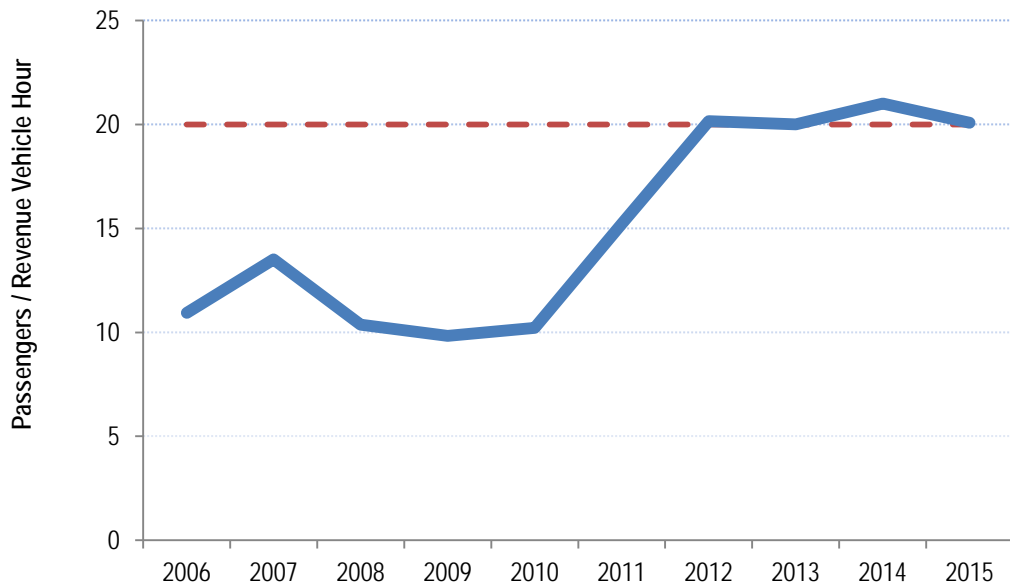
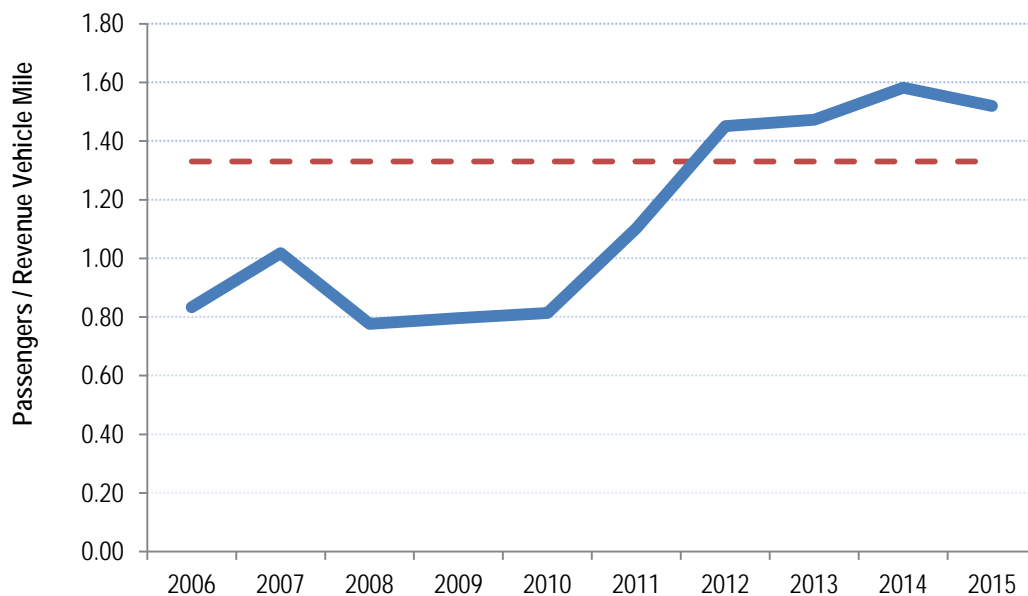


Figure 14: Passengers per Revenue Vehicle Mile

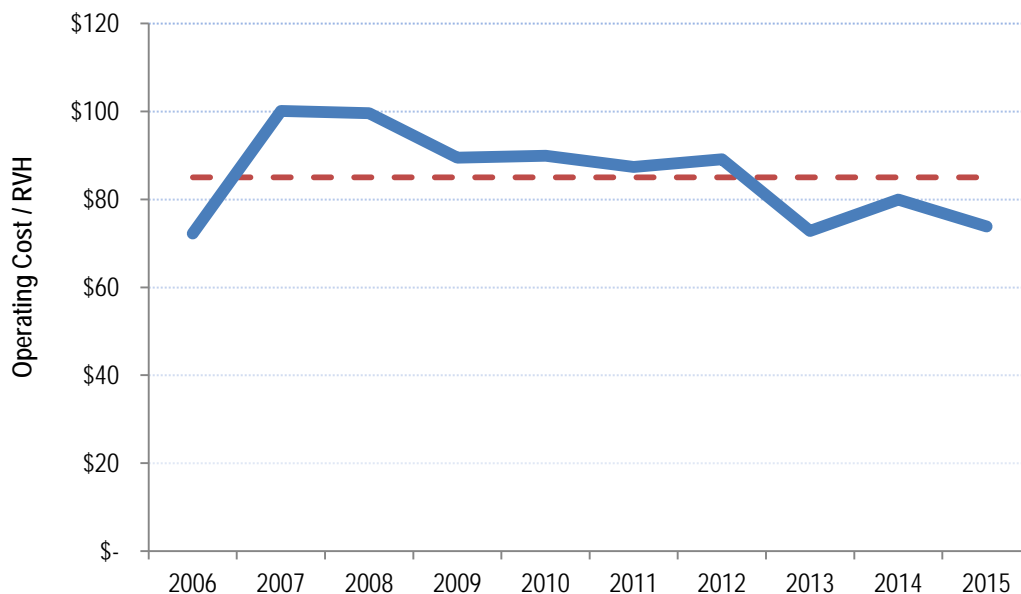


Operating Cost/Vehicle Service Hour

Operating Cost/Vehicle Service Hour (VSH) is an indicator of service efficiency. Efficiency is defined as the extent to which a service is meeting the intended goals. Operating costs have generally declined, due to the streamlining of contracts into a single vendor, plus the addition of service hours and adjustments to cost allocations. Intergovernmental fees charged to Petaluma Transit by the City of Petaluma for finance, information technology, and general overhead have fluctuated over the years, dropping in FY 10, but rising over time since FY 12, primarily due to increased IT support required for the new paratransit dispatch software, additional City computers & phones, website updates, and most recently, support for AVL/CAD System and the integration of Clipper. In spite of these increased intergovernmental fees, and the addition of a grant-funded marketing position in 2013, PT's fully loaded operations costs of \$74 per revenue hour in FY15 remains among the lowest of all Bay Area transit agencies. This is also an indication of the remarkably "lean" nature of Petaluma Transit, with both City and Contractor staffing at a very low level.

Figure 15 shows how fixed route operating costs per hour have trended in recent years. The chart traverses the later part of the previous decade, when the labor force organized, as well as fuel increased, then into the streamlining efforts that saved money in the 2010 timeframe, and through the recent years of system growth and economic recovery.

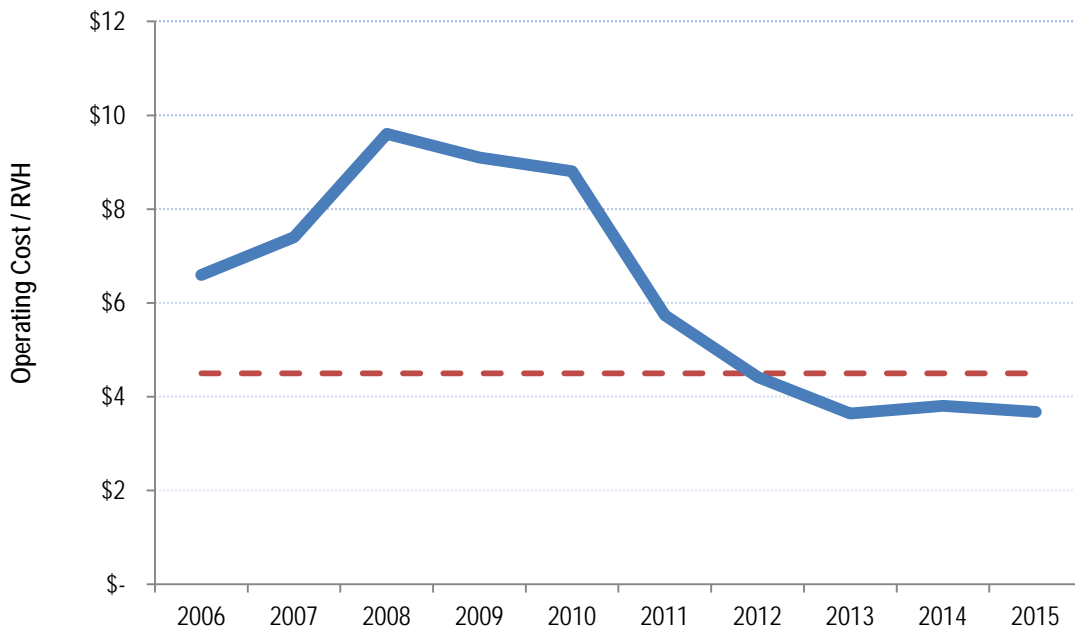
Figure 15: Operating Cost per Revenue Vehicle Hour



Operating Cost/Passenger

Operating Cost/Passenger is yet another indicator intended to assess cost-effectiveness. As Petaluma Transit becomes an attractive system to use (realistic schedules, customer friendly connections, shorter waits and shorter travel times), the cost per passenger dropped over 50% in the period 2008-13, and has remained fairly level since.

Figure 16: Operating Cost per Passenger

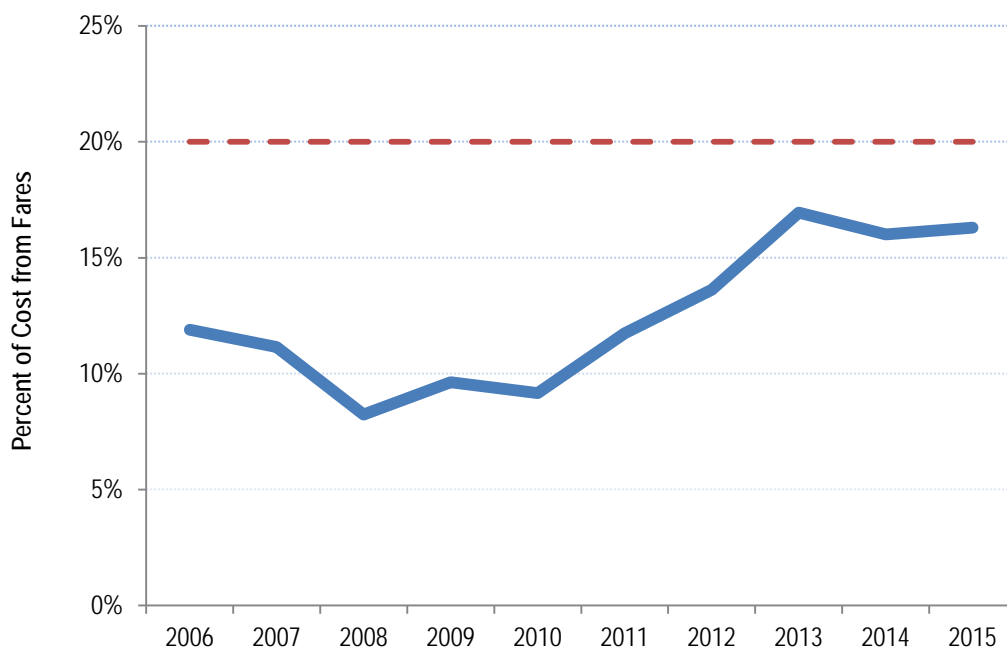


Farebox Recovery

Subsequent to the 2000 Federal Census, the City of Petaluma was re-classified from a non-urbanized to an urbanized area. According to the State of California's Transportation Development Act (TDA) regulations, if the claimant is categorized as urbanized area, it must maintain a ratio of fare revenue to operating cost of not less than 20 percent. The MTC includes all local option sales taxes, including Measure M in Sonoma County, into the local contribution and farebox calculation. Based on this inclusion, the City is in full compliance with the 20 percent farebox ratio (FBR) standard (27.7 percent in FY15). Without the inclusion of Measure M, the City reached a farebox recovery of 16.3 percent in FY15. Without a significant fare or ridership increase in the near future, a farebox recovery ratio of 20 percent without Measure M funds is unlikely to be attained. Fares have been raised once since the last SRTP (2012), in 2014; prior to that the last increase was 2010, a total of twice in five years. However, to induce usage of flash passes (and speed up the

boarding process), the price of monthly and quarterly passes has **not** been raised over the 10-year period.

Figure 17: Farebox Recovery Ratio: Fare Revenue / Operating Cost

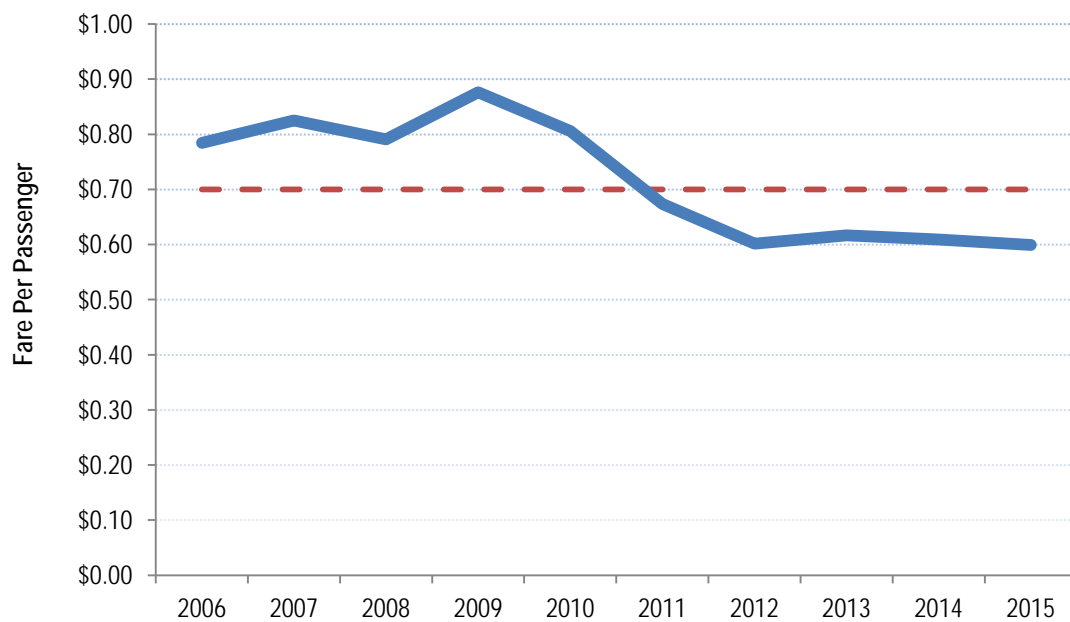


Fare/Passenger

The final performance indicator we analyzed was the ratio between total fare revenue and total passenger counts. This negative trend is attributed to the great increase in transferring passengers that occurred when the new ETC (Eastside Transit Center) was created in the middle of the service area. Prior to the ETC, transfers were very difficult to make, and most PT riders didn't bother. They would simply wait longer or walk farther, rather than no real connectivity existed on the Eastside (only downtown at 4th & C). Transferring passengers do not pay twice for the same one-way trip. So, while PT has many more passengers than before, the total fares collected has not risen at the same pace.

Pass sales have risen dramatically in the past several years, resulting in an overall lower average fare for riders than if they paid for single rides. The benefit of passes is the value to the customer AND the usage of flash passes significantly speeds up passenger boarding times. The latter benefit is critical to Petaluma Transit due to the increasing problems with on-time performance, especially at the timed transfer centers that make the system work. The heavy use of passes helps keep the on-time performance from further decline.

Figure 18: Fare per Passenger



1999 New Flyer in the Paint Booth – Circa 2014



CHAPTER 4 – Paratransit Service and System Evaluation

Service Overview

Petaluma Paratransit service was initially introduced and provided as a dial-a-ride service for the elderly and persons with disabilities by a local not-for-profit organization, Petaluma People Services Center (PPSC). With the introduction of the Americans With Disabilities Act (ADA) of 1990, jurisdictions providing public transit were required (under law) to provide (ADA) complementary paratransit service for persons, who because of a disability were unable to use general public transit services.

The City of Petaluma initially met this ADA requirement through a service agreement with PPSC. As demand and operating costs increased, Petaluma Paratransit evolved into a fully complementary, ADA paratransit service adhering to ADA regulated service policies and requirements. Section 4 of this chapter provides an overview of ADA service regulations and an assessment of Petaluma Paratransit's compliance with these regulations.

Today the service is fully integrated into Petaluma Transit and operated from the City's 555 North McDowell Blvd facility along with fixed route transit service through a single service agreement with MV Transportation Inc. (MV). Petaluma Transit (the City) is responsible for: policy development; budgeting and budget control; service monitoring, evaluation and planning; fleet procurement; the provision and support of paratransit scheduling and management reporting software; service procurement; contract administration; service marketing; and contract compliance oversight. MV is responsible for: staff hiring, training and ongoing supervision; trip booking, scheduling and dispatch; fare collection and reconciliation; management report preparation; and public information; as well as fleet maintenance and operations. The current five year service agreement between the City and MV went into effect July 1, 2011. The current service agreement has a provision for two additional optional years beyond the five year base. The current contract cycle ends June 30, 2016. Petaluma Transit management and MV are currently discussing a proposal to extend the current contract for the first optional year from July 1, 2016 to June 30, 2017.

Current Policy Framework

Petaluma Paratransit's policy framework reflects the City's philosophy to operate a user-friendly, ADA compliant and efficient demand-response service that effectively accommodates the local travel needs of residents and visitors that cannot use fixed route transit because of a disability. The Petaluma Paratransit Riders Guide (2015-2016) was

updated in May 2015 providing additional clarification on a wide range of service policies and trip booking procedures.

Key Policy Elements

Service Area

Petaluma Paratransit service area includes all trip origins and destinations within the Petaluma urbanized area as well as areas outside the City Limits that are within $\frac{3}{4}$ mile of an active Petaluma transit fixed route.

Service Hours Span

Service is available Monday through Friday from 6:15 a.m. to 10:15 p.m., Saturday from 7:20 a.m. to 10:15 p.m., and Sundays from 8:20 a.m. to 5:45 p.m. Service is not provided July 4th, Thanksgiving Day, Christmas Day and New Year's Day.

Eligibility

Service is available to ADA certified Petaluma residents and visitors. ADA eligibility is based on an individual's inability to use Petaluma Transit fixed route buses because of a disability or health condition. Eligible persons must register in advance.

Beginning in 2013, in-person functional assessments have been conducted to determine eligibility. The introduction of functional assessments was an important demand management initiative to control demand for paratransit and to support a shift in demand to fixed route transit by persons with disabilities and the elderly.

Trip Booking

Trips can be booked up to one-week in advance from: 9:00 a.m. to 5:00 p.m. Monday through Saturday; and 9:00 a.m. to 3:00 p.m. on Sundays (excluding those holidays that Petaluma Transit is not operating). To be considered as an ADA regulated trip, advance ride requests must be made at least one-day in advance, but no later than 5:00 p.m. the day before the ride date. No advance trip request made one-day to one-week in advance can be denied. However, pick up or drop off time can be negotiated in accordance with ADA regulations.

Subscription reservations are offered on a limited basis for trips that recur weekly at the same time to and from the same addresses. Same-day service is provided on a space available basis. Subscription and same-day service are not required under ADA regulations.

Cancellation Policy

Cancellations need to be communicated at least two hours in advance of the scheduled pick up time. Cancellations made less than two hours in advance are categorized as a late cancellation and subject to a possible penalty under the No-show Policy.

No-show Policy

No-shows include late cancellations and trips cancelled at the door. A pattern of no-shows can result in service suspension. Suspensions will be based on both the frequency of an individual's rides and the frequency of his or her no-shows, in order to determine if a true pattern or practice exists. Suspensions can apply to advance, subscription and same-day trips.

The process described below results in a suspension for three no-shows/late cancellations. All no-shows listed below occur within any floating 90-day period and do not include "excused situations" as agreed upon in advance by the client and Petaluma Paratransit staff:

1. **First No-show/Late Cancel:** The no-show or late cancellation will be entered into the rider history.
2. **Second No-show/Late Cancel:** A letter will be sent stating the dates and times of both no-shows and informing the rider of the suspension policy.

After two no-show/late cancel incidents, the client will be monitored to ensure that their number of no-show and late cancellations does not constitute over 10% of their trips. At such a time as the no-shows/late cancellations do exceed 10% of client trips, the following steps will be taken:

1. **Third No-show/Late Cancel:** After three no-show/late cancel incidents, if these constitute over 10% of the trips taken by the client, a letter will be sent stating the dates and times of all no-shows and will notify the passenger of the one week suspension. This letter will include a copy of the appeal process. Petaluma Paratransit staff will then contact the passenger to determine the dates of the suspension period. The suspension is applicable to all trips provided by Petaluma Paratransit.
2. **Fourth No-show/Late Cancel:** After four no-show/late cancel incidents, if these constitute over 10% of the annual trips taken by the client, a letter will be sent stating the dates and times of all four no-shows and will notify the passenger of the

two week suspension. This letter will include a copy of the appeal process. Petaluma Paratransit staff will then contact the passenger to determine the dates of the suspension period. The suspension is applicable to all trips provided by Petaluma Paratransit.

Suspensions will not be imposed for circumstances that are beyond the rider's control. Examples of situations not within their control are:

- A sudden personal emergency.
- Sudden or worsening illness.
- Late arrival of the vehicle.

Service Suspension for Abusive or Disruptive Behavior

Service will immediately be denied on a long-term basis to passengers who engage in violent, seriously disruptive, or illegal conduct directed at other riders or Petaluma Paratransit staff. Conduct includes, but is not limited to: threats or fear of physical or verbal abuse; unlawful harassment, including unwelcome verbal, nonverbal, or physical behavior having sexual or racial connotations; unauthorized use of equipment on the vehicle; voluntarily and repeatedly violating vehicle-riding rules, including smoking in the vehicle, eating or drinking without medical indication, or defacing equipment. Suspensions will not be imposed for disruptive behavior caused by a disability.

Fare Policy

The current Petaluma Paratransit fare structure is:

Cash	\$3.00/one-way passenger trip \$6.00/round passenger trip
Rider Card	\$33.00 per card for 12 one-way trips

All ADA registrants and companions are required to pay fares. Under ADA regulations, personal care attendants (PCAs) are not required to pay fares. It is assumed that PCAs provide required assistance to the rider beyond the responsibilities of the paratransit driver.

Driver Assistance

Drivers provide assistance on and off the paratransit bus including the securement of mobility devices, as well as assistance to and from the main door of the trip origin and destination. Any assistance beyond the driver responsibilities will be provided by a PCA or companion.

On Time Performance

Ninety percent of all trips will arrive within 15 minute before or 15 minutes after the scheduled and confirmed pick up time.

Dwell Time

When picking a passenger up, drivers will wait up to five minutes within the 30-minute pick-up for the rider to be ready to board. If the passenger is not ready within five-minutes of the bus arrival, the driver may depart and record the rider as a no-show.

Current Operating Framework**Paratransit Staff Resources**

There are currently three full time and three part time drivers, as well as one casual extra board driver providing paratransit coverage. Five dedicated dispatchers and road supervisors provide dispatch coverage for both fixed route and paratransit operations. In addition, MV's Contract Manager provides back-up or overload coverage on an as required basis. Dispatch duties can range from window dispatch and incident management for both services as well as paratransit trip booking, scheduling, radio dispatch and rider call backs to confirm bookings. Given the scale of operation, dispatch and road supervisors act in "utility player" roles covering a wide range of functions as required.

There is dispatch center coverage seven days a week from:

- 5:45 a.m. to 22:30 p.m. Monday through Friday.
- 6:45 a.m. to 22:30 p.m. on Saturdays.
- 7:45 a.m. to 5:30 p.m. on Sundays.

Dispatchers or road supervisors will sometimes operate either a paratransit bus or a road supervisor vehicle to provide evening service if there is insufficient demand to support regular paratransit service.

Fleet and Bus Maintenance

Petaluma Transit provides a fleet of seven City-owned paratransit cut-a-ways for Petaluma Paratransit service. Current maximum bus pull-out is seven buses. A non-revenue Road Supervisor vehicle is periodically used as back-up or in situations where paratransit vehicles are running late. Two additional cut-a-ways are being ordered, for delivery in Winter 2017. Fleet maintenance is provided by the current contractor, MV at the 555 North McDowell Blvd facility. Table 4 provides a summary of the current Petaluma Paratransit fleet.

Table 4: 2015 Active Petaluma Paratransit Service Fleet¹⁰

Vehicle #	Year	Make	Length	Type	Fuel	Seating	W/C	Replace Year
12	2010	Ford E450	24	Cut-a-way	Gas	12	3	2015
14	2011	Ford E350	22	Cut-a-way	Gas	8	3	2016
15	2012	Ford E350	22	Cut-a-way	Gas	8	3	2017
16	2012	Ford E350	22	Cut-a-way	Gas	8	3	2017
11	2013	Ford E450	24	Cut-a-way	Gas	12	3	2018
13	2015	Ford E450	24	Cut-a-way	Gas	12	3	2020
17	2015	Ford E350	22	Cut-a-way	Gas	8	3	2020

Trip Scheduling and Dispatch

Petaluma Paratransit trips are booked, scheduled and dispatched using Trapeze NOVUS (Version 2.1.15) software. Trapeze NOVUS was first introduced in Fall 2011 and recently updated in November 2014.

NOVUS is designed for smaller demand-response systems like Petaluma Paratransit. NOVUS was developed, and is provided and serviced by the Trapeze Group Limited. The Petaluma application was implemented with a mobile data terminal technology using onboard computer tablets to: enhance paper dispatch/driver manifests; enable real time dispatching; automate the collection of required daily operating statistics; and reduce radio communication between paratransit vehicle operators and dispatchers.

¹⁰ Unit 11 is used both for fixed route and paratransit.

There are two work stations, as well as the Project Manager’s office equipped with NOVUS terminals to process paratransit trip requests and cancellations. The City of Petaluma’s Transit Manager and Transit Specialist also have desktop access to the current NOVUS system. Table 5 summarizes dispatch coverage at the time of the SRTP field assessment.

Table 6 summarizes the trip booking, scheduling and dispatch process.

There are four phone lines for incoming trip request calls. For cancellations, callers are prompted to a cancellation line that goes directly to the primary dispatcher on duty. There is no system in the dispatch center that displays the number of incoming calls on hold.

Table 5: Dispatch Center Coverage by Day of Week (August 2014)

	Day of week						
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Lead Dispatch	7:45-5:45	9:00-6:00	8:30-5:00	8:30-5:00	5:45-14:00	off	off
Dispatcher	off	5:45-12:00	5:45-12:00	5:45-12:00	off	5:45-12:00	6:45-14:00
Dispatcher	off	off	12:00-18:00	12:00-18:00	12:00-18:00	9:00-17:30	14:00-22:30
Road Supervisor/Dispatch	off	14:00-22:30	14:00-22:30	14:00-22:30	14:00-22:30	14:00-22:30	off
Road Supervisor	off	6:00-14:30	6:00-14:30	6:00-14:30	6:00-14:30	6:00-14:30	off

Table 6: Petaluma Paratransit Trip Booking, Scheduling and Dispatch Process

Trip Bookings/ Cancellations	<ul style="list-style-type: none"> • Trip requests are processed from: 9:00 a.m. to 5:00 p.m. Monday through Saturday; and 9:00 a.m. to 3:00 p.m. on Sundays (excluding those holidays that Petaluma Transit is not operating) • Caller’s name and trip origin address is confirmed at the time of booking. • Dispatcher confirms and enters a requested drop off time and address. • At the time of the SRTP field assessment the NOVUS “assign now” scheduling function was not working and a pick up time could not be negotiated and confirmed with the caller at the time of booking. This resulted in separate scheduling and confirmation call back steps.¹¹ • A cancellation voice mail service is available 24/7 allowing riders to leave an advance cancellation message outside of normal dispatch
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¹¹ If the “assign now” function was working, dispatchers could confirm pick up and drop off times at the time the request was being made while the rider was on the telephone. This would have saved the need for a call back. Dispatchers would make call backs even if the “assign now” function was working. In the case of Petaluma Paratransit, call backs serve as a reminder to the rider that they in fact have a trip booked. Dispatchers feel the call back practice reduces late cancellations and no shows.

	<p>center hours or if they are unable to they cannot get through because of high call volumes.</p> <ul style="list-style-type: none"> • Dispatchers net cancellations off scheduled routes as calls come in live or as check messages and they are aware of them as they check voice mail.
Trip Scheduling	<ul style="list-style-type: none"> • Since the NOVUS “assign now” feature was not functioning at the time of the SRTP field assessment the assignment or scheduling of trip requests occurred as a separate step from the request booking. • Scheduling was accomplished with NOVUS by dragging and dropping individual trip requests onto route templates. • All schedule “optimization” was done manually. The NOVUS batch scheduling feature was not functioning. • All riders are given a telephone call back by the evening dispatcher to confirm pick up time on the evening before the travel day. • Trip time negotiation would occur both at the time of booking (if the dispatcher knew there was a specific capacity issue) or at the time of the call back.
Trip Dispatch	<ul style="list-style-type: none"> • Hard copy driver manifests are printed on the day of service prior to the departure of a run. • Day and evening dispatchers update electronic manifest with same day requests, late cancellations and no shows. • Trip assignment changes are made by dispatchers on day of service based upon on time performance issues, vehicle breakdowns or other incidents on the road. • Changes are communicated to the driver electronically (software/tablet interface) and by voice radio communication. Drivers report cancellations at the door, no-shows and other incidents – dispatcher records updates to schedules, and coordinates response to road incidents.

Performance Trends

Costs/Revenue and Ridership Trends

Table 7 on the following page provides an overview of Petaluma Paratransit performance trends for the five year period from FY 2010/11 to FY 2014/15.

Table 7: Petaluma Paratransit Performance Trends

Performance Measure	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Change FY10 to FY15	% Change FY10 to FY15
Paratransit Performance Indicators												
Operating Cost	\$458,888	\$521,032	\$623,287	\$600,040	\$595,952	\$664,852	\$630,808	\$865,149	\$876,345	\$885,116	\$289,164	49%
Fare Revenue	\$44,129	\$38,323	\$44,130	\$38,528	\$33,352	\$50,315	\$51,206	\$44,757	\$53,738	\$58,966	\$25,614	77%
Revenue Vehicle Hours	10,000	7,927	8,193	8,915	8,479	9,247	8,365	8,282	9,079	8,876	397	5%
Revenue Vehicle Miles	66,000	73,471	77,246	84,097	77,029	84,652	69,070	90,056	80,795	85,248	8,219	11%
One Way Passenger Trips	20,500	21,586	21,126	22,300	20,529	22,965	24,100	21,789	25,411	26,457	5,928	29%
Operating Cost/Revenue Hour	\$45.89	\$65.73	\$76.08	\$67.31	\$70.29	\$71.90	\$75.41	\$104.46	\$96.52	\$99.72	\$29.43	42%
Operating Cost/Passenger Trip	\$22.38	\$24.14	\$29.50	\$26.91	\$29.03	\$28.95	\$26.17	\$39.71	\$34.49	\$33.45	\$4.43	15%
Passengers/Revenue Hour	2.1	2.7	2.6	2.5	2.4	2.5	2.9	2.6	2.8	3.0	0.6	23%
Passengers/Revenue Mile	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.0	16%
Revenue Miles/Passenger	3.2	3.4	3.7	3.8	3.8	3.7	2.9	4.1	3.2	3.2	-0.5	-14%
Farebox Recovery	9.62%	7.36%	7.08%	6.42%	5.60%	7.57%	8.12%	5.17%	6.13%	6.66%	1.07%	19%
Average Fare/One Way Passenger Trip	\$2.15	\$1.78	\$2.09	\$1.73	\$1.62	\$2.19	\$2.12	\$2.05	\$2.11	\$2.23	\$0.60	37%
Subsidy/One Way Passenger Trip	\$20.23	\$22.36	\$27.41	\$25.18	\$27.41	\$26.76	\$24.05	\$37.65	\$32.37	\$31.23	\$3.82	14%

During the five year period from FY 2010/11 to FY 2014/15 there have been issues regarding the calculation of revenue hours and revenue miles. The breakout of revenue and non-revenue hours and miles was not consistent from year to year. Steps have been taken to correct this issue going forward.

From the data summarized in Table 7, between FY10 to FY15¹²:

- Total annual operating costs have increased by 49% in keeping with revenue hour unit cost increase of 42%. The jump in operating costs between FY 2011/12 and FY 2012/13 resulted in the assignment of appropriate operating costs to paratransit following the consolidation of the paratransit and fixed route contracts under one contract in 2012.
- Increases in total annual operating costs were kept lower than the annual operating cost per revenue hour with an increase in hourly productivity of 23% and a modest growth of revenue hours of 5%.
- Ridership has increased by 29% reflecting an annual growth rate of 5.2%.
- Farebox revenues increased by 77% driven largely by the increase in ridership.
- The farebox revenue ratio averaged 6.76% during this period and has remained below the TDA guideline of 10%.

Cancellations and No-shows

Table 8 provides a snapshot of Petaluma Paratransit cancellation and no-show rates. Late cancellations and no-shows are important to track as they can greatly impact operating costs, hourly productivity and farebox recovery. Completed trip, cancellation, and no-show data was sampled for the months of April, May and June 2015. The breakdown provided in Table 8 is felt to be representative of Petaluma Paratransit general trends.

Of the total 7,116 trip requests booked and scheduled for the period April, May and June 2015:

- 92.36% were completed.
- 7.64% were not completed – cancelled or no-showed.
- 6.32% were cancelled with sufficient notice.
- 0.96% were cancelled with insufficient notice.
- 0.37% were recorded as no-shows.

Petaluma Paratransit's cancellation rate has dropped significantly from a similar sample taken from the period April, May and June 2012. From the 2012 sample completed trips

¹² The historical data used to show paratransit trends is for the 6-year span from FY10, as in FY11 new paratransit dispatching software was adopted which led to data inconsistencies during that year.

were 84.56% with 15.44% of booked and scheduled trips not completed and recorded as cancelled or no-shows¹³.

Table 8: Petaluma Paratransit Cancellation and No-show Trends (April, May and June 2015)

	April	May	June	Total	%
Total Passenger Trips Booked/Scheduled	2,459	2,276	2,381	7,116	100.00%
Total Advance & Same Day Cancellations	129	169	152	450	6.32%
Late Cancellations (including insufficient notice)	30	19	19	68	0.96%
No Shows	13	5	8	26	0.37%
Total Cancellations and No Shows	172	193	179	544	7.64%
Total Completed Passenger Trips	2,287	2,083	2,202	6,572	92.36%
Total Registrant Trips	2,140	1,920	2,020	6,080	100.00%
Total Subscription trips	926	846	858	2,630	43.26%
Total Casual Trips	1,214	1,074	1,162	3,450	56.74%
Total Companion & PCA Trips	147	163	183	493	7.50%

Notes: Total passenger trips (includes registrants and PCAs and companions) booked and scheduled are the total one way passenger trips scheduled before cancellations and no-shows are net off.

Advance cancellations are recorded when a customer cancels their trip with dispatch at least 2 hours in advance.

Late cancellations and no-shows are recorded if dispatch is notified less than 2 hours of a trip cancellation, (insufficient notification), if the customer cancels with the driver when picked up, or if the customer is not available for pick up with 5 minutes of the scheduled arrival of the paratransit vehicle.

Total completed trips are total passenger trips booked and scheduled net cancellations and no-shows.

Total registrant trips are those one way passenger trips made by actual Petaluma Paratransit registrants.

Proportion Subscription to Reservation Trips

Table 9 provides a breakdown of passenger trips by subscription and casual trip categories as well as an estimate of passenger trips made by companions and Personal Care Attendants (PCAs) traveling with Petaluma Paratransit registrants. From the April, May and June 2015 sample, Petaluma Transit appears to be within ADA subscription to casual trip ratio parameters¹⁴. However, a closer look at this data by service hour indicates that Petaluma Paratransit is exceeding ADA subscription ratios during peak hours.

¹³ City of Petaluma – 2012 Short Range Transit Plan, pp. 32 & 33.

¹⁴ It is generally a transit industry norm to consider overall subscription to casual trip ratios when evaluating ADA compliance. However, it is a good practice to review this ratio on an individual service coverage hour to better monitor sufficient capacity to accommodate casual trips.

Exceeding the ADA 50% maximum subscription ratio by service hour becomes a problem if there is insufficient capacity to accommodate casual trips and casual trips booked one day or more in advance are denied because of insufficient space.

Table 9: Petaluma Paratransit Peak Service Hours with High Subscription Trip Ratios (April, May and June 2015)

Percentage of Subscription Trips			
	April	May	June
6:00 - 7:00	86.70%	97.00%	88.60%
7:00 - 8:00	69.30%	82.90%	75.70%
8:00 - 6:00	69.10%	69.20%	61.40%
14:00 - 15:00	70.20%	66.10%	66.90%
19:00 - 20:00	65.40%	80.00%	69.20%

ADA Compliance

Since the passage of this landmark civil rights legislation in 1990, ADA complementary paratransit services must be measured on their compliance with the requirements of the Americans With Disabilities Act. The ADA requires that agencies offering fixed route transit must ensure that “equivalent” or complementary paratransit service be offered to riders who cannot utilize fixed route services due to a disability.

ADA regulations define the minimum level of service required that applies to the ADA complementary paratransit service when it is delivered to ADA eligible riders. In cases where agencies provide dial-a-ride services to non-ADA eligible persons, the specific service to non-ADA eligible riders does not have to meet ADA requirements.

In response to local community transit goals, objectives and priorities, many paratransit services such as Petaluma Paratransit exceed the majority of the basic ADA requirements. However, it is important to fully assess compliance on all ADA regulatory requirements to ensure that the City of Petaluma is above any risk of non-compliance. Agencies that are not fully compliant often find this out when an ADA eligible passenger challenges them on an operating practice or service policy issue.

The provisions of the Act are complex and govern all aspects of service provision, as well as regulating many aspects of American life, including employment, building and facility architecture, bus design, etc. Table 10 outlines the important provisions of the ADA paratransit regulations, identifies Petaluma Paratransit performance, and determines whether the service meets or exceeds the requirements of the Americans With Disabilities Act.

Although Petaluma Paratransit is either in compliance or in some cases exceeds ADA requirements, the high percentage of subscription trips during the peak hours is an area of potential risk if casual trip requests are denied at these times. There may come a point when Petaluma Paratransit may have to place a moratorium on new subscription trips or actual reduce the number of subscription trips at times when trip volume requests exceed capacity. It should be noted that programs under the Regional Center umbrella are funded for alternative transportation services and not reliant on ADA paratransit. The denial of Petaluma Paratransit subscription service to registrants going to and from Regional Center programs would not mean that these program participants would be without access to these programs. The Regional Center would simply contract for alternative transportation services that would be more customized to their needs.

Figure 18: Petaluma Paratransit



Table 10: Petaluma Paratransit: ADA Compliance Summary

ADA Requirement	Petaluma Paratransit Performance	Meets Requirements?
Eligibility		
<p>Individuals who are unable to use fixed-route transit due to a disability or mobility impairment are eligible for ADA complementary paratransit.</p>	<p>Petaluma Paratransit is limited to persons whose disabilities prevent them from using fixed-route bus service, all of the time or some of the time.</p> <p>Certification is contingent on the results of an "in-person" functional assessment.</p> <p>Conditional ADA paratransit eligibility will be determined based on the person's ability to use fixed route transit under certain conditions.</p> <p>Children under six (6) years of age will be considered for Paratransit eligibility based on the functional ability of both the accompanying adult and child (as a team) to use fixed route bus service. All children under six (6) years of age must be accompanied by an adult. They cannot ride unattended. Children six (6) years of age and older will be assessed on their independent functional ability to use the fixed-route bus service.</p> <p>ADA paratransit eligibility enables persons with disabilities to qualify for the fixed route free fare program.</p>	<p>Petaluma Paratransit meets this ADA requirement.</p>

ADA Requirement	Petaluma Paratransit Performance	Meets Requirements?
Reservations		
Passengers must be able to make a “next” day reservation. Longer reservations and standing reservations may be offered.	<p>Passengers can reserve trips from 1 to 7 days ahead of the actual date service is needed.</p> <p>Trips requiring a transfer to another regional paratransit service require at least 48 hours advance notice.</p> <p>Subscription reservations are accommodated.</p> <p>Same day trips are accommodated on a space available basis.</p>	Petaluma Paratransit exceeds this ADA requirement by accommodating same day requests on a space available basis.
Trip Purpose & Trip Limitations		
There may be no prioritization or limitation placed on trip purposes, and there may be no limits on the number of trips an individual may take on paratransit.	There are no trip purpose restrictions or limits on the number of trips an individual can book.	Petaluma Paratransit meets this ADA requirement.
Subscription Trips		
Subscription trips or standing orders may not exceed 50% of capacity during any time period when capacity is limited.	The current Petaluma Paratransit trip mix is slightly over 50% subscription. However, Petaluma Paratransit is able to support this mix without denying casual trip requests booked at least one day in advance.	<p>Petaluma Paratransit meets this ADA requirement.</p> <p>However, the City should closely monitor the percentage of subscription trips during peak hours to ensure sufficient capacity to accommodate all casual trip requests made at least one day in advance</p>

ADA Requirement	Petaluma Paratransit Performance	Meets Requirements?
Service Area		
ADA paratransit service must be offered in all areas defined as being within ¾ mile of a scheduled fixed route.	The service area for Petaluma Paratransit includes everything within the urbanized area (generally the city limits) of Petaluma, regardless of the existence (or lack) of Petaluma Transit (PT) fixed route service. It also includes areas outside the city limits that are within ¾ mile of an active PT fixed route bus line.	Petaluma Paratransit exceeds this requirement. In some areas of its service area, Petaluma Paratransit provides service coverage beyond 3/4 mile of a scheduled transit route.
Coverage		
Service must be offered during the days and times when fixed-route service is offered.	Service is available Monday through Friday from 6:20 a.m. to 6:45 p.m., and Saturday from 7:20 am to 5:45 pm, excluding certain holidays.	Petaluma Paratransit meets this ADA requirement. Service hours fully cover those of Petaluma Transit fixed route service.
Capacity Limitations		
Under current ADA legal interpretation, no trip request booked at least one day in advance can be denied. However, agencies can offer travel time alternatives within one hour before or after the originally requested drop off or pick up time (on the return trip).	Petaluma Paratransit has recently amended procedures regarding scheduling windows to more easily record trip denials and adversarial refusals An adversarial refusal is recorded when a paratransit registrant refuses a trip option allowable within ADA regulations.	Petaluma Paratransit meets this ADA requirement.

ADA Requirement	Petaluma Paratransit Performance	Meets Requirements?
Fares		
Fares for ADA paratransit may be up to twice the adult cash fare for fixed route service.	The Petaluma Paratransit fare for a one-way passenger trip is \$3.00 based on regular fixed route fare of \$1.50	Petaluma Paratransit exceeds this requirement by offering a discounted one way fare of \$2.75 when Rider Cards are purchased.
Driver Assistance		
Origin-to-destination service is required by ADA and may include door-to-door to those who have difficulty getting to and from the vehicle.	Door-to-door assisted service is provided for all Petaluma Paratransit trips (unless passenger specifically requests curb-to-curb service).	Petaluma Paratransit meets the minimum ADA requirement.
Guests & Attendants		
<p>Guests are accommodated if booked with registered passenger.</p> <p>Guests ride the paratransit service provided they have reserved in advance, pay the full fare for their ride and are subject to capacity constraints.</p> <p>Attendants who are required to assist a rider may ride at no charge, provided they are registered as a Personal Care Attendant (PCA) and have reserved in advance.</p>	<p>Petaluma Paratransit transports PCAs at no charge if they are traveling at the same time and from the same origin and to the same destination as the registrant.</p> <p>Guests are accommodated if booked with registered passenger on a space available basis and charged a fare.</p>	Petaluma Paratransit meets this ADA requirement.
Vehicles		
Vehicles must be designed to accommodate both ambulatory passengers and persons using an electric wheelchair, scooter or non-powered wheelchair.	<p>All Petaluma Paratransit service vehicles are wheelchair accessible.</p> <p>In certain situations road supervisor vehicles are used to transport ambulatory registrants who do not require a lift equipped vehicle.</p>	Petaluma Paratransit meets this ADA requirement.

Demand Forecasts

Petaluma Transit has introduced demand management initiatives to more effectively control the annual growth rate in ADA Paratransit demand. These include the introduction of free transit fares for ADA registrants, the operation of low floor buses, transit travel training, and in person functional assessments to determine eligibility for full paratransit service. These initiatives are the key elements of controlling annual growth in ADA Paratransit demand.

It was assumed that these demand management initiatives would effectively limit growth in ADA Paratransit demand. Based on an assumed effective demand management impact and a relatively static annual growth rate of 1.12% between FY 2007/08 and FY 2011/12, an annual demand growth rate of one percent was assumed in the 2012 Petaluma Transit SRTP for the period 2012/13 to FY 2021/22.

Despite demand management efforts, ADA paratransit has increased substantially in the last two years. From the data summarized in Table #d, actual ridership increased by 3,492 one way passenger trips. Given this recent spike in demand growth, the annual ADA Paratransit growth has jumped to 3.20% for the period FY 2007/08 to FY 2014/15.

Table 11 summarizes annual demand projections and annual revenue hours for the 10-year period FY 2015/16 to FY 2024/25 using a low growth rate of one percent (from the 2012 SRTP) and a revised high growth rate of 3.20% (based on the spike in ridership in FY 2013/14 and FYY 2014/15).

Table 11: Annual ADA Paratransit Demand and Revenue Hour Projections (FY 2015/16 – FY 2024/25)

	Year										
	Base Year 2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2021/22	2022/23	2023/24	2023/24	2024/2025
Demand Projections (1.00% Annual Growth)	26,457	26,722	26,989	27,259	27,531	27,807	28,085	28,365	28,649	28,936	29,225
Revenue Hours (1.00% Annual Growth)	8,876	8,907	8,996	9,086	9,177	9,269	9,362	9,455	9,550	9,645	9,742
Demand Projections (3.20% Annual Growth)	26,457	27,304	28,177	29,079	30,010	30,970	31,961	32,984	34,039	35,128	36,252
Revenue Hours (3.20% Annual Growth)	8,876	9,101	9,392	9,693	10,003	10,323	10,654	10,995	11,346	11,709	12,084

An annual productivity benchmark of 3.0 passengers per revenue hour is assumed for the period FY 2015/16 to FY 2024/25. The ridership in FY 2013/14 and FY 2014/15 is not felt to be representative on realistic annual growth rates¹⁵. However, it is advisable to plan service levels in accordance with the higher growth rate to ensure adequate funding levels. Annual growth should be monitored to determine whether there is a need to lower or raise the growth rate prior or in conjunction with the next SRTP.

¹⁵ The jump could be in part a result of the opening of a number of new seniors residential developments or the fact that Petaluma Paratransit is a customer friendly service that may encourage individual registrants to travel.

Summary & Recommendations

Petaluma Paratransit Summary Comments

Petaluma Paratransit is a productive, efficient and ADA compliant service. It remains a small scale, customer responsive service fully integrated with Petaluma Transit's fixed route service.

Although Petaluma Transit and Petaluma Paratransit operate with limited management and administrative staff resources, the service has been able to implement a number of demand management initiatives to shift paratransit riders to the fixed route service and to control annual increases in paratransit ridership. Although both City and contractor staff resources are limited and stretched thin, City and contractor staff works closely as a team to provide effective public transportation services and address issues that arise. The Petaluma Paratransit Riders Guide (2015-2016) was updated in December 2015 providing additional clarification on a wide range of service policies and trip booking procedures.

Petaluma Paratransit productivity has continued to improve. The contractor effectively controls both non-revenue and revenue hours through scheduling and dispatch. Buses are taken out of revenue service when there are gaps in demand. Buses are taken out of service during low demand evening service hours and trips are served on an as required basis by evening dispatchers¹⁶ or road supervisors operating lift-equipped paratransit service vehicles, or supervisor vehicles if a rider does not need a lift-equipped vehicle.

The following recommendations build on service strengths that have evolved over time and the recommendations implemented from the 2012 SRTP, and focus on areas where administrative and operations enhancements could be considered. These include service monitoring, reporting and contract oversight, scheduling and dispatch software shortcomings, accommodating trips in off peak hours, and trip assignment policies and procedures.

¹⁶ Dispatchers remain in radio contact with fixed route buses while on the road as a paratransit driver.

Petaluma Paratransit Recommendations

Service Monitoring, Evaluation, Reporting and Planning

All performance assessment included in Chapter 4 assumes that Petaluma Paratransit ridership, service volume, cost and revenue data was correct and calculated consistently. City and contract staff has raised concerns about the stability of the Trapeze NOVUS software and the integrity of management reports it produces. It has also become apparent that Trapeze is phasing out support of the NOVUS program.

Monthly reporting formats do not support effective service monitoring or the efficient preparation of NTD reports. Petaluma Transit does not have sufficient staff resources to effectively monitor, evaluate and plan Petaluma Paratransit service. In addition, Petaluma Transit requires a fully functional scheduling and dispatch software system that meets its service operational and reporting requirements.

Recommendation 1: In the next contract cycle include a requirement for the contractor to provide and support a paratransit scheduling program that fully meets the scheduling, dispatch and reporting requirements of Petaluma Paratransit.

- Under this arrangement the contractor will assume full responsibility for the accuracy of data produced in the monthly operations reports and for scheduling system maintenance and function.
- Costs would be included in the contractor's monthly fixed overhead charge broken out for Petaluma Paratransit.

Recommendation 2: Use a revised, more comprehensive, monthly operations reporting format with formulae to calculate data and performance measures required for NTD.

- The revised monthly operations report is modeled on a report developed by Santa Rosa CityBus to enhance and speed up the monitoring and evaluation of service performance and to more effectively oversee contract compliance.
- The revised format will save City staff time in the preparation of NTD reports.

Recommendation 3: Use contractor's monthly operations reports and invoices as data sources for monitoring and service evaluation.

- Once data consistency and accuracy are determined this approach will facilitate a consistent source of ridership and service volume data.

Recommendation 4: City staff verify revenue hours and farebox revenue collection claimed on invoices with data provided in monthly operations reports and from random audits of daily dispatch logs.

- A consistent verification of invoiced charges and farebox revenues identified on monthly invoices with ridership and service volumes recorded on monthly reports offers an acceptable farebox reconciliation and check on invoiced charges.

Recommendation 5: City staff maintain remote computer access to contractor's scheduling system to audit ridership and operating performance.

- Direct access to scheduling software allows ongoing checks to verify service performance, the accuracy of monthly operations reports and to investigate rider complaints.

Recommendation 6: Establish a true program cost for Petaluma Paratransit separate from Petaluma Transit's fixed route system.

- Would include all approved gross¹⁷ service contractor charges variable based on revenue hours operated and the 40% assignment of the contractor's monthly fixed fee (60% of the monthly fixed fee would be assigned to the fixed route part of the contract), as well as Paratransit specific fuel and maintenance costs (traced by vehicle number), monthly ADA eligibility interview charges, and a portion of City overheads (based on the proportion of Paratransit revenue hours to fixed route revenue hours operated under the service agreement).

Recommendation 7: Increase Petaluma staff levels to support ongoing Petaluma Paratransit and Petaluma Transit service monitoring, evaluation, planning and contract oversight requirements.

- Effective contract oversight and service monitoring require a dedicated focus. Petaluma Transit is understaffed to consistently carry out effective contract and service monitoring.
- An additional 0.5 FTE is suggested to support ongoing Petaluma transit monitoring and planning.

¹⁷ Contractor monthly charges should be based on gross invoiced charges before farebox revenues are net off.

Scheduling and Dispatch Policies and Procedures

The following recommendations assume the Recommendation 1 upgrading of the scheduling software to support an “assign-now” scheduling function and a batch scheduling optimization function. By having the contractor responsible for the provision and integrity of the scheduling software system, the contractor would assume direct responsibility for the effective function of the system and adjustment of scheduling parameters in accordance with City service policy and direction. By having direct responsibility for the scheduling software system, the contractor could more effectively manage productivity and service quality.

Recommendation 8: Contractor fully use an “assign-now” scheduling function in the negotiation of trip drop off and pick up times.

- The real time scheduling of trip requests onto routes supports the negotiation of trips to avoid service denials, the confirmation of pick up and drop off times when the trip request is made, and eliminates the requirement to call back riders to confirm their times. By supporting ADA trip negotiation, adversarial refusals (allowable under ADA regulations) are a possible way of avoiding capacity related trip denials.

Recommendation 9: City monitor the proportion of subscription trip bookings by service hour and if required impose a moratorium on new or a reduction of existing subscription bookings during those hours when subscription bookings exceed 50%.

- Under ADA regulations, paratransit services cannot deny any ADA eligible casual trip request made at least one day in advance of the desired travel.
- Managing subscription bookings and trip negotiation are allowable ways of reserving capacity for casual trips, avoiding capacity related trip denials and managing revenue hours within budget ceilings.
- Servicing subscription bookings is not a requirement under ADA regulations.

Recommendation 10: Adopt and practice an ADA scheduling window that allows trip negotiation to avoid trip denials due to capacity limitations.

- Using an assign-now scheduling function, offer riders a drop off time based on when they want to get dropped off. Under ADA regulations the drop off time can actually be up to 60-minutes before the requested drop off time.
- For a return trip ADA allows a pick up time up to 60 minutes after the requested pick up time.

Recommendation 11: Adopt and practice a trip adversarial refusal policy to comply with ADA regulatory guidance regarding trip denials and trip negotiation.

- Assuming the adoption of Recommendation 10, an adversarial refusal occurs when a rider refuses a trip drop off time within 60-minutes ahead of their requested drop off time or, on the return trip refuses a pick up time within 60-minutes after their requested pick up time.
- An adversarial refusal is not considered a denial under ADA regulations.
- Occurrences of adversarial refusals must be recorded in monthly operations reports for potential review under ADA compliance audits.
- Occurrences of capacity-based trip denials must be recorded in monthly operations reports for potential review under ADA compliance audits.

Recommendation 12: Establish a supplemental service agreement with a local taxi company.

- A supplemental taxi agreement would be used: for trips that must be off-loaded to maintain on-time performance in the case of Petaluma Paratransit vehicle accidents or breakdowns; to accommodate will call requests that cannot be handled on existing runs; to avoid denials; and to accommodate trip requests in evenings or on weekends when demand is insufficient to support productive paratransit bus operations¹⁸.
- Supplemental taxi services would be procured following formal City of Petaluma contracting policy and procedures. Contracted taxi companies and their drivers would be required to comply with all applicable federal, state and city regulations, and follow Petaluma Paratransit service policies and operating parameters.
- When taxi companies are used in ADA paratransit service, a short-list of trained and willing taxi drivers is enlisted.

Recommendation 13: Consider reducing the advance time frame for booking trips from seven to three days.

- There is no ADA requirement to accommodate the advance booking of trip requests more than one day in advance.
- Reducing the advance trip booking period is used as a strategy to reduce trip cancellations.
- Currently Petaluma Paratransit does not have a high cancellation rate.

¹⁸ This would avoid the need to assign road supervisors or dispatchers to paratransit service, allowing them to focus on road supervision duties and dispatch coverage.

- Review impacts with service contractor prior to adoption.

Service Goals, Objectives, Policies and Service Standards

A comprehensive listing of Petaluma paratransit policies and service standards are summarized in CHAPTER 2 – Goals, Objectives, and Standards. The policies and standards in this chapter are tied back to City goals and objectives and provide a sound foundation for the administration, operation and planning of Petaluma Paratransit.

Recommendation 14: Adopt the set of Petaluma Paratransit Service Policies and Standards summarized in Chapter 2 for the ongoing administration, operation and planning of Petaluma Paratransit.

- Where required amend standards on an annual basis as costs or regulations change.

Recommendation 15: Where appropriate include approved service policies and standards in RFP and contract documents for next contract cycle.

- Critical service standards include a minimum passengers per revenue hour benchmark, on-time performance standards, zero tolerance for trip denials, zero tolerance for missed trips because of insufficient drivers or buses to make pull-out. A schedule of monetary incentives and penalties could be developed and enforced to encourage contractor compliance with these standards.
- The Passengers per revenue hour minimum should form the basis for establishing maximum allowable revenue hour volumes that could in turn used to cap the maximum number of revenue hours that the City is willing to reimburse the contractor for operating.¹⁹

Petaluma Paratransit Service Coverage Restrictions

Recommendation 16: Consider limiting the delivery of paratransit service to the formal ADA service area and limiting coverage to the minimum service hours required under ADA law.

- As demand increases beyond the capacity of the City to fund ADA paratransit service, increases in annual revenue hours could be controlled by limiting paratransit service to origins and destinations within a ¾ mile corridor of fixed route transit service during those hours when fixed route service is scheduled.

¹⁹ The approach would be similar to the one introduced by the City of Santa Rosa to manage the annual Santa Rosa Paratransit operating budget.

Chapter 5: Operations Plan & Budget

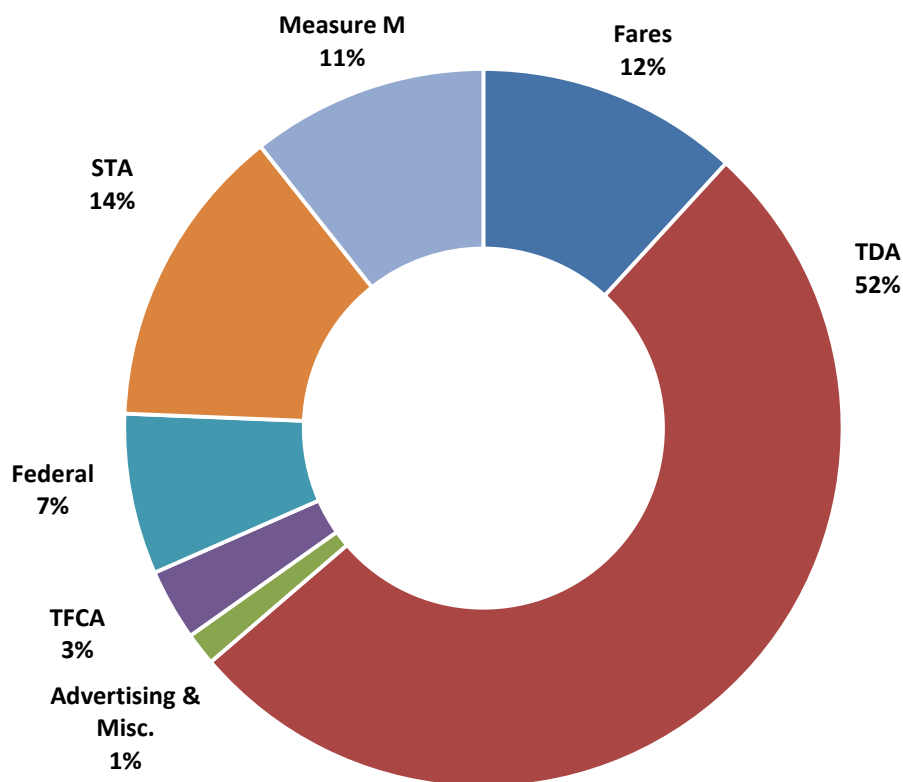
Proposed Operating Expenses and Performance Assumptions

Petaluma Transit forecasts revenues and expenses for the 10-year period based on current contract rates, annual escalations, historical trends, and partner agencies' revenue projections. Since Petaluma Transit operates service using a contract operator, over half (53% in FY16) of operation expenses are tied to that contract. The 10-year summary of operating expenditures and revenues is shown in Table 12. The forecast extends to 2027 in order to capture the effects of a large capital purchase (bus replacements) in that year.

Operating Funding

Petaluma Transit and Paratransit rely on a combination of Federal, State, and local revenue sources for operations, with TDA funds providing just over half of the operating budget.

Figure 20: FY15 Revenue Sources



A “Reserves Goal” was adopted by the Transit Advisory Committee in October 2015 of no less than half of each fiscal year’s TDA allocation minus the annual contributions made by Petaluma Transit to Golden Gate Transit and Sonoma County Transit. Meeting this goal is not a requirement for budget approval but does provide a useful benchmark for evaluating the long-term financial forecasts. The “Total Available Reserves” shown in Table 12 are noted in red whenever they fall short of meeting this goal, shown on the bottom line.

The Operating Plan also makes the following assumptions for the purposes of a long-range financial forecast:

- Baseline costs increase at 2% per year
- New service is added at contract hourly rates
- Twenty-five cent fare increase on all fare types and fifty cent fare increase in paratransit in FY18 and FY23
- TDA Revenues projected to increase at 1.85%, based on Nov. 2014 MTC forecast
- STA projected to increase at 3% per year, based on Feb. 2016 MTC Fund Estimate
- Measure M projected to increase at 3% per year
- FTA 5307 ADA Set-aside (FTA Operating Assistance) is assumed to increase 2% per year, based MTC estimates

Service increases are shown only in FY17 and FY 18, and include:

1. Modify/Expand Service (Routes 24 and 1/5) to Support SMART
2. Increase afternoon service on Routes 11/2
3. Introduction of the “Silver Shuttle” in FY 18

The additional service increase projects described as “Mid-Term” and “Long-Term” later in this chapter are not shown in the 10-year operating plan as they cannot be supported with the existing funding sources for operations.

The revenue projections include the following assumptions about discretionary grants:

- MAP-21 repealed and consolidated Job Access and Reverse Commute (JARC) funding with Rural 5311 and Urban 5307 programs; since MTC allocates 5307 using the TCP process (focusing the funds on vehicle replacement), this effectively means that Petaluma will no longer be receiving JARC funding.
- MAP-21 repealed and consolidated New Freedom funding with the 5310 program; Petaluma was successful in getting FY15 5310 funding to continue the

Travel Training program and hopes to continue using this funding source to fund the program.

- Petaluma received two years of Lifeline program funding through SCTA to fund the weekend service; the operating plan does not assume this funding beyond FY17 but future funding is probable.
- Petaluma is planning service changes in FY17 to accommodate the new SMART rail service. MTC has indicated that funding may be available to support these shuttles. A line item has been included in the operating plan but no funding assumed yet.
- The Low Carbon Transit Operations Program (LCTOP) is a cap-and-trade program established in 2014 that provides funds to public transportation agencies for operations that reduce greenhouse gas emissions. Funds are allocated by the MTC using a formula; projected funds are based on MTC estimates but could vary depending on overall Cap & Trade program revenues.

The financial forecast for FY16-FY27 is overall positive. The most notable dip in reserves takes place in FY23, due to the high use of TDA to match a fixed route bus purchase. However, bus prices and funding sources will no doubt change within the 6 years leading up to this purchase. This financial forecast will be revisited frequently as an internal planning document and formally revised in the 2020 Short Range Transit Plan.

New Flyer 40' Excelsior Electric Bus – future bus orders may be all electric buses



Table 12: Operating Expenses and Revenues FY15 - FY27

	<i>Actual</i>	<i>Budget</i>	<i>Budget</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
Fiscal Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Operating Expenses													
Fixed Route - Base	\$ 1,374,835	\$ 1,720,295	\$ 1,720,296	\$ 1,754,702	\$ 1,789,796	\$ 1,825,592	\$ 1,862,103	\$ 1,899,345	\$ 1,937,332	\$ 1,976,079	\$ 2,015,601	\$ 2,055,913	\$ 2,097,031
FR - Increase Service			\$ 110,000	\$ 171,640	\$ 175,073	\$ 178,574	\$ 182,146	\$ 185,789	\$ 189,504	\$ 193,295	\$ 197,160	\$ 201,104	\$ 205,126
Total Fixed Route	\$ 1,374,835	\$ 1,720,295	\$ 1,830,296	\$ 1,926,342	\$ 1,964,868	\$ 2,004,166	\$ 2,073,478	\$ 2,114,363	\$ 2,156,066	\$ 2,198,602	\$ 2,241,990	\$ 2,286,245	\$ 2,331,385
Paratransit - Base	\$ 885,116	\$ 800,215	\$ 991,843	\$ 1,011,680	\$ 1,031,913	\$ 1,052,552	\$ 1,073,603	\$ 1,095,075	\$ 1,116,976	\$ 1,139,316	\$ 1,162,102	\$ 1,185,344	\$ 1,209,051
Total Paratransit	\$ 885,116	\$ 800,215	\$ 991,843	\$ 1,011,680	\$ 1,031,913	\$ 1,052,552	\$ 1,073,603	\$ 1,095,075	\$ 1,116,976	\$ 1,139,316	\$ 1,162,102	\$ 1,185,344	\$ 1,209,051
Total Expenses	\$ 2,259,951	\$ 2,520,510	\$ 2,822,139	\$ 2,938,021	\$ 2,996,782	\$ 3,056,718	\$ 3,147,081	\$ 3,209,438	\$ 3,273,042	\$ 3,337,918	\$ 3,404,092	\$ 3,471,589	\$ 3,540,437
Operating Revenue													
Fixed Route Fares - Base			\$ 235,211	\$ 306,469	\$ 315,663	\$ 325,133	\$ 334,887	\$ 344,933	\$ 355,282	\$ 365,940	\$ 376,918	\$ 388,226	\$ 399,872
FR Fares - Fare Increase				\$ 51,078	\$ 52,611	\$ 54,189	\$ 55,814	\$ 57,489	\$ 118,427	\$ 121,980	\$ 125,639	\$ 129,409	\$ 133,291
FR Fares - Service Increase			\$ 18,750	\$ 28,568	\$ 28,568	\$ 28,568	\$ 28,568	\$ 28,568	\$ 28,568	\$ 28,568	\$ 28,568	\$ 28,568	\$ 28,568
Total Fixed Route Fares	\$ 224,011	\$ 235,211	\$ 253,961	\$ 386,115	\$ 396,841	\$ 407,889	\$ 419,269	\$ 430,990	\$ 502,276	\$ 516,487	\$ 531,125	\$ 546,202	\$ 561,731
Paratransit Fares -Base			\$ 64,391	\$ 64,470	\$ 66,404	\$ 68,396	\$ 70,448	\$ 72,561	\$ 74,738	\$ 76,980	\$ 79,290	\$ 81,669	\$ 84,119
PT Fares - Fare Increase				\$ 10,745	\$ 11,067	\$ 11,399	\$ 11,741	\$ 12,094	\$ 12,456	\$ 12,830	\$ 13,215	\$ 13,611	\$ 14,020
PT Fares - Service Increase													
Total Paratransit Fares	\$ 58,966	\$ 61,914	\$ 64,391	\$ 75,215	\$ 77,471	\$ 79,795	\$ 82,189	\$ 84,655	\$ 87,195	\$ 89,811	\$ 92,505	\$ 95,280	\$ 98,138
Non-Operating Funds													
Advertising	\$ 19,866	\$ 16,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Local Grants (TFCA)	\$ 77,113	\$ 86,169	\$ 80,731	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000	\$ 80,000
Misc. Local Revenue	\$ 15,498	\$ 1,600	\$ (1,500)										
Local, State and Federal Funds													
TDA	\$ 1,244,307	\$ 1,243,007	\$ 1,530,044	\$ 1,501,453	\$ 1,610,044	\$ 1,658,924	\$ 1,671,364	\$ 1,726,762	\$ 1,351,782	\$ 1,697,443	\$ 1,753,934	\$ 1,802,585	\$ 1,160,816
STA (State)	\$ 328,520	\$ 254,960	\$ 226,150	\$ 232,935	\$ 239,923	\$ 247,120	\$ 254,534	\$ 262,170	\$ 270,035	\$ 278,136	\$ 286,480	\$ 295,074	\$ 303,927
Measure M	\$ 255,310	\$ 275,461	\$ 273,552	\$ 281,759	\$ 290,211	\$ 298,918	\$ 307,885	\$ 317,122	\$ 326,635	\$ 336,434	\$ 346,527	\$ 356,923	\$ 367,631
MTC Spare the Air Grant	\$ 23,087	\$ 6,571											
JARC Saturday Service	\$ 32,304												
JARC Night Service	\$ 18,766	\$ 18,767											
JARC Latino Outreach	\$ 2,472	\$ 12,000											
New Freedom/5310 Travel Training	\$ 14,047	\$ 23,827	\$ 46,089	\$ 73,286	\$ 73,286	\$ 73,286	\$ 73,286	\$ 73,286	\$ 73,286	\$ 73,286	\$ 73,286	\$ 73,286	\$ 73,286
FTA 5303 Operating (SRTP)	\$ -	\$ 20,000	\$ -	\$ -	\$ 20,000	\$ -	\$ -	\$ 20,000	\$ -	\$ -	\$ 20,000	\$ -	\$ -
FTA 5307 ADA Set-Aside	\$ 82,795	\$ 84,261	\$ 85,549	\$ 87,260	\$ 89,005	\$ 90,785	\$ 92,601	\$ 94,453	\$ 96,342	\$ 98,269	\$ 100,234	\$ 102,239	\$ 104,284
FTA 5307 Deferred Replacement							\$ 45,953		\$ 365,490	\$ 48,052			\$ 670,624
Lifeline Weekend Service		\$ 180,762	\$ 180,762										
TFCA Shuttle Funding			\$ -	\$ 100,000									
Cap and Trade / LCTOP			\$ 62,410	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Non-TDA Revenue	\$ 1,152,755	\$ 1,277,503	\$ 1,292,095	\$ 1,436,569	\$ 1,386,737	\$ 1,397,794	\$ 1,475,717	\$ 1,482,676	\$ 1,921,260	\$ 1,640,475	\$ 1,650,158	\$ 1,669,005	\$ 2,379,620
Total Revenue	\$ 2,397,062	\$ 2,520,510	\$ 2,822,139	\$ 2,938,021	\$ 2,996,782	\$ 3,056,718	\$ 3,147,081	\$ 3,209,438	\$ 3,273,042	\$ 3,337,918	\$ 3,404,092	\$ 3,471,589	\$ 3,540,437
Reserves Analysis													
Annual TDA Entitlement	\$ 1,468,119	\$ 1,590,268	\$ 1,597,872	\$ 1,627,433	\$ 1,657,540	\$ 1,688,205	\$ 1,719,436	\$ 1,751,246	\$ 1,783,644	\$ 1,816,641	\$ 1,850,249	\$ 1,884,479	\$ 1,919,342
Prior Year TDA Available	\$ 482,630	\$ 775,365	\$ 867,631	\$ 767,556	\$ 835,086	\$ 694,285	\$ 693,566	\$ 678,015	\$ 672,499	\$ 320,905	\$ 374,943	\$ 441,258	\$ 478,152
Prior Year TDA Instruction Balance	\$ 235,346	\$ 200,601	\$ 289,904										
TDA Required for Capital	\$ 15,640	\$ 95,521	\$ 457,807	\$ 58,450	\$ 188,297	\$ 30,000	\$ 63,624	\$ 30,000	\$ 783,456	\$ 65,160	\$ 30,000	\$ 45,000	\$ 633,840
Total TDA Available for Ops	\$ 2,170,455	\$ 2,470,713	\$ 2,297,600	\$ 2,336,539	\$ 2,304,330	\$ 2,352,490	\$ 2,349,379	\$ 2,399,261	\$ 1,672,687	\$ 2,072,386	\$ 2,195,192	\$ 2,280,737	\$ 1,763,654
TDA used for Ops	\$ 1,244,307	\$ 1,243,007	\$ 1,530,044	\$ 1,501,453	\$ 1,610,044	\$ 1,658,924	\$ 1,671,364	\$ 1,726,762	\$ 1,351,782	\$ 1,697,443	\$ 1,753,934	\$ 1,802,585	\$ 1,160,816
Current Year TDA Carryover	\$ 443,518	\$ 867,631	\$ 767,556	\$ 835,086	\$ 694,285	\$ 693,566	\$ 678,015	\$ 672,499	\$ 320,905	\$ 374,943	\$ 441,258	\$ 478,152	\$ 602,837
Local Reserves	\$ 137,111		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Available Reserves	\$ 580,629	\$ 867,631	\$ 767,556	\$ 835,086	\$ 694,285	\$ 693,566	\$ 678,015	\$ 672,499	\$ 320,905	\$ 374,943	\$ 441,258	\$ 478,152	\$ 602,837
Reserves Goal	\$ 734,060	\$ 795,134	\$ 798,936	\$ 813,716	\$ 828,770	\$ 844,102	\$ 859,718	\$ 875,623	\$ 891,822	\$ 908,321	\$ 925,125	\$ 942,239	\$ 959,671

Table 13: Service Plan FY16-FY27

	<i>Actual</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>	<i>Forecast</i>
Service Plan	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Fixed route													
RVH - Base	18,620	19,065	19,065	19,065	19,065	19,065	19,065	19,065	19,065	19,065	19,065	19,065	19,065
RVH - Service Increase			2,500	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809	3,809
Revenue Vehicle Hours	18,620	19,065	21,565	22,874	22,874	22,874	22,874	22,874	22,874	22,874	22,874	22,874	22,874
Revenue Vehicle Miles	246,124	252,006	285,052	302,354	302,354	302,354	302,354	302,354	302,354	302,354	302,354	302,354	302,354
Pasengers - Base	373,950	385,169	396,724	408,625	420,884	433,511	446,516	459,911	473,709	487,920	502,558	517,634	533,163
Passengers - Service Increase	0	0	25,000	38,090	38,090	38,090	38,090	38,090	38,090	38,090	38,090	38,090	38,090
Total Passengers	373,950	385,169	421,724	446,715	458,974	471,601	484,606	498,001	511,799	526,010	540,648	555,724	571,253
Paratransit													
RVH - Base	8,876	9,718	10,010	10,310	10,619	10,938	11,266	11,604	11,952	12,310	12,680	13,060	13,452
RVH - Service Increase		0	0	0	0	0	0	0	0	0	0	0	0
Revenue Vehicle Hours	8,876	9,718	10,010	10,310	10,619	10,938	11,266	11,604	11,952	12,310	12,680	13,060	13,452
Revenue Vehicle Miles	86,696	94,920	97,768	100,701	103,722	106,834	110,039	113,340	116,740	120,242	123,849	127,565	131,392
Passengers	26,457	27,251	28,068	28,910	29,778	30,671	31,591	32,539	33,515	34,520	35,556	36,623	37,721
Total Systemwide													
Revenue Vehicle Hours	27,496	28,783	31,575	33,184	33,493	33,812	34,140	34,478	34,826	35,184	35,554	35,934	36,326
Revenue Vehicle Miles	332,820	346,926	382,820	403,055	406,076	409,188	412,393	415,694	419,094	422,597	426,204	429,919	433,746
Passengers	400,407	412,419	449,792	475,626	488,752	502,271	516,197	530,540	545,314	560,530	576,204	592,347	608,975

Current System Challenges 2016

Emerging from the period of rapid system and ridership growth from 2010 through 2014, Petaluma Transit operates in a very different situation than before. A mature system now, that generally meets the needs of the local transit dependent population very well, continuing to deliver a reliable, attractive transit product is made difficult by several challenges and opportunities. Dramatic rises in local housing costs, including apartment rents, have driven many longtime Petaluma transit-dependent from the community. Increased traffic has caused system reliability to plunge, increasing missed connections.

On-Time Performance Problems – Missed Transfer Connections

Petaluma Transit ridership intensified year over year from 2010-2015, causing more stopping and dwelling of buses in order to serve the 145% increase in ridership in the FY 2010-2015 time period. Aggravating system on time performance is citywide increases in traffic, in particular along East Washington Street. The influx of new shopping trips (Target Shopping Center), made primarily by automobile, has severely impacted the flow of traffic on the already congested segment of E. Washington between Downtown and McDowell Blvd. This directly impacts Petaluma Transit's most highly ridden route, the Crosstown Route 11 which carries the most passengers in the system, and is the lynchpin of the timed transfer system based at the Eastside Transit Center, where Route 11 interlines with Route 2, and physically "pulses/meets" Route 3/33. When Route 11 becomes severely late, which happens almost every day, particularly in the mid and late afternoons, it causes missed transfers between the 11/2 and 3/33 buses, causing passenger delays of up to 30 minutes at ETC, effectively doubling the transit travel time for the customer on those trips which "miss" the transfer pulse. This acutely impacts Petaluma Transit riders travelling to and from the East side.

Since 2009, Petaluma Transit has implemented a "hold policy" of 2 minutes (increased to 3 minutes in 2015). This means, a bus (Route 3, for example) waiting to depart the ETC on time (say at 3:45pm, for example) will hold for 2 minutes until 3:47pm, upon request, for another bus that is running late (say Route 11 returning from Downtown in heavy PM traffic). This worked pretty well until traffic worsened in 2014, and to this day. Even with an extension to 3 minutes, the "hold window" is often not enough, and the receiving bus is forced to finally leave ETC without receiving transfers as the Route 11 (in this example) has fallen so far behind (say 10 or more minutes) that it cannot reach ETC during the "hold window". The new AVL/CAD system now seeks to assist in automating these hold requests, and tracking the daily instances where the transfers are missed. This problem happens daily, particularly during the weekday afternoons, and threatens the integrity of the system. It is worth noting that, according to data from the new AVL system, the

congestion is causing worse OTP on the westbound, or Downtown bound segment of the Route 11. In discussing this with bus operators, it is suspected that the problem lies with a lack of integration of the traffic lights at the off-ramps of the US 101 (Caltrans' Signals) with the critical E. Washington/McDowell intersection. In particular, the left-turn movement from S. McDowell west onto East Washington in the late afternoon is extremely limited, causing multiple-cycle delays in the Route 11 on its way towards Downtown.

Options

Realignment

There are a couple directions to approach this problem from. Route 11 could be re-routed off of the severely congested E. Washington alignment, if a faster, more reliable way of reaching ETC from Downtown could be identified. For example, Route 11 could divert south off of E. Washington and cross the 101 Freeway at Caulfield Lane instead, and approach ETC from the south, akin to Route 3's approach to the ETC. This option underwent extensive field testing by supervisors and planning staff, combined with a brief trial of the realignment in 2014 during the Target SC construction. Unfortunately, while the bus does keep moving, rather than sitting in gridlock, the overall travel times back into ETC were not acceptable, with buses arriving back just as late as when they stayed on East Washington. In addition, the earlier the bus diverts off of E. Washington (travelling east) the more passengers are lost that either need to board or alight at the busy stops along E. Washington, including the Swim Center/Library/Fairgrounds/Target stop.

Adding Buses and Elongating Running Time Cycles

Routes 11 and 2 are the most popular PT routes, and accordingly are interlined, meaning that each 11 bus becomes a Route 2 at ETC, and vice-versa. This allows passengers to “transfer” without physically leaving the bus, and lessens the amount of dwell time spent at ETC transferring passengers, and mobility devices, between buses. Route 2 generally has slightly more recovery time (extra time) so it makes a good interline partner with the Route 11, allowing the operator to “catch up” to schedule and usually enjoy a rest break at the end of their Route 2 segment. The Route 2/11 is provided by 2 buses operating on a 60 minute cycle (30 minute headways).

PT would easily solve its afternoon on-time problems AND increase service quality in the eyes of its riders if funding were available to add two more buses into the 2/11 block during a period each weekday afternoon. Running time cycles would be elongated to 80 minutes (40 on each route segment) during this PM peak schedule. Correspondingly, 10 extra minutes would be added to the Route 3/33 running time schedules (from 30 to 40 minute running times) to keep the “pulse” with the 2/11 at 40 minutes apart at ETC. If funding

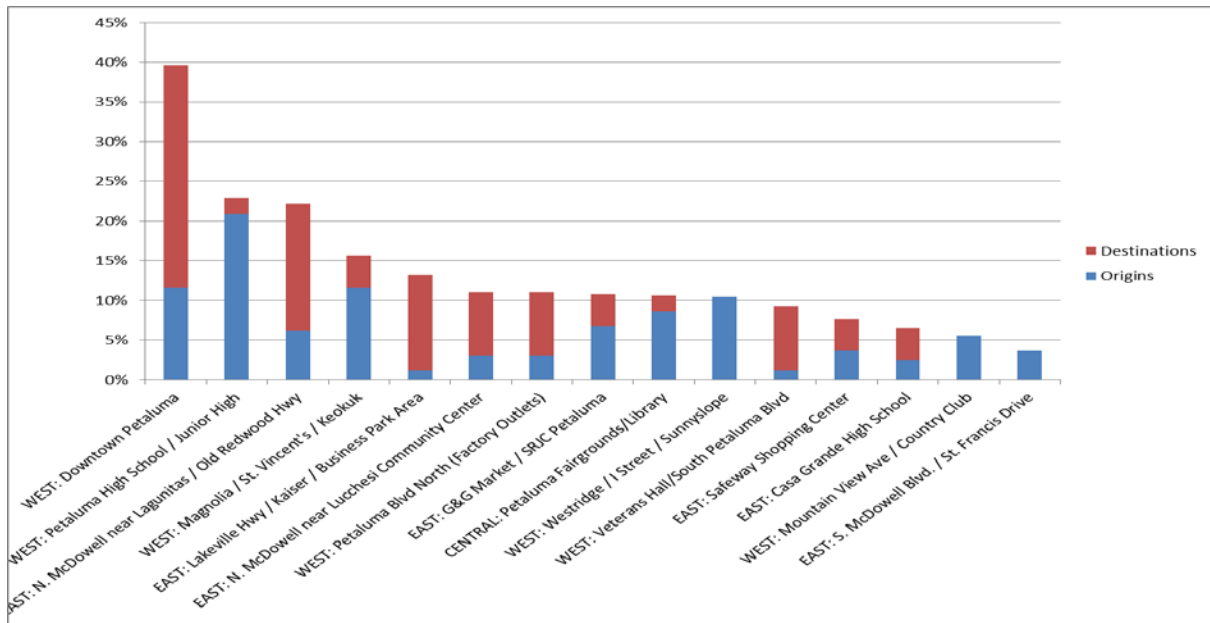
allowed, a second bus could be added to the 3/33 to meet every pulse of the 2/11 and provide net 20 minute service, matching the 2/11. Evaluating recent OTP data from the Avail AVL/CAD system shows that this would only be necessary from about 2:15pm to 5:45pm. This can be done with minimal system interruption by integrating the afternoon school trippers into the 2/11 bus blocks immediately after their PM school runs.

Option	Annual Revenue Hours	Marginal Cost/Revenue Hour	Total Annual Cost
Add 2 Buses to 2/11 Block from 3-5:45pm	1,200	\$40	\$48,000
Add 1 Bus to 3/33 Block from 3-6pm (not recommended)	750	\$40	\$30,000
TOTAL RECOMMENDED	1,200	\$40	\$48,000

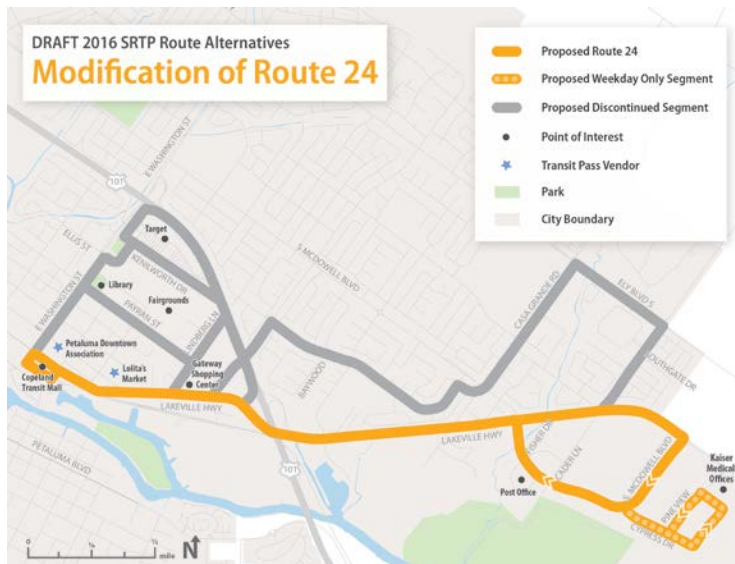
SMART Feeder Service – Routes 24 and 1/5 Expansion

One of the many exciting aspects of integrating a new commuter rail service into the community is the elevated role that the local transit system can and should play in the “first mile/last mile” connections to the rail station. SMART conducted a planning study years ago in the preparation for its ballot measure that identified two preferred “shuttle routes” that SMART felt were needed in Petaluma. Those were eerily identical to the current Route 24 and Route 2 (from Route 11), and seem oriented to distribute SMART riders living north of Petaluma to major employment locations in Southeast and Northeast Petaluma. Prior to a survey designed and delivered by Petaluma Transit staff in late 2015, little study has went into where shuttles may be desired to collect Petaluma residents that wish to ride the train OUT of Petaluma.

In November 2015, Petaluma Transit staff developed and implemented a survey of persons who expressed interest in using SMART to either travel to or from Petaluma. In the survey, Petaluma was divided into geographic zones identified by familiar streets and landmarks, and respondents were asked to identify their origins or destinations, as well as how often they planned to ride SMART, what time, and how they planned on accessing the station. The data gathered was combined with the existing services and SMART schedules to craft recommend route alignments.

Figure 19: November 2015 SMART Petaluma Origin Destination Survey Results

An initial service model was then developed based on the levels of interest expressed in the November/December 2015 survey. This second survey included maps of the conceptual routes (see below) and requested feedback on the alignments and potential bus stop locations. The Second Survey was distributed via the web and social media, targeting areas that might be impacted by either the addition of new bus service or the removal of existing service.

Figure 20: Proposed Route 24

Options

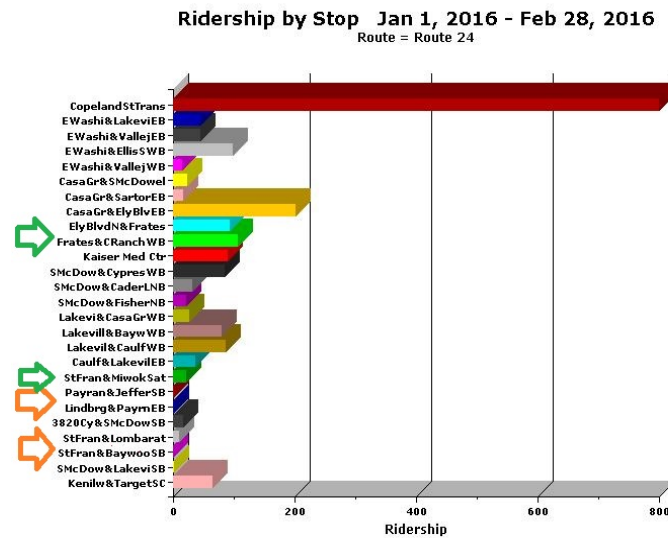
Realignment of Route 24 and Route 1

Petaluma Transit has been anticipating the opportunity to realign the Route 24 to stay on Lakeville between the SMART Station/Copeland and the Kaiser Medical/Lakeville Business Park and resume its 30 minute running time cycle. Route 24 was modified in 2014 due to construction-related delays on Lakeville at the US 101 Petaluma River Bridge, adding extra running time and a pilot diversion to serve the Target Shopping Center via Kenilworth Drive. SMART has always envisioned this bi-directional streamlining of Route 24 on Lakeville since their pre-2010 “Shuttles Study”. Realignment to create bi-directional service along Lakeville is a challenge in that it will leave the following segments without service:

- Payran (south of E. Washington, north of Lindberg)
- The front of the Target Shopping Center on Kenilworth Drive
- St. Francis Street between Caulfield and S. McDowell
- Enclave Apartments and residential area near Ely Blvd S and Frates

Payran/Lindberg/Target Shopping Center Areas

The fixed route service along Payran (South of Washington) and to the front of the Target Shopping Center was instituted as a pilot service in 2014 when freeway construction delays at Lakeville/US 101 forced Petaluma Transit to add more running time to Route 24. To utilize some of the additional 15 minutes running time needed to stabilize on-time performance and to provide close-in fixed route service to the newly-opened shopping center, a pilot alignment was created that featured several one-way loops and a new 75 minute frequency. Some ridership did materialize along Payran and to the shopping center, but not enough to merit continuation of the (very difficult to use) one-way loop alignments.

Figure 21: Ridership by Bus Stop - Route 24

A project scheduled for FY 2018, the “Silver Shuttle” (deviated fixed route, see description later in this section) should be designed with the Kenilworth Drive (front) Target Shopping Center stop as an integrated timepoint. Folks with reasonable mobility will continue to access the Target Shopping Center via the more frequent Route 11 on Washington Street. In addition, if demand merits at the time, the PEP Housing bus stop on Payran can be added.

St. Francis/Miwok School Area

The St. Francis Street segment features one established bus stop, at Miwok School, and a legacy “flag stop” on Lombardi, just south of Caulfeld. As the chart of Route 24 Ridership by Stop on the preceding page depicts, the flag stop at Lombardi has only a about 5-6 boardings per month, while the Miwok stop produces just over 10 boardings per month. Both locations are just 3 blocks or so from South McDowell, which features more robust transit service from both Routes 3 and 33, as well as school tripper buses.

Enclave Apartments/Ely & Frates Road Area – Extension of Route 3

The two bus stops that abut the Enclave Apartments used to be some of the busiest bus stops in the Petaluma Transit system, prior to the transition of Enclave from “affordable” to “market rate” that occurred in recent years. However, as the Route 24 Ridership by Stop graphic above shows, ridership is still fairly strong. Residents of this neighborhood could walk up to Ely & Casa Grande Road to access Routes 3/33, and many do, but some service

utilizing the sheltered bus stops on Ely and Frates may still be appropriate. This can be accomplished by re-routing Route 3 from Casa Grande Road to Ely/Frates/S. McDowell. This will add 2-3 minutes of running time to the Route 3, and close one bus stop (one of the three bus stops that serve Casa Grande High School on Route 3's side of the street). AVL-generated operations data from early 2016 shows that the Route 3 (outside school bell times) operates in approximately 22-23 minutes, allowing an extension of 2-3 minutes without severe negative reliability impacts.

Summary

By straightening the alignment along Lakeville between Washington and S. McDowell, bi-directional and faster moving service will be realized to this area of both high employment, and recent and planned future residential growth. Route 24 will still be based out of Copeland (SMART) and continue to operate with an interline with Route 1 (meaning the same bus serves both routes in an alternating fashion). Expanding and streamlining the Route 24/1 requires a daily increase of 4 revenue hours (beyond what the current 1/24 interline consumes) for an annual addition of 1000 revenue hours. These 4 added weekday revenue hours are to match the longer span of service in the SMART schedules, beginning Route 24/1 service earlier in the mornings and running later in the evenings.

ROUTE 24/1 Options	Annual Revenue Hours	Marginal Cost/Revenue Hour	Total Annual Cost
Add 4 Daily Weekday Revenue hours to Route 24/1 Interlined Block to match SMART's Span of Service (5:25am-8:25pm)	1,020	\$40	\$40,800
Add 1 Bus to 1/24/5 scheme to provide 30 minute frequency on Route 24 (every train) and 60 minute frequency on Routes 1 and 5 all day long (weekdays) (5:25am-8:25pm) (not recommended)	3825	\$40	\$153,000
TOTAL RECOMMENDED	1,020	\$40	\$40,800

Route 1 Modification

Two alternatives were developed to serve the requests for service to St. Vincent de Paul High School on Keokuk (south of Magnolia). A Howard/West/Keokuk option that resembled service provided to the neighborhood for many years (until 2010), and a second option to stay primarily on Petaluma Boulevard North (PBN) and access St. Vincent's High School via a segment operating on Magnolia between PBN and the Magnolia Roundabout.

Both alignments could increase ridership by providing bus access to neighborhoods, but would add minutes of running time and face opposition from neighbors.

After a second round of public outreach via social media in early 2016, opposition to the Howard/West/Keokuk Alignment formed in the Oak Hill Neighborhood, based upon fears of noise, traffic, bus stop placement, and street conditions. Support was also expressed, and the issue divides neighbors in the area. It appears there is some transit demand, although likely not enough to meet productivity standards, and not necessarily SMART-oriented.

Staff then issued a third survey in June 2016 to introduce the “Magnolia Option” and receive input from both the Oak Hill and Magnolia neighborhoods. In general, Magnolia area residents don’t favor the idea of bus service in their neighborhood either, but due to different reasons (traffic at Magnolia/PBN, lack of sidewalks, concern over buses using the roundabout, concerns over placement of bus stops). St. Vincent’s High School (SVHS) supports either option. Staff is now developing a “bell-time only” variation that would serve SVHS and the nearby Mary Collins at Cherry Valley K-8 School **at bell times only**. Complementing this bell-time diversion onto Magnolia would be the planned advance of the “Silver Shuttle” project forward to FY 2018 to offer persons in the Oak Hill (as well as other neighborhoods) this new small-bus transit option sooner, rather than later. The release of SMART’s fare structure in May 2016 has led to the easing of SMART-driven Petaluma Transit expansion/modification scenarios due to a risk of far lower than anticipated SMART demand.

Figure 22: Proposed Route 1 Modification – Howard/West/Keokuk Alignment

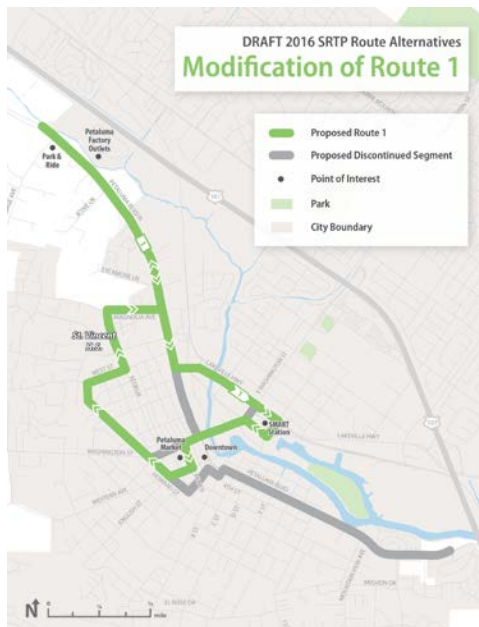
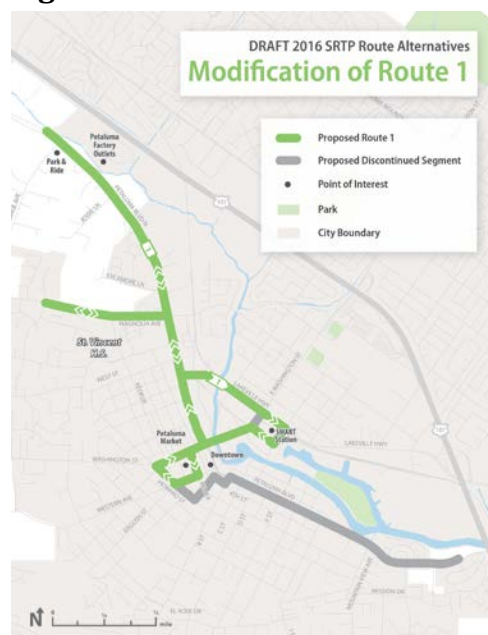


Figure 23: Recommended Route 1 Modification – Magnolia Alignment

Should Petaluma Transit implement the “bell-time only” limited service to SVHS along Magnolia, the question then of reinstating Route 1 service to Petaluma Blvd. South emerges. The most recent survey indicated support for keeping service on PBS, in spite of poor ridership.

ROUTE 24/1 Options	Annual Revenue Hours	Marginal Cost/Revenue Hour	Total Annual Cost
Add 4 Daily Weekday Revenue hours to Route 24/1 Interlined Block to match SMART’s Span of Service (5:25am-8:25pm)	1,020	\$40	\$40,800
Add 1 Bus to 1/24/5 scheme to provide 30 minute frequency on Route 24 (every train) and 60 minute frequency on Routes 1 and 5 all day long (weekdays) (5:25am-8:25pm) (not recommended)	3825	\$40	\$153,000
TOTAL RECOMMENDED	1,020	\$40	\$40,800

Route 5 Expansion

Route 5 (formerly Route 1T until 2015) is the school bell-oriented peak hour service that provides highly productive but limited span services to the two major west side secondary schools with 2-3 trips in the AM and PM bell times. While SMART doesn’t describe a need for shuttle service in its original study, PT staff feel that demand may exist, especially in

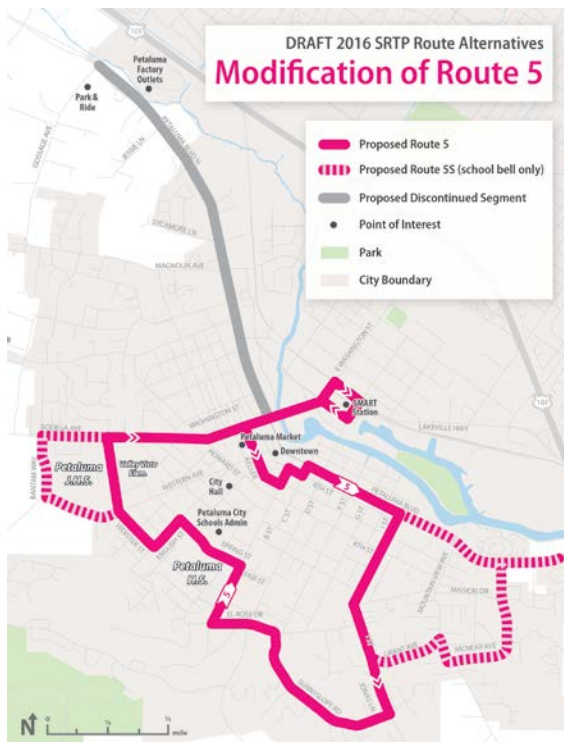
light of the absence of parking at the Downtown SMART Station (SMART plans a second station in Northeast Petaluma in the future that may house more parking, but very little is envisioned for the Downtown Petaluma Station, now or in the future). However, any alteration or expansion of west side bus service for SMART must hold harmless the popular trips that already serve Petaluma High School and Petaluma Junior High School.

Extensive Expansion Alternative (not recommended)

Forming an expanded Route 5 (the Routes 24 and 1 will be modified but continue to be interlined) to serve the long span of the SMART schedule requires a daily increase of 8.5 revenue hours (beyond what the Route 5 operates today) or a significant addition of 2125 annual hours. Even with long-span hours, matching SMART, this route projects to be only *moderately* productive, even when aligned to be a “Downtown” feeder for those that do not want to walk from the Station to Downtown.

In order to reliably and repeatedly serve the 30-minute headways of the SMART service, the **new route 5 cannot serve the entire loop that the current Route 5 does**. This means that some segments would no longer be served. To illustrate, there is not enough running time to both serve the southerly parts of Route 5 (Petaluma Blvd. south of I or even D street) and the area north of Petaluma High School. Staff published the following conceptual route in early 2016 for public comment and input.

Figure 24: Modification of Route 5 – Early 2016 Version



Staff tested several variations to the above conceptual route in order to reduce running time to fit within the constraints of the SMART schedule (trains every 30 minutes):

- Utilize I Street between Petaluma Blvd and Sunnyslope Ave
- Abandon PBS completely and access I Street from 4th & C via 6th Street
- Utilize Western back to Howard from Fair, skipping Webster and Bodega

None of these options are attractive, all reduce coverage to areas that might produce ridership. Regardless, overall ridership on this route is not anticipated to be high. Due to these factors, a more restrained option was developed using the current Route 5 alignment.

Modest Expansion – Route 5 Augmentation Alternative

Morning Option

Due to a lack of traffic congestion in the early morning hours, and SMART's early AM service schedule, it may be possible to serve the entire Route 5 alignment from the SMART Station for trips made prior to 7:30am. These trips could be added at a modest cost, then Route 5 could make its critical 7:30-8:20am school runs as per normal, not connecting with SMART again until the afternoon. This option would add about 1.75 daily revenue hours and provide robust service along an existing alignment.

Afternoon Option

Due to heavy traffic congestion in both the Downtown and Train Depot areas, it won't be possible to run the complete Route 5 alignment and still meet every late afternoon train. For a consistent service along the same alignment as in the AM (the full, Route 5 alignment) the running time cycle would likely need to be extended to 45 minutes in the afternoons. This would mean a seamless connection without a long wait on every other SMART (northbound) train, and a wait of approximately 15 minutes on every other train. With this in mind, the PM Route 5 could be extended to depart SMART as follows:

- 4:30pm (1st PM NB train)
- 5:15pm
- 6:00pm (NB train)

This service could eventually be extended later if ridership and funding allowed, but by serving the early AM trains (before main school bell trips) for an average commuter to Marin Civic Center for 8a-5pm work schedules, the final trip at 6pm should meet the needs of this potential market at relatively low cost to Petaluma Transit (+2.5 rev hrs/weekday).

To illustrate, the hypothetical Marin Civic Center employee that lives in Westside Petaluma and works an 8-5 schedule will need to be on the 7:25am SB train out of Petaluma to arrive at 7:55am for a shuttle to work. In the evening, this rider would likely board the 5:05pm or 5:35pm NB trains at the Marin Civic Center Station, arriving Petaluma at either 5:30pm or 6:00pm where the extended Route 5 would be available for the last mile ride home. This option would add approximately 4.25 daily weekday revenue hours (AM plus PM).

Option	Annual Revenue Hours	Marginal Cost/Revenue Hour	Total Annual Cost
Extensive Expansion Option: Expand Route 5 as a “stand alone” route on a modified alignment and provide AM tripper service to schools with a separate bus: Add 1 Bus to new 5/24 Block to match SMART span of service (provides hourly service on Route 5 and combines to provide 30 minute service on Route 24)	2,646 10.5 x 252	\$40	\$105,840
Modest Expansion “Augmentation” Option: Augment existing Route 5 by extending alignment to SMART Station and adding trips in early AM (5-7:30am), and from 4:30-6:30pm (recommended)	1071 4.25 x 252	\$40	\$42,840
TOTAL RECOMMENDED	1071	\$40	\$42,840

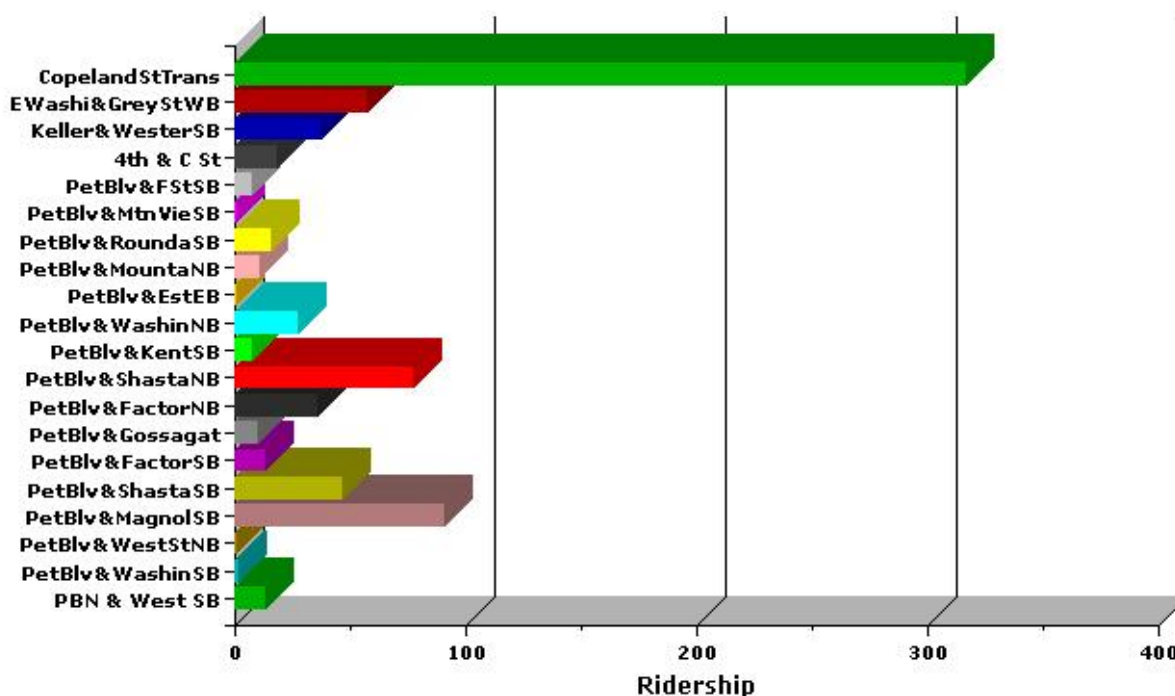
Poor Productivity of Route 1 – Especially On Petaluma Blvd. South (PBS)

The worst producing segment of Petaluma Transit’s worst (currently) producing route, the PBS segment of Route 1 does not meet any of the service productivity standards included in Chapter 2. Areas along PBS are a mix of neighborhood commercial and higher end, yet older residential, until the very south end of the route, where Route 1 turns around at the Quarry Heights roundabout, where new upscale housing is being built. With the trip attractors on the south end being the bowling alley and the offices of Petaluma People Services Center (PPSC), it is questionable if this area can sustain all-day fixed route service.

The recommended service plan for this area will include early AM service from Route 5 (5-8am, buses every 30 minutes) then hourly midday service from an alignment identical to the current Route 1, followed by Route 5 service again from 2:45-6:30pm (30-45 minute frequencies) then finishing the evening with hourly Route 1 service until 8pm. If the vision

above is implemented, where the area is served every 30-45 minutes in the main SMART and school hours (5am-8am, and 3pm-6:30pm) in a one-way fashion) and hourly during the mid-day, overall productivity may grow over time to be high enough to meet productivity standards. Should funding not materialize to support the expansion of service overall to support SMART, PBS is one of the first areas that should be evaluated for receive service cuts. Only school-bell services are well-consumed today.

Figure 25: Ridership by Stop, Route 1 (Oct 2015)



Impacts of Growing Paratransit Demand – Potential Senior Route

A holdover project from the 2012 SRTP, the concept of a “Senior Route” arose as an innovative concept to stem the rapidly growing demand for paratransit services from an aging population (see map following page). Conceived as a small bus, deviated flex route (a combination of paratransit and fixed route, with a few set time points that do NOT require a phone call, but the ability to deviate off route to other locations with a phone call) service that would likely operate between “shoulders” of the AM and PM peak hours, the Senior Route would draw passengers from the costlier Petaluma Paratransit service and stretch the limited operations dollar and pay for at least a portion of its own costs with savings from reduced paratransit trip taking. To the rider, it would appeal by being cheaper than paratransit, and more spontaneous (if either the rider’s origin or destination stops were official timepoints that did not require a phone call to deviate off route).

This service would be extremely dispatch intensive, so it would be best implemented after the 2016 upgrade to the City's current paratransit scheduling system, which has struggled to meet expectations. This service could be provided by a combination paratransit vehicle (Bus 11 for example) or perhaps by a vehicle not yet in the City's transit fleet.

Figure 26: Senior Shuttle/Silver Shuttle



Lack of a complete Crosstown Route (Airport Area to Downtown)

Requests exist to consider how PT can create a quicker way to get from the East Washington and Sonoma Mountain Parkway/Ely Blvd area to and through Downtown Petaluma, perhaps further west than the current Route 11 penetrates. In addition, two of Petaluma's major recreation/sports parks and the Petaluma Airport are beyond comfortable walking range from the current easternmost alignment of the Routes 3/33, which traverses the eastside via SMP and Ely Blvd South.

This could be accomplished in two ways, either modifying the current Route 11 and extending it in both directions (east of SMP/Elm, and west of Downtown) or creating a new

route based at the Eastside Transit Center (ETC) serving out to E. Washington Fields Park and back, meeting with the Route 11, 2, and 3/33 at ETC. All of these options will require at least one additional bus running a fairly long span of service to meet the recreational needs of the eastside parks, and areas west of Downtown. Either option would be costly and beyond the current capacity of the Petaluma Transit budget.

Figure 27: Crosstown Route

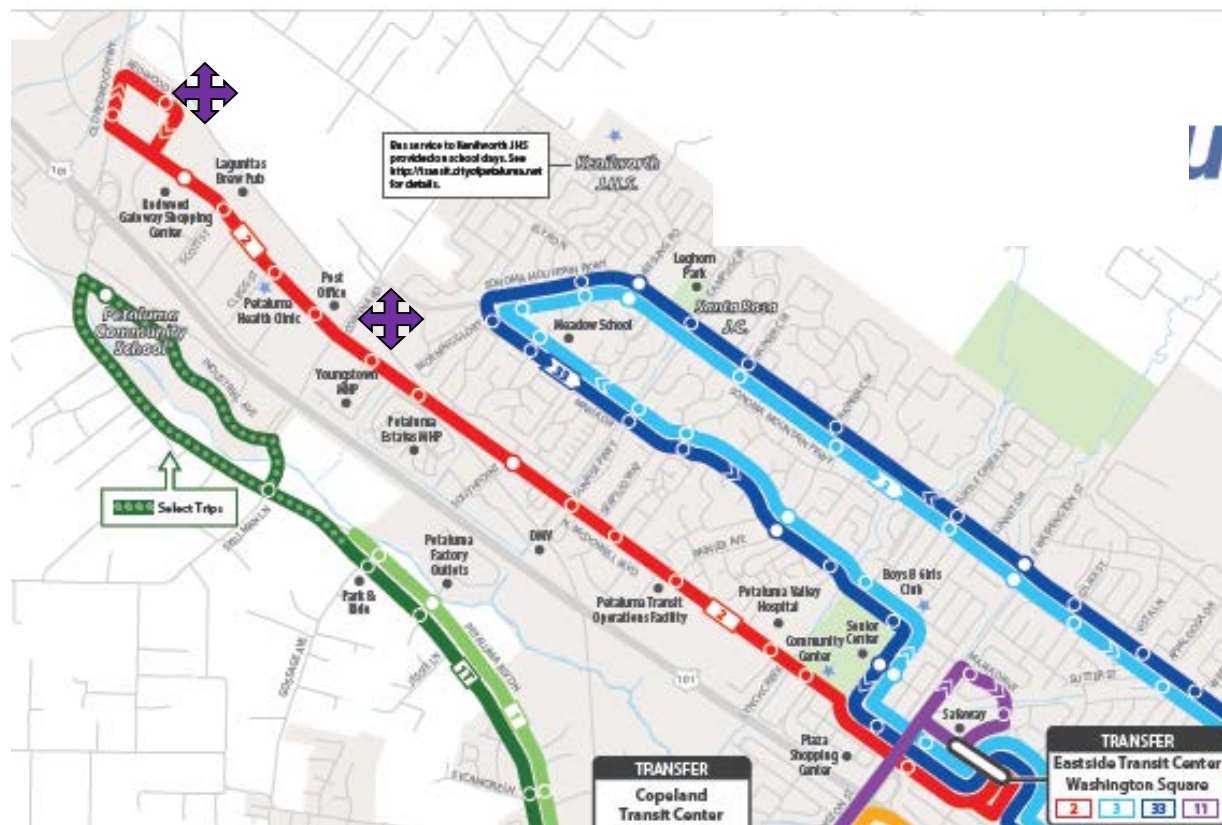


Impacts of Future 2nd SMART Station in Northeast Petaluma

The Transit Advisory Committee and staff have discussed this situation at length in the last year. Initially, SMART had identified a parcel along Route 2 at the intersection of North McDowell and Corona Road as the preferred location for the future, 2nd station. This station was to include far more parking but still would benefit from robust transit services. After indication in recent months of interest in another parcel further northeast, on the edge of town near the Redwood Industrial Park, SMART is now again prioritizing the Corona Road site and again seeking to obtain the property. Should SMART obtain the property, there is a

possibility that the station, or at least a minimalist interim station could be constructed on the site as soon as 2017. TAC became aware of the possibility that this station could move ahead more rapidly than previously anticipated, and asked staff to develop some conceptual service for how PT could choose to serve the future Corona Road site.

Figure 30: Potential Future SMART Station -- Northeast Petaluma



Corona Road SMART Station Service Options

Both the SMART Shuttles White Paper and the recent PT-implemented SMART survey of 2015 indicated a strong demand for travel to the Old Redwood Highway/N. McDowell area (including the Redwood Business Park) and the Petaluma Campus of the Santa Rosa Junior College. While technically reachable by the combination of Routes 11 and 2 from the Downtown Station, it is anticipated that SMART commuters will prefer to access these two Northeast Petaluma locations via the North Petaluma Station once it is active.

Impacts of North Petaluma Station - Overview

The 2015 PT survey on SMART indicated a very high interest in the area described as Old Redwood Highway/N. McDowell, which is presumed to include the business parks south of Old Redwood Highway (but north of Corona Road) along North McDowell, as well as the shopping cluster located at that intersection, and the employment heavy Redwood

Business Park to the north and east of the intersection, along Old Redwood Highway, N. McDowell Extension, and Redwood Way.

For this reason, it would be optimal for the northbound Route 2 to time its departures from the North Petaluma SMART Station to coincide with the train schedules. Unlike the fortunate schedule window that SMART has developed for the Downtown Station, it is likely that northbound and southbound trains will arrive at the North Petaluma Station offset from each other by more than 5 minutes. This will prove a challenge to the intermodal bus connections. It is likely that the southbound trains will depart the North Petaluma Station at about :25 & 55 in the peak hours, with the northbound trains departing at :00 and :30. This will make it very difficult for the same bus to serve both SMART markets, so a directional choice will be required, based on anticipated levels of commuter demand.

Route 2 Bus at Eastside Transit Center w/Bike



Retiming of Route 2

Petaluma Transit currently provides a high level of service bi-directionally on North McDowell with Route 2. Route 2 serves the Corona Road area going northbound at about :20 and :50 after each hour, and southbound at :25 and :55 all day. This means, with no

timing adjustment, Route 2 would nicely serve southbound SMART trains for persons wanting to travel further south on McDowell towards the ETC. However, survey and land use indicates that the biggest commuter train to bus market at the North Petaluma Station will exist for southbound SMART riders that want to connect to northbound Route 2, requiring some retiming of the route, and likely a calibration of the timed pulses at the ETC to accommodate system connections and better integrate SMART. Assuming reliable SMART on-time performance, it might behoove PT to revert the times of the ETC pulse departures BACK from :15 and :45 to :20 and :50 (at least in the AM) to place the northbound Route 2 at the NE Petaluma SMART Station at :25 to :27 to collect arriving train passengers and swiftly deliver them to their employment centers further north on McDowell. This wouldn't work as cleanly in the afternoon however, and riders who catch Route 2 somewhere in the Old Redwood Highway area would arrive southbound at the NE SMART Station just in time to see a train depart northbound, leaving a 30 minute wait for the next train. A potential solution to this issue would be to have the ETC pulses STAY at :15 and :45 in the PM, so that the Route 2 has time to collect riders on the north end of town and return to the SMART Station (via N. McDowell) in time to drop them off just prior to the departing northbound trains (:00 and :30).

This would be a low/no cost solution to provide robust shuttle service to the Old Redwood Highway/N. McDowell area. A choice would need to be made on keeping the current alignment (clockwise via N. McDowell, Old Red, and Redwood Way back to N. McDowell) versus extending the alignment to cover N. McDowell Extension, returning service to this employment rich area that PT once served. The extra running time needed to traverse N. McDowell Extension could negatively impact Route 2. Should the travel time savings projected along N. McDowell from the imminent Transit Signal Priority Phase I project prove adequate, PT could choose to extend service to North McDowell Extension making the Route 2 more attractive to the SMART commuter market, by shortening the walk to the bus stops in the area for more employees.

Options for Serving Santa Rosa Junior College (SRJC) - Overview

Petaluma Transit has no current service that directly connects the far north end of N. McDowell with the SRJC Petaluma Campus. Riders would have to take Route 2 southbound on North McDowell to ETC, then transfer to a 3/33 to backtrack to SRJC. This will likely not be popular, as SRJC is only 1 mile from the new North Petaluma SMART Station “as the crow flies”. SMART riders who bike or are open to walking may choose to walk from the new station to SRJC, but there likely will be demand for a direct bus between the station and the college. From earlier conceptual station layout renderings, it is likely that the

preferred bus stops for the North Petaluma Station (at Corona) will be eastbound on Corona and northbound on N. McDowell. This constrains route design options.

Do Nothing – No Project

Petaluma Transit could “stand pat” with its route network, provide service to the North Petaluma SMART Station with existing Route 2 (retimed, see above) and have SRJC-bound passengers catch Route 2 south to ETC, and transfer to Route 3/33 for the 10-15 minute ride to SRJC. This is the cheapest and easiest option, but would add a half hour or more to SMART riders travel times to/from the SRJC, making the last mile connection undesirable.

Re-route Route 3/33

Petaluma Transit could realign one or both of its mirrored eastside routes (3/33) to somehow serve the new station. The most logical manner might be to eliminate service off of North Maria Drive between Sonoma Mtn. Parkway (SMP) and Rainier, opting instead to serve between the North Petaluma SMART Station and the SRJC campus via Corona and SMP in both directions. This scheme is problematic in several ways:

- Route 3/33 stops near Meadow School are fairly productive, and would have to be closed

- Route 33 would likely overflow out of its 30 minute cycle due to extra running time

- Route 3/33 service cuts on Maria south of Rainier would impact productive bus stops

- 3/33 might have to be removed from the ETC pulse, at least every other 30 minutes, and rebased at the North Petaluma Station on every other half hour.

Re-route Route 2

Petaluma Transit could realign the Southbound Route 2 to divert left (east) on Corona (from North McDowell) to serve the station, then directly over to SRJC via Corona and SMP, then back to North McDowell via Rainier. This would negatively impact Route 2 by:

- Route 2 would expend more minutes diverting to SRJC and may not function in its 30 minute cycle negatively impacting the already time-starved Route 11 (interlines at ETC)

- Route 2 service cuts on N. McDowell south of Corona and north of Rainier would impact productive bus stops including several that serve senior living communities

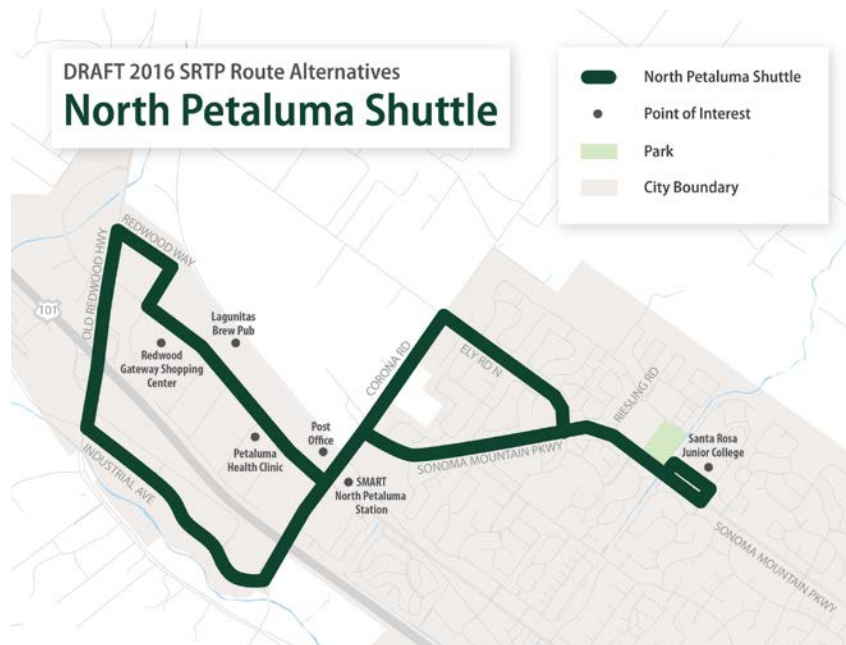
- Route 2 would receive less benefits from the newly installed transit signal priority project (TSP) that is being installed at all intersections along N. McDowell Blvd.

Create a New Shuttle Route

Petaluma Transit might be best served by simply obtaining grant funding for a dedicated SMART shuttle that could be designed to cover key destinations in NE Petaluma that are not well served by Route 2 in a quick, 25 minute cycle matching SMART schedules (see map following page). This would be very similar to what is being proposed for Route 5 on the Westside. However, lacking new, outside funding for this, this \$100k/year option may be financially infeasible.

Option	Annual Revenue Hours	Marginal Cost/Revenue Hour	Total Annual Cost
Modify Route 2 or Routes 3/33 to connect SMART North Petaluma Station with SRJC matching SMART schedules	TBD	\$40	\$TBD, could hurt system integrity
Add a New Route to serve SMART North Petaluma Station connecting with SRJC and perhaps other unserved area in NE Petaluma matching SMART schedules	2520 (10 x 2520)	\$40	\$100,800
TOTAL	TBD	\$40	TBD

Figure 28: Conceptual North Petaluma Shuttle



Alleviating Crowding After School – Additional Tripper Services

Petaluma Transit has been highly adept at adding additional capacity to crowded school bell trips to ensure that there is not a perception of maxed capacity among the student market. Almost every year, more capacity is added to maintain room for growing ridership at various campuses, based on information from operators and market research with students. 2015 student input indicated that the afternoon 3S trip, which serves both KJHS and CGHS then around South McDowell and across town via E. Washington, ending Downtown, is experiencing very crowded conditions.

However, overall declines in student enrollment, and transit ridership experienced in the 2015-16 academic year may have already alleviated this situation. In addition, the PM Service enhancements that will increase frequencies and running time cycles on Route 11 should provide students with a second viable bus that can transport them from Casa Grande High to the Fairgrounds and Downtown areas without a major delay. The connections will once again be reliable at the Eastside Transit Center, enabling Casa Grande students to choose between the 3S (to be renamed Route 311) AND the regular 3, both of which will connect through and cross the 101 Freeway without delay, improving travel times for students.

That said, the crowding levels on school-bell trips are always to be monitored actively and indeed it may be necessary to add additional capacity to the system in the timeframe of this plan. However, at this point additional tripper hours are not included in the constrained financial plan.

Fixed-Route Operations Plan

Based on Petaluma Transit’s comprehensive evaluation of the its fixed-route service, and extensive outreach to the ridership in recent years, the following projects are recommended for implementation during the life of this plan as funding allows. Near-Term recommendations are anticipated to be implemented later in FY 2017 and 2018. Mid-term projects can be launched as funding allows but are not included in the Financial Plan. Likewise, long term projects can be launched if funding allows and the project still meets the dynamic transit needs in future years.

Short/Near Term Recommendations

Modify/Expand Service to Support SMART – Routes 24, 1, and 5 - Weekday Only

Petaluma Transit will seek to both meet the local transit routes “vision” created by SMART in its original SMART Shuttles planning study, and respond to recent survey data on points of origination and destination within Petaluma by modifying and expanding Route 24, expanding Route 5 hours, and returning Route 1 and 24 to a 60-minute cycle. Critical to this effort is the creation of a temporary bus stop on D Street near the SMART Station Platform to minimize walking distance and time delays for buses serving SMART (Routes 24 and 1/5).

Route 24 will be streamlined to serve along Lakeville and return to 60 minute frequency (from 75) interlined with Route 1 at the SMART Station (new bus stop under construction). Routes 1 and 24 will alternate, with each route serving every other SMART train. The schedule will be timed to the greatest extent possible to serve the bell times at St. Vincent’s High School as well as key employers in the Kaiser Business Park area. To avoid “near misses” the route will be timed to depart/arrive SMART between train cycles.

Route 1 will have two distinct alignments:

- a SMART-oriented early AM and late PM peak commute alignment
- a mid-day alignment

Route 1 will be able to continue to serve Petaluma Blvd. South during the mid-day (this area will have commute and school bell hour service from Route 5) on an hourly frequency.

In the early AM and late PM “peak commute hours” Route 1 will make deviations onto Magnolia Avenue 2-4 times per day to serve schools in that area (St. Vincent’s HS and Mary Collins Cherry Valley K-8) while serving a much shorter, more northerly alignment, skipping PBS.

Figure 32: Modified Route 1 with Peak and Mid-Day Alignments

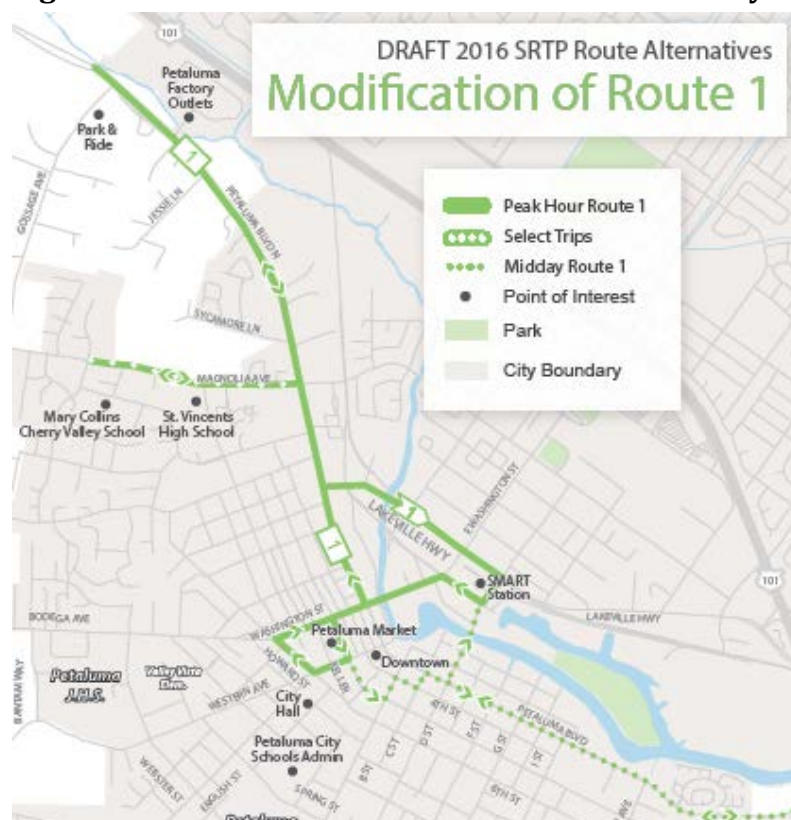


Figure 33: Expanded Route 5 (with SMART-Oriented trips named Route 14)

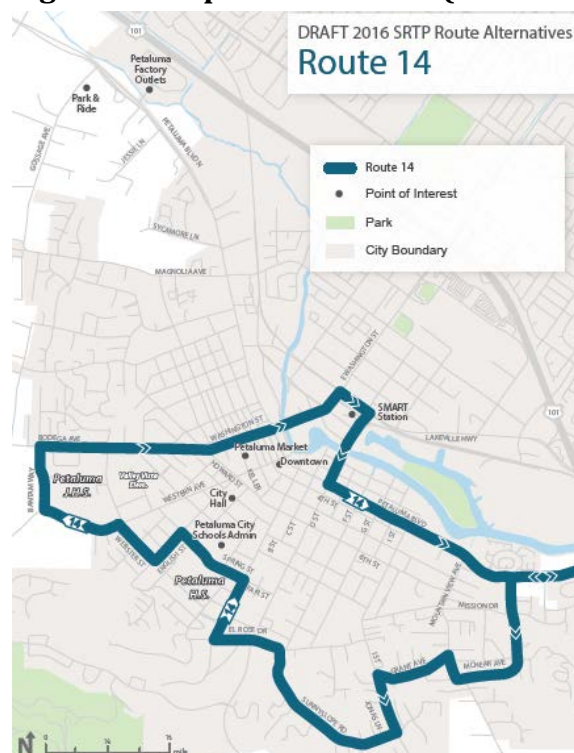
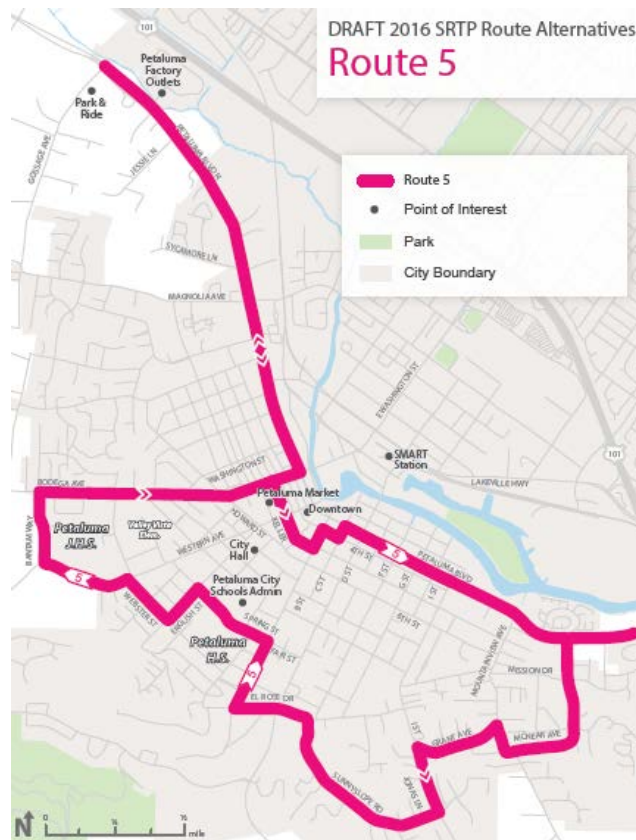


Figure 34: Route 5 at School Bell Times

The current Route 5, at main school bell-times, will stay intact, with additional early morning and late afternoon trips added to the Route 5 alignment to provide commute options to/from SMART to the Westside. It is anticipated that the non-school bell trips will be given a different route number to aid in understanding that they are SMART shuttles. *Adds 1071 annual revenue hours and may prove unsustainable without sustained subsidy (grant). Initiate with start of SMART operations in late 2016 if possible (partial FY 17).*

Afternoon On-Time Performance Problems – Add Buses & Elongate Cycles

Petaluma Transit ridership intensified year over year since 2010, causing more stopping and dwelling of buses in order to serve the 145% increase in ridership in the FY 2010-2015 time period. Aggravating system on time performance is citywide increases in traffic, in particular from the East Washington Place (Target) development. This directly impacts PT's most highly ridden route, the Crosstown Route 11 which carries the most passengers in the system, and is severely late almost every day, particularly in the mid and late afternoons. This causes missed transfers between the 11/2 and 3/33 buses, causing passenger delays of up to 30 minutes at ETC, effectively doubling the transit travel time for the customer on those trips which "miss" the transfer pulse.

Petaluma Transit should elongate the running times of Routes 11/2 from 60 to 80 minutes during the worst temporal congestion along E. Washington, between 3-6pm. To avoid diluting service frequencies, but rather to improve frequencies, this elongation of cycle times should be augmented by the adding of 2 additional buses on the 11/2 blocks, increasing frequencies on these core routes from 30 minutes to 20 minutes. This expensive but crucial fix will stabilize the system's most serious challenge, and improve service frequency and reliability. The system will then flex back to its normal, 60 minute cycles with 30 minute headways (2 buses) at 5:45pm. This will challenge PT due to the expansion of the fleet peak pullout requirement from 8 today to 10. However, with three new hybrid buses arriving in July 2016, the fleet will be able to support this new, expanded late afternoon platform (10 buses in service out of a late 2016 fleet total of 14). Should demand warrant, an option exists to match the expanded frequency of the 2/11 blocks by adding a second bus to the 3/33 block to match the 20 minute headways in the late afternoon. This option is not recommended initially due to funding constraints and uncertain demand. *Adds 1200 annual revenue hours and is funded by a new LCTOP grant.*

Senior Route ("Silver Shuttle" or TBD)

Feedback from market research outreach with leaders in the Petaluma senior community indicates that the current fixed route network is a challenge to some seniors. In particular, due to past land use decisions and site location decisions for senior housing, a number of clusters of senior apartments are located in areas difficult to serve productively with fixed route buses. Simply promoting paratransit (at \$30+ dollars subsidy per trip) is not a sustainable option. The idea of crafting a route that would run during the midday and serve the known senior apartment complexes that are far from main streets, then connect with shopping and medical destinations is attractive. This Senior Route could also "deviate" upon demand to pick up paratransit riders at their homes (or to their homes) upon request, thus acting to help mitigate future paratransit trip demand. It is thought that this deviated route could help greatly in the Westside, which failed to support normal fixed route service over the years (outside of school commutes) but has isolated transit needs that this service could meet. Any deviated fixed route service is dispatch-intensive, and Petaluma Transit would need to have enough staff ready and trained to deal with the challenge of interactive, day-of-service trip reservations. *Adds up to 1380 annual fixed route revenue hours. Will decrease annual paratransit revenue hours by an unknown amount.*

Mid-Term Recommendations

Modify/Expand Service to Support SMART – Weekends

Petaluma Transit will seek to improve Routes 24 and the potential 1/5 interlined route to mimic what is offered during the week, should weekend train demand warrant, and

funding become available. This would both meet the local transit routes “vision” created by SMART in its original SMART Shuttles planning study, and support what potentially is a robust “reverse commute” or “tourist” market taking the SMART train to tour the region for discretionary trips on the weekends. SMART has yet to finalize and share weekend schedules, so cost projections are difficult. If possible, the goal would be to modify and expanding Route 24, and correspondingly, expanding and modifying Routes 5 and 1. *Adds perhaps 800 annual revenue hours and ideally would benefit from a sustained subsidy (grant). Initiate as funding allows and after more is learned about this weekend train market.*

Long-Term Recommendations

Improve Frequency – Elongate Running Time Cycles and 20 Minute Frequencies All Day

Frequency of buses should be increased as funding allows. Specifically, PT’s best routes (11, 2, 3, and 33) should increase from 30 minute headways to 20, expanding the “fix” to the afternoon OTP malaise to run all day on weekdays. PT’s other routes (1 & 24, specifically) should receive increases as part of their expansion to properly support the SMART train schedules. Implementing these frequency improvements from 7am to 6pm (weekdays) on Routes 11, 2, 3, and 33 *adds 2259 annual revenue hours.*

“Rapidizing” the Route 2 & 11

Bus Rapid Transit (BRT) is a moniker for a package of improvements that elevate the prestige and levels of service of a particular route/corridor. In general, BRT systems (or “rapids” a lesser intense version of BRT) feature either dedicated bus lanes or rights of way, separate branding from the transit agency’s usual routes, using articulated buses with all the modern technologies, including the TSP described above, plus AVL (automatic vehicle location) and Wi-Fi, etc. Bus stops are bold and feature shelters, real-time bus arrival signage, bike racks, service information, and are clearly more developed than usual bus stops. BRT could be described as “smart transit”, and elements of it should and are deployed already in Petaluma and elsewhere. However, BRT projects are eligible for funding that “normal” service is not, so it may behoove Petaluma Transit to package and develop a BRT project, in order to seek FTA Small Starts (or other) funding. The most appropriate corridors would be North McDowell and or E. Washington. Both corridors feature growing ridership now, and a network of bus stops that already serve their mix of land uses that are relatively, by suburban standards, transit friendly. A service frequency increase to 20 minutes, then to 15 minutes is already in the plan (see above). If funding requires 10 minute peak service, additional revenue hours will be required, but may be (at least initially) obtained via operations funding obtained and dedicated to the project.

Crosstown Route

There is some desire to create a faster, more direct crosstown route than the current Route 11, and to extend this crosstown route further east and west. Route 11 is a popular cross town route, but it only runs east/west from Downtown to Maria Drive (ETC) leaving the remainder of the Eastside served by the mirror loop routes 3/33. Some find the looping path of the 3/33 (up and down Sonoma Mtn. Parkway/Ely, then Maria Drive or S. McDowell meeting other buses at the ETC) to be too slow. This new route could be accomplished by either 1) elongating the Route 11 (breaking the 11/2 interlines) to 1 hour, and extending the alignment to the new sports complex on the eastern city limits and perhaps extending the alignment further west of Downtown, perhaps to Howard Street; or 2) leave 11 alone, and create an entire new route, mostly OFF of Washington. This entirely new alignment could traverse the 101 Freeway via Caulfield, serving that area in the Payran/Lindberg area along the way. Should the route serve Downtown, it will still be required to traverse D Street or Washington at some point. It may also be possible to design some crosstown elements into the Senior Route should funding for both new routes be unavailable. Depending on the ultimate alignment chosen, the route could operate in a 60-minute cycle providing bi-directional service on as long of a service span as is affordable. Assuming a 10 hour weekday only service span, *Adds up to 2550 annual revenue hours.*

Chapter 6: Capital Improvement Program

This Capital Plan provides for the infrastructure required to support the operations and services set forth in the Operations Plan and Budget described in Chapter 5.

Petaluma Transit's primary capital responsibilities and priorities are to (1) maintain a sufficient fleet of clean fueled vehicles for local transit service, (2) improve and maintain the amenities and accessibility of Petaluma bus stops, (3) improve major bus transfer locations, (4) provide passenger information and (5) provide needed operations equipment and infrastructure.

Petaluma Transit's capital resources limit the Capital Plan to primarily maintaining a state of good repair for existing assets and making the minimal level of investment required to maintain and operate the local bus system. The 11-year²⁰ Capital Plan includes expenditures of \$13.3 Million (Table 18) of which 77% is for purchasing transit vehicles (see Figure 29). Other major capital expenditures included in the plan are facility improvements, major vehicles repairs, bus stop improvements, and small capital purchases.

Prior to looking ahead to Petaluma Transit's planned program of capital projects for FY 2016-22, it is helpful to recap the extensive list of capital projects delivered since the last SRTP in 2012.

Completed projects are listed in chronologic order, starting in 2012:

Transit Facility Rehab Phase I – Renovation of the Operations and Maintenance Facility at 555 N. McDowell

Phase I of this project was funded with a \$600,000 Federal State of Good Repair (SGR) grant. The project began with development of a master plan for the future use of the transit facility (555 N. McDowell) and then proceeded into design of an overhaul of the maintenance building.

Project Goals

This main focus of Phase I was to modify the existing maintenance shop to enable indoor maintenance of modern transit buses, and to purchase an indoor drive-through bus wash. With the unexpected addition of \$800,000 in additional SGR funding late in the design

²⁰ The forecast extends to 2027 in order to capture the effects of a large capital purchase in that year.

phase, the original Phase I project was expanded to include elements originally slated for Phase II (for lack of funding). Phase I ultimately completed all improvements desired on the Maintenance and Operations Building, and Phase II (separate project, in later years) will design and construct improvements and expansion to the grounds and parking lot areas.

This “Phase 1” Transit Facility Rehabilitation project ultimately included:

- Developing a concept/master plan for the ultimate layout of 555 N. McDowell
- Shrink the existing maintenance building’s footprint, and replace the southerly half with a two bay, high roofed, pre-engineered building to allow indoor maintenance
- Improve the lighting, heating, and ventilation in the entire operations building
- Replace the roof on the existing operations building with a solar-compatible style
- Relocate the parts room and mechanic’s office within the maintenance area
- Improve the most deteriorated patches of the parking lot (to last until Phase II)
- Upgrade electric service for the entire facility through a new PG&E service panel
- Install a new drive-through bus wash in the second new (high) bus bay
- Create a new driveway and gate accessing Rainier at the southwest corner of the site
- Relocate disabled parking stall and make minor ADA concrete improvements

Timetable

Phase I consumed the entire \$1,750,000 (including local match) in the two separate SGR grants, plus a small amount of additional TDA funds, leaving Phase II unfunded and deferred indefinitely. Phase I was completed in early 2014. Phase II is now a smaller project, focused on reconfiguring the parking lot to expand bus parking, upgrading perimeter fencing and security systems, and making security improvements to the facility and modification of the landscaping. Phase III will likely follow in future years to address employee parking reconfiguration and customer access issues along Transport Way.

Used Bus Procurement – (3) 1999 New Flyer Buses

The City obtained three suitable 1999 40’ diesel New Flyer buses that were surplus in January 2014 from City of Santa Rosa. The City obtained each New Flyer for \$8,000 each. The buses then received new paint jobs and key PT equipment installation (fareboxes, radios, and camera systems) which added about \$14,000 to the cost of each bus, projecting each bus to around \$22,000. Comparable new buses sell for over \$400,000 each, making this a very efficient project.

Project Goals

The project's goal was to enable continued ridership growth, with vehicles sized to be suitable for the large crowds experienced after school bell times. The buses also take pressure off of the maintenance function. During most of FY 2013-14, every weekday school-day afternoon, all 8 of Petaluma Transit's heavy duty buses were deployed, leaving ZERO spare buses.

Timetable

The first bus (bus 41) went into revenue service the last week of May 2014, and featured the pilot Wi-Fi service, which made this bus instantly popular with our student market. The second New Flyer (bus 42) went into service in late June and the third and last New Flyer (bus 43) was placed into revenue service in November, 2014.

Bus Shelter Purchase: 10 Solar Advertising Shelters

Petaluma Transit obtained funding to purchase and install 10 new solar-lighted bus shelters from a disbursement of Prop 1B Lifeline funds. Petaluma successfully competed for \$76,734 in Prop 1B Lifeline funding through Sonoma County Transportation Authority last year, and has these funds included in the FY 13-14 transit budget. With the required 20% local match (TDA reserves) the total project budget was \$95,917. In order to expand the project to 10 shelters (from 7-8) an additional \$22,353 in existing TFCA funding was added to the project budget, increasing the budget to \$118,270, enough to cover purchase and installation of all 10 shelters.

The Prop 1B Lifeline funding is constrained to lower income census blocks, which frames the areas that these shelters can be installed in. For areas served by Petaluma Transit, this limits the project to areas along Lakeville Hwy, E. Washington, and N. McDowell Blvd.

Staff ultimately identified the following (non-sheltered) bus stops for inclusion in the project:

1. Lakeville at Caulfield NB
2. E. Washington at Lakeville EB
3. E. Washington at Vallejo WB
4. N. McDowell at Petaluma Plaza South SB
5. N. McDowell at Scott NB (Lagunitas)
6. N. McDowell at Candlewood NB
7. N. McDowell at Southpoint SB
8. N. McDowell at Southpoint NB
9. Old Redwood Hwy at N. McDowell (IHOP)

10. Regency (Target) Shopping Center on Kenilworth Drive

Project Goals

The project's goal is to improve the passenger experience at key bus stops throughout the Petaluma Transit system. Shade, windbreak, and a place to sit are keys to ridership.

Project Funding

The project's \$118,270 funding was 65% Prop 1B Lifeline (state) funds, 19% TFCA funds, and 16% TDA funds.

Timetable

City Council approved the purchase of the 10 bus shelters at their March 17, 2014 meeting. Carter Crilly Construction of Petaluma performed the installations in the latter part of December, 2014 and into early January, 2015 at the locations noted above. The shelters look beautiful in their PT periwinkle blue color, and feature advertising cases (two sided) which can host paid advertising or self-promotional materials, such as the popular system map and timetable poster.

Purchase 2 Replacement Paratransit Vans

Since 2009, Petaluma Transit has replaced its revenue vehicles through participation in MTC's (Metropolitan Transportation Commission) Transit Capital Priority (TCP) program. Petaluma Paratransit traditionally featured a 9-van fleet. However, since May 2012 the operation has functioned with only 7. This generally meets the needs of the service (7 is the most vans ever out at one time in the last year) but puts pressure on the maintenance function to ensure that enough vehicles are available on busier service days.

Project Goals

The project's goals were to replace two paratransit vans that had expended their FTA useful lives. This maintained the PP fleet at 7 vans.

Project Funding

Like most vehicle replacement projects, this project's funds were 82% federal transit funds, and 18% PTMISEA (Prop 1B Transit Capital funds).

Timetable

City Council approved the purchase of these (2) replacement vans at their March 17, 2014 meeting. A purchase order was issued and provided to the bus vendor (A-Z Bus Sales, provider of Elkhart Coach buses) Exterior graphics were installed by Barber Sign of

Petaluma and the vans went into service the week of February 1, 2015. Vans 3 and 7 were retired, with van 7 going to surplus and van 3 to be used as a shop vehicle for our mechanic.

Install Wi-Fi on Board Fixed Route Vehicles

PT's core youth ridership group has consistently requested the provision of wi-fi on board as an amenity that would make their travels on PT more enjoyable, and induce more trip taking. Passengers can surf the web, check emails, and are generally entertained while riding the service.

Staff found a partnership between a major cell communications vendor (Verizon) and CradlePoint mobile wireless equipment and a pilot bus (bus 41, the first of the used New Flyer buses acquired from Santa Rosa) was deployed with the system in May 2014. After many hours of trials and tribulations, the pilot bus has functioned very well, with content filtering, and was capable of handling the high demands of the student market. The usage of the system is easily monitored through internet portals for both the router hardware, and the content filtering system. Offensive content is blocked using a service called OpenDNS to avoid unwanted content being pulled up in the midst of a crowded bus.

Project Goal

The project's goal was to meet an expressed desire from student riders for free on-board wifi.

Project Funding

This project is funded by Petaluma Transit's Transportation Fund for Clean Air (TFCA) funding, which recently became a formula-based annual allocation in FY15. The TFCA funding covered the one-time costs associated with hardware purchase in the first year, as well as ongoing operational costs (data costs, content filtering and device management subscriptions, and tech support). The project has proven to be popular, but slightly more expensive than originally envisioned.

Timetable

The project was deemed complete in March 2015 with the addition of the 11th fixed route bus to the wifi project network. This followed nearly four months after the addition of the 8th, 9th, and 10th buses in December 2014. The project was completed in March 2015.

Automated Vehicle Location (AVL) – Computer Aided Dispatch (CAD) System

AVL/CAD systems are sweeping through the transit industry. An AVL/CAD system will be up and active on the dispatchers computer as they answer phone calls and radio

communications all day long, showing the location of current buses, who is driving, how many passengers are on board, and if the route is on-time, late, early, etc. Planners use the data to identify productive and unproductive segments of routes (automatic passenger counting devices drive this feature) segments of timetables that need more minutes added, segments that could use minutes trimmed, etc. Additional functions of AVL/CAD systems include data communications between bus and dispatch, automatic announcements of approaching bus stops (ADA compliance), interaction with headsign controllers, provision of data to real-time bus arrival systems (LED signs and smartphone applications), etc.

Project Goals

The project's goals include the ability to produce and provide to riders "real-time" predictive bus arrival information, also, the capture and access to a complete spectrum of planning data, ADA compliant visual and audible stop announcements, NTD (National Transit Database) accepted ridership data (via automatic passenger counters installed at bus doorways) and expanded dispatch to bus communications.

Project Funding

The project's funding is a mix of local developer traffic impact fees, federal transit funds, and local TDA transit funds. Like the TSP project just discussed, this project required City Council approval and obtained its original approval as part of the FY 14-15 CIP budget, then rolled into the FY 15-16 CIP budget. The overall project budget is \$718,302.

Timetable

Petaluma City Council approved a contract with Avail Technologies of State College, PA on December 15, 2014 in an amount of \$688,188. Spring 2015 featured the "Discovery Phase" of the project, and finalized design elements, and ordering of all equipment. Factory acceptance testing occurred the week of July 27-30, followed by the initiation of installation in Petaluma in late August 2015. The system became functional and entered the testing phase in September 2015. The testing is nearly complete now in March 2016, and many features are in use daily by PT operations and riders. The first real time arrival signs were installed in March 2016 as one of the last elements of the project. Public access to the smart phone applications was also unveiled in March. Replacing of bus stop signage throughout the City is underway, with new signage featuring unique bus stop ID numbers to enable the AVL system's texting for arrival times feature. The system was fully functional and the project deemed accepted in April, 2016.

Transit Signal Priority (TSP)

Transit Signal Priority (TSP) is a project where traffic signals are equipped with special detectors that communicate with emitters installed on board emergency response or public transit vehicles to give preferential treatment to the vehicles.

Project Goals

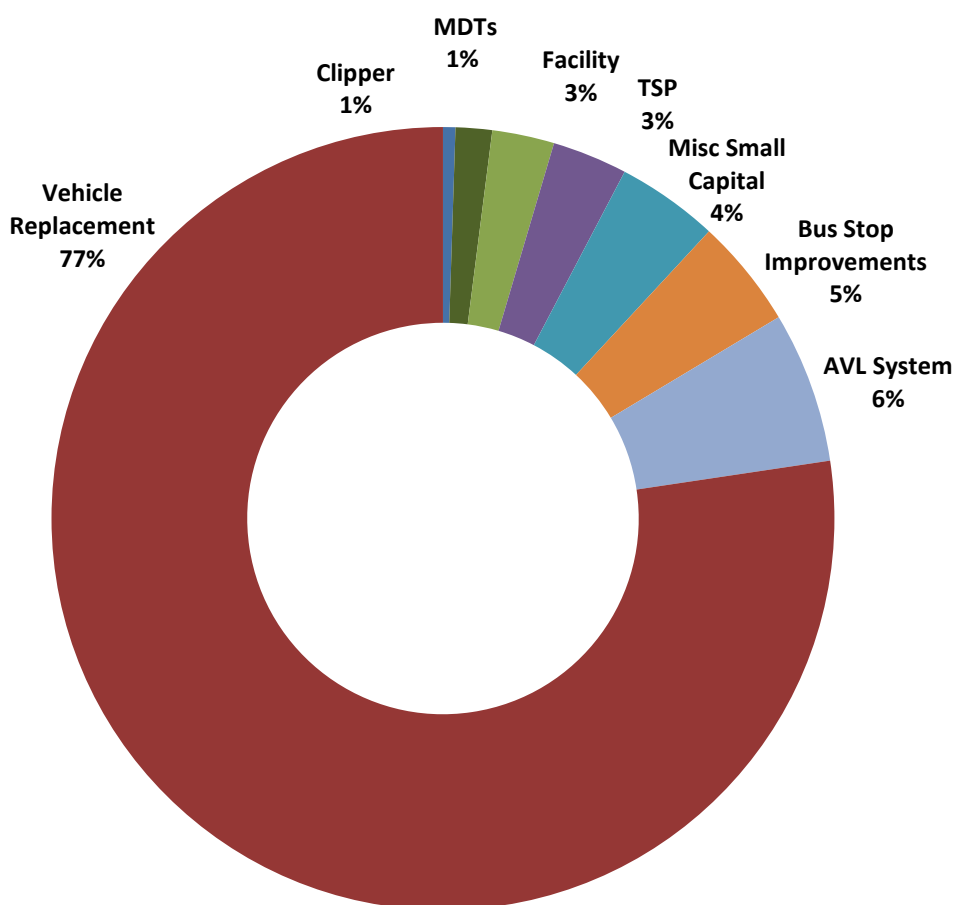
The project's goals are to save 5-10% of bus travel time all day everyday. This will help PT as it strains to accommodate its recent ridership growth, as well as increased traffic congestion. The Petaluma Fire Department has utilized the technology for many years to “pre-empt” signals during emergency response. TSP uses a lower-priority version of the the same system.

Funding Source

The project is funded (at least the pilot corridor) by developer-contributed traffic impact fees programmed for transit projects, combined with MTC Transit Performance Incentive funds earned by Petaluma Transit for stellar ridership and productivity increases in recent years. Phase I of the project was approved by City Council on March 3, 2014. DKS Engineers is the project technical consultant to develop the North McDowell Phase I “pilot corridor” and has assisted with:

- conducting an inventory of missing equipment, (done)
- the procurement of the equipment and installation labor (done, by staff)
- submittal of construction and bid documents, and (done, IFB out 7/30)
- support during the construction phase (in progress)

The complete list of equipment needed for the project was procured and has arrived in June 2015. The labor for installing the signal mast detector equipment and the running of new wiring to the signal cabinet was awarded in September 2015 with installation of the equipment will be done in March 2016. TSP will then be activated and monitored closely for impacts over the following months, and if deemed successful (improving bus travel times and not negatively impacting traffic) design will then be initiated on Phase II (E. Washington, and D Street) corridors within Petaluma. Transit staff have secured Phase II and Phase III funding through MTC and have included Phase II funds in the FY 16-17 City CIP Budget, with Phase III funds to be included in the FY18 budget.

Figure 35: Capital Expenditures by Type FY16-FY27

Capital Funding

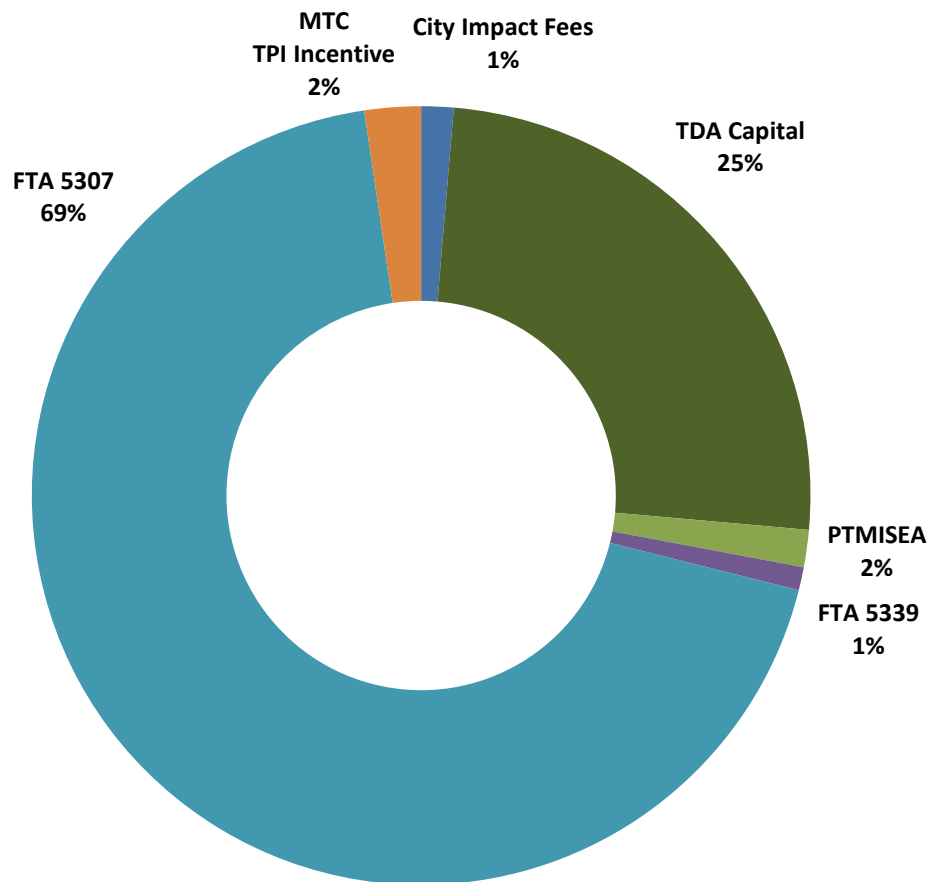
Federal FTA Section 5307 Urbanized Area Formula funds that are programmed through the Metropolitan Transportation Commission (MTC) provide 82% of funds for vehicles replacement projects. Competitive federal grant programs can provide additional funding for vehicles and bus stop improvement projects.

Over the past five years, Petaluma Transit has received state funding under the Proposition 1B PTMISEA program. This program provided funds that allowed Petaluma Transit to complete vehicle replacement and create a capital TDA reserve. The last year of funding available is FY2014/15. Over the life of the bond, Petaluma Transit expects to have received \$521,465 in State funding for capital projects. To date, these state funds have been

expended or are programed for matching the purchase of ten (10) bus stop shelters, the local matching funds for three (3) fixed route vehicles and four (4) paratransit vehicles, the local match for the State of Good Repair Transit Maintenance Facility Rehabilitation project, and partial funds for the purchase of the AVL/CAD system.

As Figure 30 below shows, the majority of capital revenue is made up of FTA 5307 funds, matched by TDA funds.

Figure 29: Capital Revenue Sources FY16-FY27



Fixed-Route Vehicle Program

In 2007, the City acquired four new 35-foot, heavy-duty transit buses. This purchase initiated the transition from reliance on medium duty cut-a-way vans to traditional transit vehicles with greater capacity, longer useful lives and an overall more comfortable passenger experience. In 2011 the City continued this transition with the purchase of four additional 30-foot, heavy-duty transit buses. The FTA service life of a heavy duty transit vehicle is 12-15 years. The MTC has created the Transit Capital Priorities (TCP) process to distribute precious FTA funding within the Bay Area, due to transit capital demands far outpacing available FTA funding. The TCP process offers significant incentive monies to transit agencies to operate their rolling stock beyond the 12-year minimum useful life. For each year of deferred replacement, MTC provides the transit agencies additional funding that is flexible and can be used for almost any project, including operations.

With that in mind, the Financial Plan and Capital Plan show Petaluma Transit not retiring its buses at the minimum FTA useful life mark, but rather taking maximum advantage of MTC's TCP program and running the buses for 15 years (fixed route). This results in additional 5307 funding coming to Petaluma in FY 2023 and 2027. This "deferred replacement" savings will be for the extended usage of the 2007 and 2011 buses. On the paratransit side, Petaluma will pursue the same added funding for operating these vans beyond their FTA minimum of 7 years, and will receive smaller, but helpful additional 5307 funds in 2021 and 2024.

This plan assumes all vehicles are funded with FTA Section 5307 funds matched by local TDA 4.0 funds. However, TDA match funds may be replaced by some other future funding source (e.g. Prop 1B PTMISEA which recently expired) as appropriate to help protect TDA funding. In recent year, MTC has begun to program FTA Section 5339 to Petaluma instead of 5307. This funding source presents a major obstacle due to the requirement that Caltrans must pass through the funds to Petaluma, as a Small Urban Area. This additional layer of applying for and getting approval to receive the funds did add 2 years of delay onto the procurement process for the recently arriving 2016 Gillig Diesel Electric Hybrid buses, and the replacement of three (3) paratransit vans. Fortunately, with the passage of the FAST Act in Washington D.C. in 2016, this structural delay in the flow of the 5339 funding was corrected and Petaluma will received these funds via the FTA as with 5307 funding.

During the life of the last (2012) SRTP, Petaluma Transit faced an acute need for more buses, and larger buses to accommodate ridership growth. To meet this need, PT acquired 3 recently retired 40' New Flyer buses from Santa Rosa at a very low price. These three buses were handpicked from a batch of 6 and have been popular and reliable since they

were put into service in May, 2014. While MTC respects the project as practical way to meet an unexpected emergent need, it is unlikely to provide full funding to replace these second-hand buses due to major regional capital shortfalls in FY 17-20 (many railcar replacements in the region). The Capital Plan does not assume FTA funding through MTC for replacement of these 1999 New Flyers. However, should another minor fleet expansion again emerge as a need before MTC can replace buses via the TCP process, Petaluma can again look to the used bus market and aim to the success of this 2014 procurement.

Petaluma transit staff and the Transit Advisory Committee completed a thorough analysis of available fuel technologies prior to the ordering of three (3) Diesel-Electric Hybrid buses in 2016. The TAC and staff are interested in the emergence of all-electric bus technology, and feel that Petaluma's next MTC-programmed purchase of replacement fixed route buses in 2023 will be a great opportunity to introduce this exciting and cost effective technology.

Paratransit Vehicle Program

As of the end of February 2016, the City-owned paratransit fleet included seven active vehicles, including one van used in paratransit and fixed route service, with programmed funds for 3 additional replacement vehicles. Given the delay in allocation of FY14 federal funding by Caltrans, the FY17 capital plan includes purchase of these two vehicles plus a third vehicle programmed in FY17. Unlike the 2012 SRTP, this SRTP shows useful life calculations of seven years for these medium duty cutaway vehicles.

This plan assumes that vehicles purchased in FY16 and beyond will be replaced with seven year vehicles. As mentioned above, Petaluma plans to take advantage of the MTC TCP incentive program to run these vans beyond their seven year lifespan in order to receive additional funding. This plan assumes an overall paratransit fleet of 9 vehicles, including 6 current vehicles and three replacement vehicles (replacing vehicles which have already been retired).

With delayed 5339 funding finally available (due to FAST act, see above) Staff will be bringing a purchase order for 3 replacement paratransit vehicles to TAC and City Council in the fall of 2016. These buses will replace one vehicle, and return Petaluma Paratransit's revenue fleet back to a maximum level of nine (9) vehicles by 2017.

Table 14: Paratransit Vehicle Inventory

Vehicle #	Year	Make	Length	Type	Fuel	Seating	W/C	Status	Replacement Funding Year
7	2003	Ford E350	22	Cut-a-way	Gas	8	3	Retired (Feb 2015)	2014*
6	2007	Starcraft	22	Cut-a-way	Gas	6	2	Returned to PPSC	2014
9	2007	Starcraft	22	Cut-a-way	Gas	6	2	Returned to PPSC	2017
12	2010	Ford E450	24	Cut-a-way	Gas	12	3	Active	2018
14	2011	Ford E350	22	Cut-a-way	Gas	8	3	Active	2018
15	2012	Ford E350	22	Cut-a-way	Gas	8	3	Active	2020
16	2012	Ford E350	22	Cut-a-way	Gas	8	3	Active	2020
13	2015	Ford E450	24	Cut-a-way	Gas	12	3	Active	2023
17	2015	Ford E350	22	Cut-a-way	Gas	8	3	Active	2023

*This vehicle was purchased in 2003 and eligible for replacement in 2009. Replacement deferred 4 years. Savings taken as PM in 2010.

Table 15: Fixed Route Vehicle Inventory

Vehicle #	Year	Make	Length	Type	Fuel	Seating	W/C	Status	Actual Replacement Vehicle Year
21	2003	Chevy	29'	Cut-a-way	Gas	22	2	Retired	
22	2003	Chevy	29'	Cut-a-way	Gas	22	2	Retired	2016**
25	2003	Chevy	29'	Cut-a-way	Gas	22	2	Retired (Jan 2015)	2016**
26	2003	Chevy	29'	Cut-a-way	Gas	22	2	Retired (Jan 2015)	2016**
11	2013	Ford E450	24'	Cut-a-way	Gas	12	3	Active	2023
33	2007	Gillig	35'	Transit Bus	Diesel	35	2	Active	2023
34	2007	Gillig	35'	Transit Bus	Diesel	35	2	Active	2023
35	2007	Gillig	35'	Transit Bus	Diesel	35	2	Active	2023
36	2007	Gillig	35'	Transit Bus	Diesel	35	2	Active	2023
37	2011	Gillig	30'	Transit Bus	Diesel	23	2	Active	2027
38	2011	Gillig	30'	Transit Bus	Diesel	23	2	Active	2027
39	2011	Gillig	30'	Transit Bus	Diesel	23	2	Active	2027
40	2011	Gillig	30'	Transit Bus	Diesel	23	2	Active	2027
41	1999	New Flyer	40'	Transit Bus	Diesel	38	2	Active	
42	1999	New Flyer	40'	Transit Bus	Diesel	38	2	Active	
43	1999	New Flyer	40'	Transit Bus	Diesel	38	2	Active	

** These vehicles were purchased in 2003 and eligible for replacement in 2010. Replacement deferred for 5 years. Savings taken as PM in 2010.

Table 16: Paratransit Fleet Replacement Plan

Vehicles	Funding Year	Vehicle Year	Length	Type	Fuel	Seating	W/C	Fund Source	Cost	Life	Next Replace Funding Year
1	2017	2017	22	Cut-a-way	Gas	12	3	FTA 5307	\$ 89,000	8	2025
1	2018	2019	24	Cut-a-way	Gas	12	3	FTA 5307	\$ 90,660	8	2027
1	2018	2019	22	Cut-a-way	Gas	8	3	FTA 5307	\$ 90,660	8	2027
2	2020	2021	22	Cut-a-way	Gas	8	3	FTA 5307	\$ 186,800	8	2029
1	2023	2024	24	Cut-a-way	Gas	12	3	FTA 5307	\$ 97,666	8	2032
1	2023	2024	22	Cut-a-way	Gas	8	3	FTA 5307	\$ 97,666	8	2032

Table 17: Fixed Route Fleet Replacement Plan

Vehicles	Funding Year	Vehicle Year	Length	Type	Fuel	Seating	W/C	Fund Source	Cost	Life	Next Replace Funding Year
1	2015	2016	40'	Transit Bus	Diesel	35	2	FTA 5307	\$ 776,950	15	2031
2	2016	2016	35'	Transit Bus	Diesel	35	2	FTA 5307	\$ 1,452,000	15	2031
1	2022	2023	30'	Transit Bus	Diesel	23	2	FTA 5307	\$ 793,840	15	2038
4	2022	2023	35'	Transit Bus	Diesel	35	2	FTA 5307	\$ 3,175,359	15	2038
4	2026	2027	30'	Transit Bus	Diesel	23	2	FTA 5307	\$ 3,271,334	15	2042

Cost based on Regional Bus/Van Pricelist; 1.5% per year for years beyond FY2016.

Table 18: Capital Plan FY16-FY27

	Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast	Forecast
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
Project Costs													
Paratransit Vehicle Replacement	\$ 125,607		\$ 238,981		\$ 181,320		\$ 186,800			\$ 195,333			
Fixed Route Vehicle Replacement (inc. Clipper)			\$ 2,281,297						\$ 4,019,199				\$ 3,271,334
Facility Rehabilitation and Safety Upgrades	\$ 15,640	\$ 18,851	\$ 231,000	\$ 52,250	\$ 200,000		\$ -		\$ -				
Bus Stop Amenities and Access	\$ 15,101		\$ 80,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
AVL / Real Time Info / Data System / APC	\$ 240,194	\$ 461,821										\$ 15,000	\$ 15,000
AVL Equipment for New Buses									\$ 150,000				
Paratransit Scheduling Software				\$ 100,000									
Mobile Data Terminals (Paratransit)				\$ 50,000									
Transit Signal Priority System	\$ 170,561	\$ 49,481	\$ 344,194	\$ -									
Wifi on Buses	\$ 24,526												
Miscellaneous Small Capital Items		\$ 48,749		\$ 40,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Total Project Costs	\$ 591,629	\$ 578,902	\$ 3,175,472	\$ 252,250	\$ 411,320	\$ 30,000	\$ 216,800	\$ 30,000	\$ 4,199,199	\$ 225,333	\$ 30,000	\$ 45,000	\$ 3,316,334
Funding Plan													
City Impact Fees	\$ 76,004	\$ 103,001	\$ 65,000										
TDA Capital	\$ 15,640	\$ 95,521	\$ 457,807	\$ 58,450	\$ 188,297	\$ 30,000	\$ 63,624	\$ 30,000	\$ 783,456	\$ 65,160	\$ 30,000	\$ 45,000	\$ 633,840
PTMISEA/LCTOP	\$ 71,980	\$ 6,518	\$ 245,977										
Federal 5310				\$ 80,000									
Federal 5339	\$ 106,722		\$ 444,305										
Federal 5307	\$ 166,372	\$ 352,302	\$ 1,610,209	\$ 113,800	\$ 148,682	\$ -	\$ 153,176	\$ -	\$ 3,415,743	\$ 160,173	\$ -	\$ -	\$ 2,682,494
5307 Deferred Bus Replacement Savings			\$ 72,980		\$ 74,341								
MTC TPI Incentive	\$ 126,786	\$ 21,560	\$ 226,470										
TFCA Marketing	\$ 28,125	\$ -	\$ 52,724										
City Reserves													
Total Project Funding	\$ 591,629	\$ 578,902	\$ 3,175,472	\$ 252,250	\$ 411,320	\$ 30,000	\$ 216,800	\$ 30,000	\$ 4,199,199	\$ 225,333	\$ 30,000	\$ 45,000	\$ 3,316,334

Other Capital Programs

Facility Rehab Phases II and III

Funding fell short in 2013 of fully expanding and modifying the facility to effectively host a transit system the size of PT in 2016. Remaining elements include:

- moving and replacing the perimeter fencing
- reclaiming underutilized land for additional bus parking
- reconfiguring the facility to better support electronic farebox data collection
- reconfiguring employee parking to increase capacity outside of the yard
- additional safety improvements (lighting, security access doors & gates).

These projects have been included in the City's Transit Capital Priorities funding requests, but due to the overall regional shortfall, and the fact that Golden Gate and Sonoma County Transit can both claim funds out of the Petaluma urbanized area, no funding has been awarded, nor is expected in the future, from the FTA 5307 funds. So, until some other funding is identified, staff recommend using TDA funds and 5307 funding awarded to Petaluma from extending the operations of its vehicles beyond the minimum useful lives to create a modest Phase II project for FY 17, and then again for Phase III in FY 19 as funding becomes available.

Bus Stop Amenities and Real Time Information

Petaluma Transit budgets capital funds annually to maintain and improve the amenities at bus stops with high ridership and/or in key locations. Offering improved access to bus stops makes it easier for riders with disabilities to ride the bus, and bus stop amenities such as benches, shelters, lighting, and trash receptacles create an improved and more attractive experience. Finally, with the implementation of the new AVL system, transfer points or high ridership stop locations can feature live real-time information signage. The Capital Financial Plan includes \$50,000 in funding in FY17 to add a bus pull-out near the SMART Station, \$40,000 annually in the following years to improve access and amenities at new and existing bus stops, and \$15,000 annually to install real-time information in key locations.

Mobile Data Terminals and Scheduling Software for Paratransit

In 2010, Petaluma Transit received New Freedom funds for the purchase of paratransit scheduling software. Paratransit had previously been scheduled and dispatched by hand on paper. The goal was to improve efficiency and streamline

reporting. Trapeze Novus was purchased, as this “lite” version of Trapeze was recommended as most appropriate for a small transit agency such as Petaluma Transit. Unfortunately, the City’s experience with Trapeze Novus has not been entirely positive. Six years after implementation, there are still such significant issues with the software. Due to this, an upgrade was sought to full Trapeze PASS (Trapeze’s top of the line product) is necessary in order to take advantage of the full scheduling capabilities of the software, and in order to get accurate reporting. The one-year contract extension with MV Transportation for FY17 includes full Trapeze PASS software, hosted by MV, in order to give staff an opportunity to determine whether this upgrade would be worthwhile long-term. If grant funding can be obtained, a full dispatching software system should be purchased in FY18, as the long-term leasing of the software through the contractor is not likely to be the most cost effective solution.

The lightweight mobile tablets that have accompanied the Novus software, which are used by paratransit drivers in the field, have also proved unreliable, and an upgrade to the more rugged Mobile Data Terminals installed in the paratransit vehicles is recommended. Ideally, with grant funding, this purchase would take place alongside the purchase of new software in FY18.

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Appendix A: *DRAFT* Short Range Transit Plan Joint Appendix

Sonoma County Transportation Authority, Sonoma County Transit, Santa Rosa CityBus, and Petaluma Transit, in cooperation with the Sonoma-Marín Area Rail Transit (SMART) District, Golden Gate Transit, and Marin Transit.

Introduction

In 2010, the Metropolitan Transportation Commission (MTC) adopted Resolution 3866, which established specific transit operator requirements to implement a coordinated regional network of transit services and to improve overall service productivity. Per MTC's Transit Connectivity Plan, a high priority is placed on transit coordination efforts that make tangible improvements to benefit the largest number of passengers. These improvements include:

- Sharing agency resources to improve system productivity,
- Enhancing the ability of passengers to reach major destinations along regional corridors, and
- Improving connections and providing through service.

This summary of inter-operator transit coordination efforts in Sonoma County and along the Highway 101 corridor in the North Bay is produced by Sonoma County Transportation Authority, Sonoma County Transit, Santa Rosa CityBus, and Petaluma Transit, in cooperation with the Sonoma-Marín Area Rail Transit (SMART) District, Golden Gate Transit, and Marin Transit. This appendix, which is separated into a summary of Existing Coordination Efforts and potential Future Coordination Initiatives, is included in the respective FY 2015 Short Range Transit Plans (SRTP) prepared by Sonoma County Transit, Santa Rosa CityBus, and Petaluma Transit.

MTC's Transit Sustainability Project (TSP) was initiated in early 2010 to help chart a future for efficient, convenient and reliable public transit throughout the region, including Sonoma County. One of the major goals of the TSP is to ensure that public transit is an accessible, user-friendly and coordinated network for passengers, regardless of mode, location or jurisdiction. In summarizing the current inter-operator transit coordination and exploring ideas for future coordination, this appendix is a key component in fulfilling this recommendation.

Existing and Ongoing Coordination Efforts

Coordination of Customer Service Information

Accessible transit information and trip planning tools can greatly increase the ease of transit use and encourage new riders. Several sources now provide information about multiple transit operators so that customers do not have to navigate routes and schedules on multiple websites.

The Sonoma Access Countywide Call Center is a One Call/One Click Transportation Resource Center that integrates community based and public mobility options to address the needs of the disabled and senior residents of Sonoma County. Sonoma Access is a call center and website designed to bring together information on all of the public, private, and non-profit transportation options and providing full-service Mobility Management in Sonoma County. The Sonoma Access “One Call” center enables an individual to make only one telephone call to be directed to an array of different types of transportation options including travel training, trip planning assistance, and/or to be connected to a specific transportation provider. The call center is operated by the Volunteer Center (211) and gives callers the option of connecting with Santa Rosa Paratransit, Sonoma County Paratransit or Petaluma Paratransit. The call center also gives the caller the option of speaking with an operator who has access to information about human services agencies and the specific services that they provide, including their transportation services. This project was initiated by Santa Rosa Transit through a New Freedom grant from the Federal Transportation Administration (FTA).

The Sonoma Access website (sonomaaccess.org) provides “One Click” information about fixed-route public transit, paratransit, volunteer driver programs, non-profit transportation providers, and transportation providers for veterans. The website includes links to schedules, route maps, and websites, telephone contact information, as well as travel training options. Embedded software allows users to find providers covering the area between trip origin and destination. The website also includes a form where agencies that want to provide rides may request partnership. The Sonoma County Department of Human Services, Area Agency on Aging is taking over maintenance of the website and is currently working with Santa Rosa Transit to redesign the website to make it more user friendly and update the information and links with current information.

GoSonoma (gosonoma.org) is a website maintained by the Sonoma County Spare the Air Task Force and sponsored by Bay Area Air Quality Management District. This website provides transit, bicycle, carpool, and other transportation demand management program

information for Sonoma County. The transit tab on the GoSonoma website provides step-by-step instructions for taking transit with links to all of the bus operator websites that serve Sonoma County, as well as the 511 Trip Planner and Google Transit.

The 511 Trip Planner, operated by MTC, allows travelers to find transit routes for their trip by inputting their origin and destination. All Bay Area transit provider schedules and routes are integrated into the system, so travelers can choose the best route based off of their preferences for fastest trip, fewest transfers, less walking, or lower fares. The 511 system also offers telephone information on transit schedules by dialing 511.

Third-Party Public Transit Planning Tools collect General Transit Feed Specification (GTFS) data from various transit agencies. For example, Google Transit is a public transportation planning tool feature in Google Maps that combines the latest transit agency data with Google Maps online and on the mobile application. Google Transit, and other transit planning tools, use GTFS to integrate transit stop, route, schedule, and fare information with maps and optimize trip planning. Trips involving transfers between operators can be planned with several of the available transit planning tools.

Transit Service Representatives (TSRs), employed by Santa Rosa CityBus, provide route and schedule information for all operators serving the Santa Rosa Transit Mall. This service helps riders who need assistance finding connections or information on how to get to their ultimate destinations.

Real-time information

In the recent years, Sonoma County transit operators have begun to install Automatic Vehicle Location (AVL) equipment on buses providing real-time Global Positioning Systems (GPS) location information for dispatching and tracking vehicles. AVL systems allow operators to provide real-time information to transit riders through websites, mobile applications, text message, and hub and bus stop signage. SMART will also install AVL equipment on their rail vehicles to provide real-time GPS location information to the SMART control center and to public services.

Mobile applications and websites that display real-time bus schedule and arrival information facilitate easier and more convenient travel by transit. The MyStop mobile application currently provides real-time information for Santa Rosa CityBus and will soon provide information for Petaluma Transit. Real-time information for Sonoma County Transit became available on the Next Bus website and mobile application in October 2015,

following a robust countywide marketing effort. Real-time information for all Sonoma County bus systems, including Golden Gate Transit, is also available through 511.org.

Transit hub and bus stop signage with real-time information estimating bus arrivals can enhance passenger convenience and reduce wait time anxiety. Sonoma County Transit has installed real-time bus information signs at the Windsor Depot, Sonoma County Airport, Sebastopol Transit Hub, Rohnert Park Transfer Center, Cotati Transit Hub, Sonoma State University and Petaluma's Copeland Transit Mall. Additional real-time signs for Sonoma County Transit busses are to be installed at Sonoma County Administration Center, Cloverdale City Hall, Healdsburg Plaza and Sonoma Plaza. Petaluma Transit is currently deploying real-time bus arrival signs at its Copeland Transit Mall and East Side Transfer Center and downtown at Keller and Western. An additional three solar powered real-time signs are planned to be installed through Petaluma Transit's AVL/CAD (automated vehicle location/computer aided dispatch) project in 2016. As part of the Santa Rosa Transit Mall revitalization project, Santa Rosa CityBus anticipates installing real-time bus information signs in the by the end of May 2016. These signs will provide real-time information for multiple operators serving the Transit Mall, via 511. Santa Rosa CityBus plans to procure and install real-time bus signage at additional transfer centers in the future. Golden Gate Transit has plans to install real-time bus arrival signage at the Copeland Transit Mall in Petaluma.

Standardized Hub Wayfinding Signage

The goal of MTC's Regional Transit Connectivity Plan Hub Signage Program is to make it easier for passengers to transfer between connecting transit operators at regionally significant transit hubs by providing consistently designed signage with consistent information. As part of the Santa Rosa Transit Mall revitalization project, new wayfinding signage that is consistent with MTC's program was installed. The Santa Rosa Transit Mall serves as a transfer hub for Santa Rosa CityBus, Sonoma County Transit, Golden Gate Transit, and the Mendocino Transit Authority. The standardized format for static information is Transit Information Display (TID). TID is currently in place at the Santa Rosa Transit Mall and may be expanding to other transit hubs in Sonoma County, including the Copeland Transit Mall in Petaluma.

The Sonoma County transit operators will continue to work together to explore opportunities for combined signage at multi-agency stops to facilitate easy transfers and signage consistency. In addition, SMART will provide standard customer information and will carry over this standardized wayfinding signage strategy at all of its stations.

Santa Rosa Transit Mall

The Santa Rosa Transit Mall is the largest regional transit hub in the North Bay, utilized by an average of 10,000 passengers per day on Santa Rosa CityBus, Sonoma County Transit, Golden Gate Transit, and Mendocino Transit. In 2013, a \$3.1 million rehabilitation of the Santa Rosa Transit Mall was completed. The rehabilitation project upgraded aging infrastructure originally built in 1987. The project was managed and solely funded by Santa Rosa Transit (via federal grants, state-funded Proposition 1B and local Transportation Development Act funds), but included collaborative input from all of the transit operators that utilize the facility, several relevant City of Santa Rosa departments, and business and non-profit entities.

The Transit Mall now meets regional and federal safety and Americans with Disabilities (ADA) requirements, and has improved amenities for transit riders and transit connectivity for bicyclists and pedestrians. Improvements to the Transit Mall included new ADA compliant sidewalks and crosswalks, lighting upgrades to improve safety and reduce energy use, a new video surveillance security system, new wayfinding signage that is compliant with MTC's Regional Transit Connectivity Plan and Hub Signage Program, regional transit network signage using the standardized Transit Information Display (TID) static information format, infrastructure for real-time bus arrival displays, public artwork, new shelters and many other upgraded passenger amenities. CityBus employs Transit Service Representatives at the Transit Mall to provide route and schedule information for all operators that serve the Transit Mall to help riders reach their final destinations.

Emergency Coordination

Sonoma County, Santa Rosa and Petaluma have their own Emergency Operations Plans (EOP) to organize individual Emergency Operations Centers in the event of an emergency. Each jurisdiction's plan includes annual emergency simulation drills that are designed to meet all federal and state mandates and guidelines while ensuring processes are well established and each jurisdiction's staff is well prepared for any emergency. Santa Rosa CityBus, Petaluma Transit and Sonoma County Transit are each a part of the transportation component of each jurisdiction's respective EOP.

In the event of a countywide public emergency, in cooperation with the Sonoma County Office of Emergency Services, Sonoma County Transit, Santa Rosa CityBus and Petaluma Transit will coordinate emergency public transit services that are determined necessary for public evacuation due to events such as floods, earthquakes, fires, etc. The San Francisco Bay Area Regional Transportation Emergency Management Plan provides additional

guidance for coordinating emergency response capabilities among the various transportation agencies throughout the region.

Ongoing Fixed-Route & Paratransit Coordination

Sonoma County Transit, Santa Rosa CityBus, and Petaluma Transit participate in several ongoing coordination projects involving schedule coordination, bus stop signs, transfer agreements, Clipper®, SuperPass, and regional transit marketing promotions. These three Sonoma County bus operators also participate in several ongoing regional coordination projects sponsored by MTC, including implementation of the Transit Connectivity Plan and the Transit Sustainability Project. Additional efforts to coordinate schedules and operations among all of the North Bay operators are discussed in the **Future Coordination Initiatives** section below.

Sonoma County operators seek opportunities to manage ADA costs through coordination. Santa Rosa Transit is currently updating their ADA Bus Stop Transition Plan and has reviewed ADA facilities at bus stops through this process. Santa Rosa Transit is coordinating with Sonoma County Transit and Golden Gate Transit regarding ADA facilities at multi-operator bus stops within the City of Santa Rosa. Review of multi-operator bus stops will also be used as an opportunity to examine the potential to consolidate bus stop signs along specific corridors.

The forum for discussing Sonoma County transportation issues is the Sonoma County Transportation Authority (SCTA). The SCTA's membership includes one representative from each of the nine incorporated cities in the County and three Supervisors from the County of Sonoma. The SCTA's Transit Technical Advisory Committee (Transit-TAC), comprised of North Bay transit operators, including SMART, Golden Gate Transit and Marin Transit, can be considered as a sub-committee of SCTA's Technical Advisory Committee (TAC). The Transit-TAC prepares and reviews the annual Transportation Development Act/State Transit Assistance Coordinated Funding Claim for Sonoma County and reviews various resolutions and regional directives. The Transit-TAC meets monthly, as needed, to discuss coordination and transportation-related issues that affect Sonoma County's public transit operators.

Under the SCTA, the Transit/Paratransit Coordinating Committee (TPCC) is the forum to promote cooperation and coordination among the various fixed-route transit and paratransit operators in Sonoma County. Pursuant to SB498 and Title VI, seniors, persons with disabilities, persons with low incomes and minorities are among the members

represented on the TPCC, as well as human services providers and each of the County’s transit and paratransit operators.

The TPCC is charged with approving the annual Coordinated Claim. As initiated by the TPCC, Sonoma County Transit, Petaluma Transit, Santa Rosa CityBus, and Golden Gate Transit have established inter-city and intra-county paratransit transfer points throughout Sonoma County for passengers with scheduled trip destinations outside of their respective city or county limits. The TPCC also reviews the efforts of various public transit agencies in the county that must be in full compliance with the paratransit provisions of the Americans with Disabilities Act (ADA). In addition, the committee conveys passenger complaints to fixed-route transit and paratransit service providers. The TPCC has also been used as a venue for transit operators to coordinate efforts on fixed route travel training opportunities.

The Transit Finance Working Group (TFWG) meets at the Metropolitan Transportation Commission (MTC) on a monthly basis to discuss current funding programs and issues concerning transit within the nine-county San Francisco Bay Area. Representatives from Sonoma County Transit, Santa Rosa CityBus, Petaluma Transit, and SCTA generally attend the TFWG meetings.

Coordination of Schedules and Schedule Changes

Operators communicate with all connecting services each time route and schedule changes occur and announce upcoming changes at the Transit-TAC meetings. Santa Rosa CityBus will coordinate closely with Sonoma County Transit and Golden Gate Transit on new scheduling through its current planning effort “Reimagining CityBus,” which will rework CityBus routes and schedules. Multi-operating schedule information is available at several locations. The downtown Santa Rosa Transit Mall has schedule information posted for all operators serving the Transit Mall, and multi-operator information is also available at the CityBus customer service counter at Santa Rosa City Hall. Sonoma County Transit schedules are included on Golden Gate Transit schedule displays at major stops served by both operators in Rohnert Park and at the Petaluma Transit Mall. Additional efforts to streamline schedule coordination among all North Bay Operators are discussed under **Future Coordination Initiatives** below.

Coordination of Inter-Operator Transfers

Sonoma County operators have established reciprocal transfer agreements on key commute period trips. A SuperPass program, which provides passengers with unlimited

use on two or more transit systems in Sonoma County during a calendar month, has also been established. SuperPasses will continue to be available as paper passes once Clipper® is available on Sonoma County buses.

It is anticipated that a collective memorandum of understanding (MOU) regarding reciprocal transfer agreements will be revised for transit operators in Sonoma County and Marin County, per MTC Resolution 3866. Marin Transit and SMART would be added to the revised collective MOU, and the former Sebastopol, Healdsburg, and Cloverdale transit operators would be dropped from the MOU. Fare transfer agreements would include a uniform adult transfer, free or discounted transfers, and an agreement that transit operators would honor each other's period passes. SMART has adopted a policy to provide a \$1.50 fare credit for adult transfers utilizing the Clipper® fare collection system from Sonoma County Transit, Petaluma Transit, Santa Rosa Transit, Marin Transit, and Golden Gate Transit. Bus operators will be approving fare transfer policies for SMART passengers by June 30, 2016.

There have been many discussions between Sonoma County Transit and Santa Rosa CityBus on strategies to enable communication between operators to facilitate passenger requests for transfers. Currently communication between the operations staff of each system is impeded by use of different radio systems. However, both operators remain willing to evaluate future opportunities to facilitate transfer requests between key trips.

Fare Change Coordination

Within their respective SRTP's, Sonoma County Transit, Santa Rosa CityBus and Petaluma Transit review their fare structures and fare box recovery ratios to determine if any future fare changes are necessary. However, while fare changes are ultimately recommended by each operator and approved by their respective policy boards, there is an ability to implement fare changes on all three of the transit systems simultaneously should the timing meet the needs of all operators. Such coordinated fare changes would simplify the passenger experience and allow for a smoother shared-transfer policy.

Sonoma County Transit recently adopted new fare rates and policies based around new fare zones required for Clipper®. The base fare for Adults is now \$1.50 for Sonoma County Transit, Petaluma Transit, and Santa Rosa Transit. The Adult base fares correspond with the fare transfer agreements between Sonoma County Transit and Petaluma and Santa Rosa Transit.

Coordinated Marketing and Incentive Programs

Joint marketing opportunities between Sonoma County Transit, Santa Rosa CityBus and Petaluma Transit exist in several areas, including Clipper®, multi-operator transit passes, travel training, real-time information, and the Santa Rosa Free Ride Trip Reduction Incentive program. These programs are outlined in more detail below.

The Clipper® card (Clipper®). MTC's universal fare card, is a fare instrument designed to operate on all of the different transit modes in the San Francisco Bay Area to pay fares for both inter-operator and intra-operator services. Clipper® became available on all bus operators in Sonoma County in January 2016. The SMART train will accept Clipper® as its only fare medium. Clipper® will enable automated transfers between all transit operators with transfer agreements.

The implementation of Clipper® on Sonoma County buses in January 2016 and on SMART in late 2016 provides opportunities for countywide coordinated marketing. Clipper® and MTC have provided Sonoma County bus operators with consistent marketing materials for the official public launch of Clipper® in February 2016. The bus operators are working together to identify additional ways to promote the benefits of using the Clipper® card, including consistent messaging on websites and a coordinated press release. The commencement of SMART service in late 2016 will provide a second opportunity to market Clipper® use in Sonoma County. Transit operators may pool additional resources for advertisement space and rider education about Clipper® to have greater reach.

Multi-operator transit passes (SuperPasses) are currently sold through Sonoma County Transit. With this pass patrons can purchase monthly travel on Sonoma County, Santa Rosa CityBus, and/or Petaluma Transit. The pass is the same cost as the individual monthly passes; however, it provides the convenience of only purchasing and carrying one pass. The introduction of Clipper® will provide the convenience of adding Clipper® supported monthly passes from any operator to a Clipper® card, which will enable the equivalent to an electronic version of the SuperPass. SuperPasses will continue to be available in paper form after implementation of Clipper®. The Golden Gate Transit sticker, which allows customers to pay a flat fee to ride Golden Gate Transit within Sonoma County only for a one-month period, will continue to be available with the paper form of SuperPass but will not be available on Clipper®.

The Santa Rosa Free Ride Trip Reduction Incentive program has been a successful program to encourage people to get out of their cars and use alternative transportation

modes such as public transit. Funded with air district grants, the program has been administered by Santa Rosa Transit for over 15 years. Through this program Santa Rosa provides subsidized monthly passes for Santa Rosa CityBus and Sonoma County Transit monthly passes, guaranteed ride home emergency taxi rides, and a gift card drawing for participants who use alternative transportation to get to work.

Travel Training opportunities are provided by all three Sonoma County operators, as recommended in MTC Resolution 4060. Both Santa Rosa CityBus and Petaluma Transit have robust travel training programs that provide hands-on travel training to anyone, including existing paratransit riders who may wish to also utilize the fixed route systems. The classes and individual training sessions are free and participants receive complimentary monthly Santa Rosa CityBus or Petaluma Transit passes to encourage them to continue riding the bus. Petaluma Transit's travel trainer works with Petaluma Transit riders to help them learn to ride Sonoma County Transit and Golden Gate Transit, as she organizes fun group trips on existing regional fixed route buses to locations as far and varied as Healdsburg, Santa Rosa, and San Francisco. Sonoma County Transit's travel training services are also available to the general public but are especially tailored for senior citizens, persons with physical disabilities, and persons with hearing or visual impairments. Sonoma County Transit's travel training service includes teaching public transit skills as well as accompanying passengers on trips to help familiarize them with the system.

Cooperative Evaluation Efforts for Procurements

Sonoma County Transit, Santa Rosa CityBus and Petaluma Transit have taken advantage of cooperative evaluation in the past to reduce costs and increase efficiency. For example, Santa Rosa CityBus and Petaluma Transit recently released a joint Request for Proposals for paratransit eligibility assessment. All three operators have also purchased new passenger waiting benches through the same manufacturer. The operators consistently share information with one another about their experiences with manufacturers and about new technologies. For example, all three operators are currently following the regional electric bus feasibility evaluation and will look to Sonoma County Transit's experience when they begin operating their electric bus. Opportunities to reduce staff time spent on procurement, like joint Request for Proposals and information sharing, will continue to be sought.

Market Research

Per a recommendation in MTC Resolution 4060, Redhill Group, Inc. conducted on-board surveys for all three Sonoma County transit operators through a contract with SCTA and funds from MTC in 2012 and on Golden Gate Transit in 2013. On-board surveys were conducted for approximately five percent of all average weekday boardings for riders 16 or older and were followed up with phone calls. The surveys collected information about origin and destination patterns, customer opinions, trip purposes and characteristics, and ridership demographics to better inform service planning for all operators. These surveys have been used to inform various service planning decisions and projects outlined in individual Short Range Transit Plans. It is anticipated that MTC will conduct another round of on-board surveys in 2017, after SMART begins operations. The 2017 round of on-board surveys provides an opportunity to better understand multi-operator trip patterns and needs among the bus operators and between the bus operators and SMART.

Petaluma Transit also conducts on-board surveys every other year and does in depth focus groups with key market segments on the off years. Petaluma Transit includes the results of their most recent on-board surveys in their Short Range Transit Plans.

Bus Route Connectivity with SMART

Bus operators in Sonoma County have been working closely with SMART and jurisdictions in Phase I of the SMART project to coordinate bus connectivity and transfers to SMART stations. A variety of capital projects, operations adjustments, and planning are needed to optimize connections between buses and SMART. These efforts will continue up through commencement of SMART service and well beyond.

SMART Station Area Plans have been conducted by local jurisdictions, in cooperation with MTC and SMART, to evaluate land uses and infrastructure, including infrastructure to support bus operations, around SMART Stations.

Station	Station Area Plan Status	Adoption Date
Cloverdale	Final	July 2010
Healdsburg	Final	November 2013
Windsor	Final	January 2012
Airport	In progress	In progress
Santa Rosa North	Final	September 2012
Santa Rosa Downtown	Final	October 2007
Rohnert Park	In progress	In progress
Cotati	n/a	None

Petaluma North	Final	None
Petaluma Downtown	Final	June 2013
Novato San Marin	n/a	None
Novato Downtown	n/a	None
Marin Civic Center	Final	August 2012
San Rafael	Final	June 2012
Larkspur	suspended	None

A SMART Commuter Rail Integration Plan was drafted by MTC and Nelson\Nygaard in 2015 and 2016 to develop with recommendations for changes to connecting transit operations and access-related capital investment needs around SMART Phase 1 stations in Marin and Sonoma counties. Outreach to transit agencies, municipalities, business representatives, and other stakeholders was done to facilitate collaboration on identifying challenges, recommendations, and priorities. Stakeholder review and final revision of the draft document is in progress, with a final report expected in early to mid-2016. The draft report makes station-specific and system-wide recommendations. System-wide transit coordination recommendations are addressed under **Future Coordination Initiatives** below.

Intermodal Facilities have been constructed at or adjacent to several of the future SMART stations. All of these facilities were developed or are being developed and maintained through cooperative agreements. The existing facilities are currently functioning as bus transfer hubs and will eventually be served by SMART. Some of the facilities also serve as park-and-ride lots. Facilities include:

- Petaluma Transit Mall - Transfer hub for Petaluma Transit, Sonoma County Transit, and Golden Gate Transit. The future SMART station is located just east of the Transit Mall. Completed in 2005.
- Cotati Depot - Transfer hub for Sonoma County Transit and park and ride lot. Completed in 2015.
- Windsor Depot – Transfer hub for Sonoma County Transit (including feeder bus routes to SMART). Completed in 2007.
- Healdsburg Historic Depot – Transfer hub for Sonoma County Transit (including feeder bus routes to SMART) and park and ride lot. Construction began in 2015.
- Cloverdale Depot - Transfer hub for Sonoma County Transit (including feeder bus routes to SMART), Amtrak Thruway Service, and park and ride lot. Completed in 1998.

In addition, efforts are underway to improve intermodal access to Santa Rosa's Railroad Square and Guerneville Road SMART stations. These improvements include relocation of bus stop facilities to provide better connections between buses and trains, enhanced pedestrian connections, a new bus turn-out, and passenger amenities such as bus shelters.

Future Coordination Initiatives

Customer Service and Marketing Coordination

Sonoma County and North Bay transit operators have worked together to extend the reach of their marketing efforts beyond individual agencies and incorporate information about connecting transit services in the region. These efforts could be extended through providing consistent online information on trip planning and real-time transit, and through development of a single Sonoma County or regional transit map.

Trip planning and real-time transit information should be consistent and links to links to trip planning and real-time information applications should be provided via transit agency websites, the Sonoma Access website, and the GoSonoma website. Sonoma County Transit's website includes a mobile application page with links to a collection of transit trip planning and transit related applications. An effort should be made to ensure that the highest-quality applications and trip planning tools include information for all operators, and are jointly marketed by the operators. Marketing of mobile applications and trip planning tools on operators' websites could list other connecting transit services that use these same tools. Transit operators should consider using the same mobile application platforms to facilitate more streamlined customer trip planning.

Transit maps are currently available for each individual operator. A single comprehensive Sonoma County or regional transit map that includes all routes and transfer points should be developed.

Transit Hub and Bus Stop Signage

Standard customer information such as MTC's standardized transit information signage strategy should be carried over to all SMART stations and to the Copeland Transit Mall in Petaluma and other transit hubs in Sonoma County. The Sonoma County transit operators will continue to work together to explore opportunities for combined signage at multi-agency stops to facilitate easy transfers and signage consistency.

Title VI Coordination

Transit operators could benefit by coordinating data collection and public participation efforts relating to compliance with federal Title VI reporting requirements. Agencies with overlapping service areas could conduct joint outreach to improve efficiency and reach more people. Santa Rosa CityBus and Petaluma Transit recently purchased Remix transit planning software with overlaying census data, which could facilitate outreach in disadvantaged communities. Operators may also benefit from sharing information and resources for development of their Limited English Proficiency (LEP) plans.

Operations Coordination

Sonoma and Marin County transit operators regularly coordinate through the monthly SCTA Transit-TAC meetings, and this appendix functions as a short-range collaborative planning tool for Sonoma County operators. Data from the next anticipated round of MTC-sponsored on-board surveys will shed light on how SMART impacts transit travel in Sonoma County and the frequency and pattern of inter-operator transfers. This data should be used to evaluate whether there is a demand for certain bus trips to be coordinated to enable more seamless transfers and at which locations. Additional anonymous trip data will be available to operators to evaluate demand and usage from riders using Clipper® for their fare media.

Schedule Coordination

MTC Resolution 4060 identified coordination of operator schedules and coordinated timing of schedule changes as priorities. As discussed above, additional data collection to support identification of priorities for schedule coordination among North Bay transit operators can lead to improved passenger experience on all of the systems. Marin Transit plans to lead an effort to coordinate North Bay transit operator schedule changes and establish a regional schedule change calendar. Sonoma County Transit, Santa Rosa CityBus, Petaluma Transit, Golden Gate Transit, and Marin Transit will continue to coordinate and communicate about schedule changes through the SCTA's monthly Transit-TAC meetings. Such communication between transit operators is essential to ensure that key existing transfers between routes are preserved and to avoid the unnecessary duplication of service along specific corridors.

Countywide Transportation Demand Management (TDM) Programs

Should funding become available, a countywide Transportation Demand Management program should be implemented. A countywide or corridor-wide guaranteed ride home program that is marketed with the commencement of SMART service could encourage

greater ridership on SMART and all busses that connect with SMART. Opportunities should also be explored to promote pre-tax and employer sponsored transit benefits through the Bay Area Commuter Benefits Program or programs like Wageworks on a countywide level. Transit agency involvement in commuter benefits promotion would bolster efforts made by the Sonoma County Spare the Air Resources Team and 511.org, which have engaged with employers and employees in the past.

Bus Route Connectivity with SMART

Bus operators in Sonoma County will continue to work with SMART and the jurisdictions it serves to implement bus stop improvements and relocations, new route connections, and coordinated operations to enhance inter-operator transfers. Improvements and service changes that are operator specific are included in each individual Short Range Transit Plan. Sonoma County Transit plans to provide important feeder bus service to SMART, including enhanced east-west connections from the Sonoma Valley and from Sebastopol, and a circulator shuttle between the Airport Boulevard SMART station and the Sonoma County Airport. New feeder bus services to SMART from Cloverdale, Healdsburg and Windsor are also being coordinated with Sonoma County Transit. Santa Rosa CityBus has included connectivity to SMART as a major consideration in its “Reimagining CityBus” process. Draft plans for redesign of the CityBus system increase the frequency, directness, and connectivity of routes serving the Santa Rosa SMART stations. Petaluma Transit is developing plans for service expansion and modification to better support SMART on opening day. Petaluma Transit is planning to augment three routes that will together provide robust SMART Station-based service timed with train schedules. The three routes will connect Downtown, West Petaluma, and the Southeast Petaluma/Lakeville Highway Business Park areas to the Downtown SMART Station.

Recommendations from MTC’s Draft *SMART Implementation Plan* for system-wide transit coordination include the objectives outlined below, many of which are underway and discussed in this Appendix. While some recommendations are important to implement before initial SMART operations, facility and transit service integration will be ongoing efforts.

- **Unified Customer Information** – All transit customer information should be updated to include SMART stations, where there is an interface with SMART, and intended bus connections. Current customer service coordination efforts should expand to incorporate SMART, including the Sonoma Access call center (211), Sonoma Access website, GoSonoma website, 511.org, and Google Transit.

- **Seamless Fare Payment and Reciprocal Transfers** – Clipper® will provide the opportunity for simplified fare payment and transfer credits. Sonoma and Marin county operators are currently working on a revised reciprocal transfer agreement with SMART. Coordinated outreach efforts regarding Clipper® could help public education and awareness of the system.
- **Transit Facility Integration Opportunities** – At a few station locations, there remain opportunities to enhance the potential to integrate local transit and SMART services if bus facilities are added in a way that will enable the coordination. The specific instances are identified with the individual station locations described in the text [of the *SMART Implementation Plan*]. In those cases the local jurisdiction, the local transit agency, SMART, and MTC, should work to identify improvements, prioritize them and secure funding for design and construction of these enhancements.
- **Transit Service Integration Opportunities** – Despite the financial constraints and significant challenges with SMART schedule integration, all transit agencies in Sonoma County are planning schedule adjustments and service enhancements in response to SMART service initiation. The process of building an integrated network of local bus and SMART trains will evolve over years of experience and development of passenger demand patterns.
- **A Process to Improve Integration Opportunities** – For local transit agencies, considering ways to improve integration with SMART will be crucial to achieving higher percentages of passengers wishing to make connections between SMART and local transit services. The SCTA Transit-TAC is a venue for regular discussion of improvements to bus integration with SMART, and opportunities for collecting and sharing data that can guide prioritization of integration actions.

Conclusion

Sonoma County Transit, Santa Rosa CityBus and Petaluma Transit, while operating as separate and distinct transit agencies, continue to work collaboratively in areas that show potential for efficiencies, customer satisfaction, standardization of customer interaction, multi-modal coordination, travel training, level of information availability and ease of accessibility. These three transit operators, along with other regional operators providing transit service in the North Bay, are in the process of implementing coordinated programs that are recommendations in MTC's Transit Connectivity Plan and Transit Sustainability Project. With the commencement of SMART service on the horizon, increased coordination with SMART on various aspects of transit service and operations has been a high priority for Sonoma County bus operators. Coordination with SMART and the bus operators will continue to take center stage until SMART revenue service begins and beyond.

It is anticipated that the initial phases of the following transit coordination projects in Sonoma County will have been completed within the next two years:

- Coordination of Bus Connectivity and Feeder Service to SMART
- Consolidation of Multi-Agency Bus Stops
- Implementation of additional Real-Time Bus Information Signage at Transit Hubs
- Identification of programmatic elements and funding plan for a Countywide TDM Program

This appendix of inter-operator coordination efforts will continue to serve as the foundation for ongoing and proposed transit coordination projects in Sonoma County.

Appendix B: Summary of Outreach for SRTP

Draft sections of the Short Range Transit Plan were discussed with the Transit Advisory Committee at several meetings, which are televised. In addition, the following outreach was conducted in preparing the Petaluma Transit FY16-FY26 Short Range Transit Plan:

Community Input Meeting, December 2, 2015

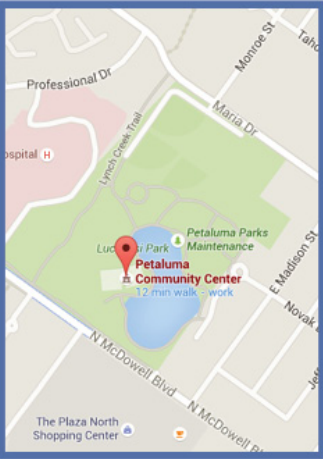
The meeting was advertised on the Petaluma Transit website, on the buses, via an email “blast”, and via social media. Attendants were entered to win a free bus pass, food was provided, and staff was on hand to answer questions and take input, and poster displays were created to solicit ideas and offer information on current projects. A copy of the flyer advertising the event is shown below.

Community Input Meeting

We want to hear from you!

Do you have ideas on how to improve transit services? Are there things you really like and don't want us to change? Are you curious about who we are and what we do behind the scenes to provide transit services? Curious about what we will be doing in the following months?


If so, please drop in and talk to us. We are working on updating our short range transit plan and we want to hear your ideas and input regarding how we can improve your experience while riding Petaluma Transit.



Date: Wed, Dec. 2, 2015

Time: 4:30PM-7:30PM

Location: Petaluma
Community Center
-Club Room. 320
N. McDowell Blvd,
Petaluma CA 94954



Moving Petaluma since 1976

Online Survey of Future SMART Riders

The survey was designed to capture key information about prospective riders to and from the downtown SMART station in Petaluma in order to better plan Petaluma Transit shuttle service. The survey was sent out via an email “blast” and advertised widely on social media, and received over 700 responses.

Petaluma Transit staff designed and implemented a first community survey in November and December 2015 seeking general and location-based information from people who indicated plans to ride the SMART train. The community was divided into numerous zones based on local landmarks, and survey respondents were asked to identify where they would be accessing the SMART station from or going to (within Petaluma) as well as how often and what times of day they planned to travel by train. Over 700 responses were received, and although a high percentage of respondents indicated they planned to drive to the station (a station with a very limited amount of parking planned at this time) a great deal of geographic interest was obtained, noting that high levels of interest were noted in the following general areas of Petaluma:

- Downtown
- Mid-Town/Fairgrounds
- N. McDowell by Old Redwood Highway
- Westside by Petaluma High School
- Petaluma Blvd North/Keokuk/Factory Outlets

A summary of the unedited results is below. The survey also allowed respondents to provide their email address for future updates, and to offer any additional comments, most of which related to SMART service details beyond the control of the City.

Do you plan on regularly riding the SMART train?

Yes	526	75.6%
No	170	24.4%

Do you live in the Petaluma area?

Yes, I will begin my SMART trip in Petaluma	402	76.3%
No, I will travel to Petaluma on SMART	123	23.3%

For people traveling FROM Petaluma

Where will you begin your trip?

CENTRAL: Petaluma Fairgrounds/Library	34	8.4%
WEST: Petaluma Blvd North (Factory Outlets)	12	3%

WEST: Magnolia / St. Vincent's / Keokuk	48	11.8%
WEST: Petaluma High School / Junior High	70	17.2%
WEST: Downtown Petaluma	80	19.7%
WEST: Mountain View Ave / Country Club	18	4.4%
WEST: Westridge / I Street / Sunnyslope	23	5.7%
WEST: Veterans Hall/South Petaluma Blvd	4	1%
EAST: N. McDowell nr Lagunitas / Old Red.Hwy	12	3%
EAST: N. McDowell nr Lucchesi Comm Center	12	3%
EAST: G&G Market / SRJC Petaluma	25	6.2%
EAST: Prince Park / Airport Area	5	1.2%
EAST: Casa Grande High School	15	3.7%
EAST: Safeway Shopping Center	12	3%
EAST: S. McDowell Blvd. / St. Francis Drive	9	2.2%
EAST: Lakeville Hwy / Kaiser / Business Park	3	0.7%
Other	24	5.9%

For people traveling TO Petaluma

Which of the following Petaluma landmarks is closest to your destination?

CENTRAL: Petaluma Fairgrounds/Library	12	9.5%
WEST: Petaluma Blvd North (Factory Outlets)	5	4%
WEST: Magnolia / St. Vincent's / Keokuk	2	1.6%
WEST: Petaluma High School / Junior High	4	3.2%
WEST: Downtown Petaluma	45	35.7%
WEST: Mountain View Ave / Country Club	0	0%
WEST: Westridge / I Street / Sunnyslope	0	0%
WEST: Veterans Hall/South Petaluma Blvd	4	3.2%
EAST: N. McDowell nr Lagunitas / Old Red. Hwy	10	7.9%
EAST: N. McDowell nr Lucchesi Comm. Center	10	7.9%
EAST: G&G Market / SRJC Petaluma	6	4.8%
EAST: Prince Park / Airport Area	0	0%
EAST: Casa Grande High School	2	1.6%
EAST: Safeway Shopping Center	7	5.6%
EAST: S. McDowell Blvd. / St. Francis Drive	0	0%
EAST: Lakeville / Kaiser / Business Park Area	9	7.1%
Other	10	7.9%

How often do you plan on using SMART?

Daily (weekdays)	113	21.3%
2-3 times a week	145	27.4%
At least once per week	119	22.5%
2-3 times a month	153	28.9%

What time of the day are you most likely to travel to/from the Petaluma SMART Station?

5am-7am	110	20.8%
7am-9am	203	38.3%
9am-12pm	174	32.8%
12pm-1pm	30	5.7%
1pm-3pm	39	7.4%
3pm-5pm	82	15.5%
5pm-8pm	139	26.2%

How do you plan to travel to or from the Petaluma SMART Station?

Public Bus/Shuttle	90	17%
Private Shuttle	5	0.9%
Bicycle	151	28.5%
Walk	232	43.8%
Carpool	15	2.8%
Drive and Park	200	37.7%
Get dropped off or picked up at station	94	17.7%
Other	17	3.2%

Outreach on Proposed Service Changes

Following the first survey, Petaluma Transit staff developed a conceptual service plan to ensure that the areas that expressed the most interest in riding SMART would receive robust “first mile/last mile” feeder bus service to/from the Downtown SMART Station. In order to obtain public input on the proposed routes, beyond vetting them at the TAC meetings, a second community survey based on maps of the conceptual routes (the modified routes, 1, 5, and 24) was announced at the April TAC meeting and distributed to the community via the website and social media beginning on 3/31/16. Beyond simply notifying interested residents and visitors of exactly how Petaluma Transit is proposing to serve the SMART Station, this outreach effort seeks input on exact alignments through neighborhoods as well as potential new or modified bus stop locations.

Not surprisingly, (the November survey was kicked off by intercept surveys at the Veteran’s Day Parade event) far fewer respondents have participated in the April survey, despite distribution through all known social media networks and inclusion in TAC materials and discussion on television at the TAC meetings. Nearly 100 responses were received. In general, feedback was a mix of positive and negative. The most feedback surrounded the proposed alignment of Route 1 through Oak Hill via Howard, West, and

Keokuk to St. Vincent's High School. Less feedback was received regarding the proposed realignments of Routes 5 and 24.

Survey results (96 responses total)

Do you have any comments regarding Route 1?

- Looks like you're discontinuing from Mountain View to SMART so not convenient
- There needs to be regular commuter hours added to the school bell routes for people out Bodega Avenue etc.
- Great realignment, but no destinations that would serve me.
- In order to better connect my family with the SMART station and other Petaluma destinations, the route needs to extend to the bus stop near Skillman and Petaluma Blvd. Those of us who live on Skillman have to walk along the Blvd, which is very busy and doesn't have sidewalks, down to the park and ride station. Doing this with two little toddlers in tow is no easy, nor safe, task. I would ride the bus frequently into town if it better serviced Skillman. Please consider adding this stop to the regularly serviced route.
- This is partly convenient but could work.
- I appreciate the proposed modifications.
- stops at this time 11 and 1 good
- South Petaluma Blvd access?
- A lot better than current route.
- I live @ Magnolia & Petaluma Blvd North... Please keep all bus stops currently in use.
- Would be great to have the short segment on Keokuk, so we don't have to walk up/down hill to Petaluma Blvd.
- Could get to Petaluma Market without having to walk up big hill
- Long awaited improvement!
- I think the bus routes are crazy. There is no convenient way to get from the east side to the west (downtown). There should be some loop that picks up on McDowell and then either goes over Caufield to Lakeville and downtown, or McDowell to Corona to Petaluma Blvd N to downtown. It's crazy to have to take 2 buses to get downtown from the east side. Seriously, if you want people to take buses they have to be convenient. More routes should take people to the downtown area.
- Love it! Great for elderly in neighborhood to get to SMART.
- It would make it possible to go to the SMART station, the grocery store, laundromat, etc. without having to walk. The walk uphill is pretty steep in the Cherry Valley neighborhood.

Do you have suggestions on the best places to locate bus stops along this route?

- Existing route for the schools (Petaluma Junior high school and high school route) - just add commuter times to this route please.
- West and Laurel

- There is currently a bus stop near the corner of Skillman and Petaluma Blvd, but it is on a very limited servicing schedule. This is unfortunate because its location is perfect since it is on a sidewalk, allowing families to remain safe while waiting for the bus.
- Somewhere along the long block on Sunnyslope Avenue between F Street and D Street.
- Howard and Western
- Western and Howard
- Windsor Drive
- Magnolia and Petaluma Blvd
- Keokuk and Magnolia
- stops by cherry street
- Petaluma Blvd and Mountain View Blvd
- Petaluma Jr. High.
- I wish the buses could turn into and circle the OUTLET Mall.
- On Keokuk, between Cherry and Magnolia
- Keokuk, across from St. Vincent's HS
- At Park Lane Apartments on Magnolia & at St. Vincent's High School
- More cross town routes please!
- Near SVHS train station downtown
- Howard at Oak St, Kent at Keokuk and flag bus along route
- Howard and Kent

Do you have any comments regarding Route 5?

- School route only at Mountain View so not convenient
- Perfect! Now please add commuter time to route 5S and we are all set!
- Love this plan with the extended service hours.
- Great route. Like the current stop on Sunnyslope rd. and I st.
- This route is helpful for the Spring Douglas neighborhood.
- Please run this route more times daily. Lots of people would use it plus people need to get to the school for after school functions
- This is better than the prior route
- Best route
- Add Windsor Drive
- Wish it went farther up bodega.
- Looks sharp!
- Can you please go a little further on Bodega Ave? I'm off of Middle Two Rock Rd and I don't mind walking or riding to Bodega Ave, but Webster is quite far.
- My daughter is starting Petaluma Jr. High next year. We need the current Route 5 to get her to and from school. Please tell me you won't really discontinue the section

near our home (Gossage Ave). She also needs to get to Industrial Ave after school many days. How will school children get to school with this change?

- As long as you do not prevent kids from getting to/from PHS and PJHS.
- Yes please have a stop at Valley Vista school!!!!
- Make sure there is a pick up/drop off at Valley Vista Elementary, school hours!
- No easy route to get from the east side to downtown. No one should have to take 2 buses to get downtown.
- Not in my neighborhood, so no strong feelings

Do you have suggestions on the best places to locate bus stops along this route?

- Webster and Western
- In front of French Salvage antiques (across from the old DeShmire)
- Webster at Dana or Western would seem good locations.
- As close to Spring and Douglas streets as possible.
- Webster and Dana or Webster and Western.
- English and Sheldon
- Windsor Drive
- Windsor Drive
- As Far East on bodega as possible.
- English and Webster would be nice.
- The corner of B and Fair
- Anywhere further down Bodega Ave.
- Webster and Western
- The current stops at the Park and Ride and Outlet Centers are fine. Also one on Industrial in the most northern third.
- McNear/Country Club, PHS, PJHS
- Valley Vista school!!!
- In front of Valley Vista
- Extend multiple routes from the east side to the west side.

Do you have any comments regarding Route 24?

- The stronger connection to Kaiser is appreciated. It's too bad to lose East Washington Plaza, but hope it can be recaptured in the future.
- Will the bus meet conveniently with rt 1 to transfer ? If not I will never use.
- It'd be nice if there was a slight detour for a stop near Casa and McDowell
- The discontinued route was better.
- Good for Kaiser appointments.
- route is good
- This would be great because when the route use to be like this I would get home at 4 but now that it changed it has been complicated and I've been having to take 2 bus to just get to my house.

- I live off of Baywood so this rerouting will make transit more difficult, especially to Target.
- I go to Kaiser Clinic in Petaluma once every 4 weeks to pick up RX. The current bus schedule leaves me with an hour plus layover before the next bus comes. If the service time to Kaiser was more frequent, it would serve my interests better.
- will be great
- Please don't end service along St. Francis Drive (in front of Miwok School). In fact, I wish this line ran on weekends.
- I think cutting such a huge segment of this route is unfair. It leaves a large dead space that is un-bused in a heavily residential are. It is pointless to take the bus if I have to drive to the bus stop because it is so far from my house, or spend an extra 20 minutes transferring. While some of this route is redundant (for example, you could keep EITHER the Kenilworth drive portion OR the Payran street portion), I don't think it is wise to eliminate both. I also think it is very unfair to eliminate the St Francis/Casa Grande Rd/Ely/Frates portions of this route, especially considering the senior apartments on Casa Grande Rd and the Enclave Apartments on Ely and Frates, known for serving lower middle income families.
- Good to be able to get to Kaiser
- Good idea to go to Kaiser - thank you.

Do you have suggestions on the best places to locate bus stops along this route?

- McDowell and Lakeville
- Gateway Shopping Center
- Kaiser
- Kaiser Medical Offices

Other suggestions on how we can better serve our community?

- Please extend commuter hours to the school bell routes if possible to accommodate commuters as well as children going to before-care and after-care at their schools.
- General fund dollars to further buttress service would seem a good direction.
- Well thought-through route adjustments. Thanks.
- More service late at night, ESPECIALLY Route 1.
- Ensure there are plenty of bike racks on buses and at the SMART station.
- D street - Windsor Drive to Western
- Windsor drive
- Windsor Drive
- I'll be looking forward to hearing about an eastside smart station.
- Please have a route that comes farther west!
- Where are the east side options for SMART?
- Have plenty of parking near SMART station (Lakeville/D Street)
- Sure do. I have mentioned this several times to the Petaluma Health Center (PHC) and to Petaluma Transit, on account of seeing NO info about transit on my

initial orientation and visit and brochure reading for PHC. Put PHC on your maps, is my first suggestion! (That is, I checked the linked google map and did not see it. Also, publicize that stop/service elsewhere. Seems like a good target population to me. I go there by bike, but if I could not pedal there miles, I might want the city transit!

- I love Petaluma Transit! Your suggested route changes would not affect me, I live on Wilson Street and can walk to the train. Keep up the good work though; I use the local buses to get around town all the time. You have courteous and helpful drivers and schedules that generally do not leave you waiting too long.
- I'm watching your presentation at City Hall and I don't feel that it is unreasonable to ask for service on Bodega Ave, we pay taxes to Petaluma, we work in Petaluma we vote in Petaluma. We are not so far from Downtown that we shouldn't be receiving transit service, plus traffic on Bodega is bad because of The schools on the west side of town, so if you really can't provide us service, maybe try to get more parents to put their kids on buses.
- Overall there have been a great many transit improvements in Petaluma over the last few years. Your hard work and dedication really shows. The new Route 24 is really my only concern
- Electric buses
- As an able-bodied adult, I'm willing to pay more for bus service if it can assure or expand routes and keep rates low for children, seniors and disabled people. \$2-\$3 would still be a great bargain.
- Going to the SMART trains is great but we also need to get children safely to and from school. Your new routes will not do that. By focusing only on SMART stations, you have made it much more difficult for school children and others who need to travel places other than the SMART trains.
- Yes consider the community not the train. Yes it's great that we are going to have a train for people commuting but what about those of us that don't commute and still would like to get around the city? Bad enough all the construction and traffic jams. But now taking away the ability to get around within the city does not serve the community in the least.
- Advertise the current Senior rates
- Get some cross town loops going.
- Why wasn't this in the local Petaluma paper?
- I really wish you had a bus that went the major route of McDowell into downtown without using a transfer. I would actually use the bus system. The reason I don't is that I have to transfer and wait.

Based on the negative feedback received both from the Oak Hill Park neighborhood, regarding the proposed alignment of Route 1 through their neighborhood, and the relative lack of input from the communities along Route 24, staff did a follow-up paper mailing to each household along the proposed alignments for Route 1 and 24, in July 2016. The mailer

directed people to either fill in an online survey, email, or call the office with input. The Route 1 mailer was sent to 798 households, and 91 responses were received. The Route 24 mailer was sent to 2,088 households, and 50 responses were received. Based on the input received from this effort, the proposed Route 1 alignment was changed to a less residential street, and the Route 3 was re-aligned to serve neighborhoods abandoned by the Route 24 realignment.

Appendix C: Analyses of the Petaluma Transit 2014 Onboard Survey

June 17, 2014

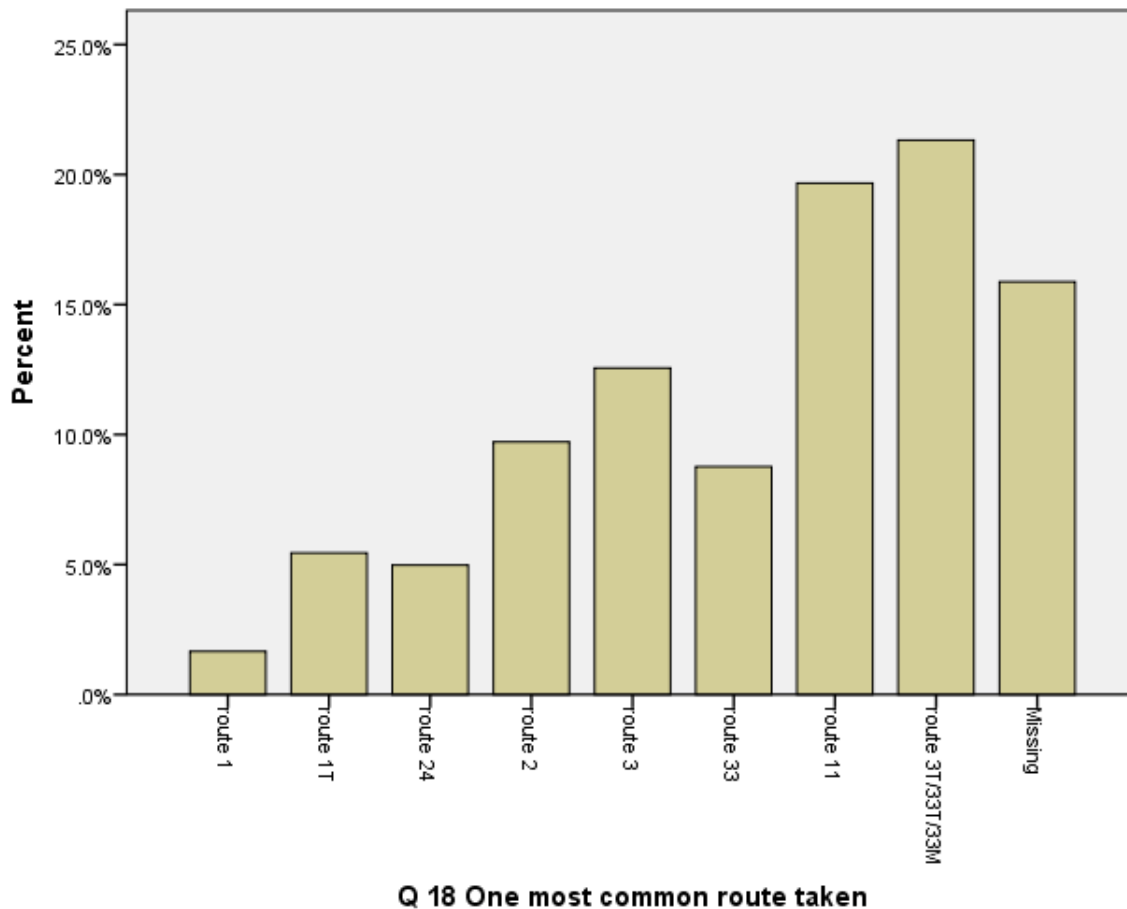
Sheldon Gen, Ph.D., Transit Advisory Committee

Survey was implemented in April 2014

422 respondents participated

1. Rider characteristics and usage patterns

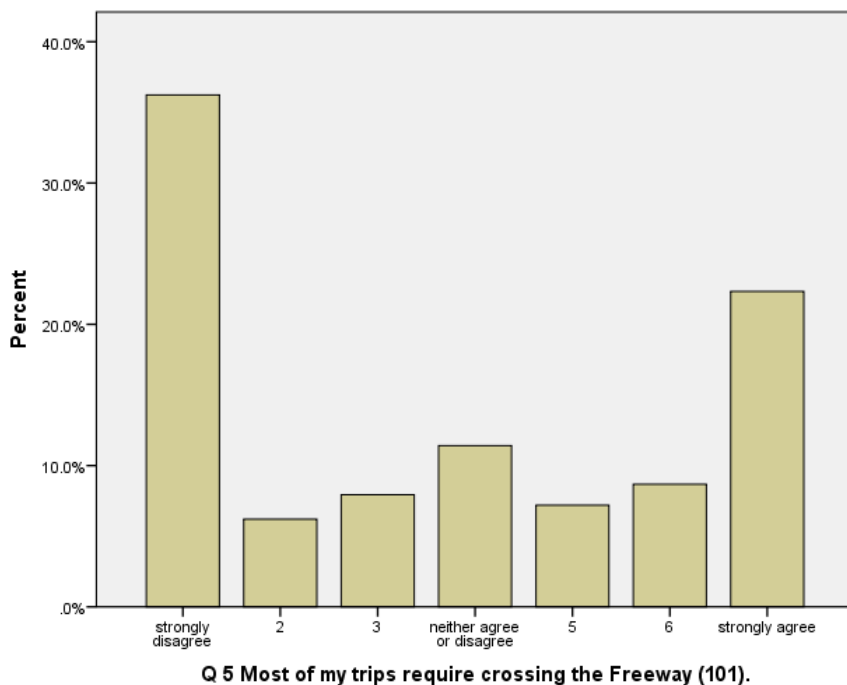
Most common routes taken



	none spec.	1	1T	24	2	3	33	11	3T/33 T/33 M
2014 survey respon- den- ts	67 of 422	2%	7%	6%	12%	15%	10%	23%	25%
March 2014 riders		3%	4%	6%	19%	15%	11%	27%	15%

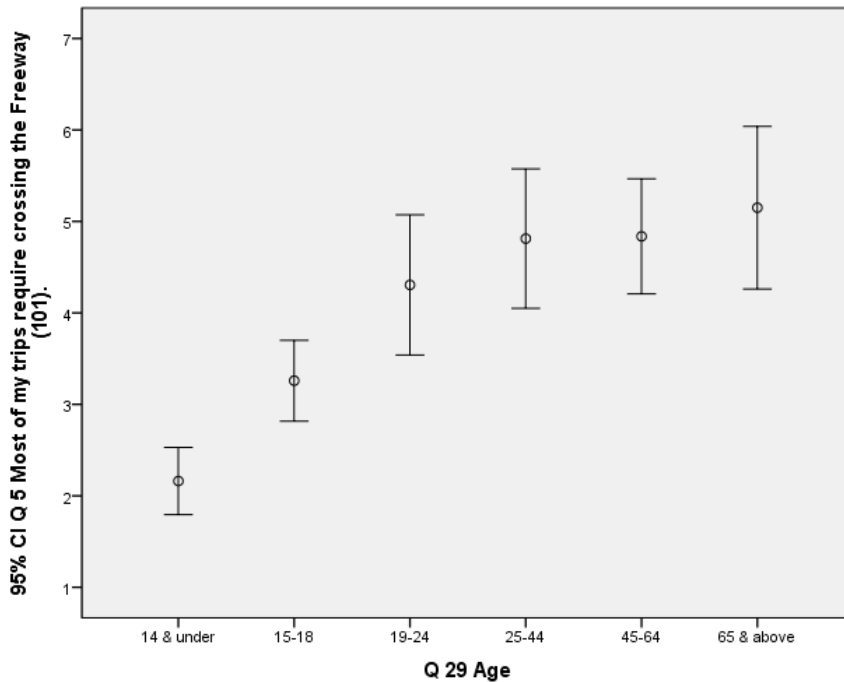
Respondents' most common routes roughly match the distribution of actual riders in March 2014. Routes 2 and 11 are underrepresented by respondents, compared to actual ridership, while routes 1T and 3T/33T/33M are overrepresented.

Crossing the freeway (101)



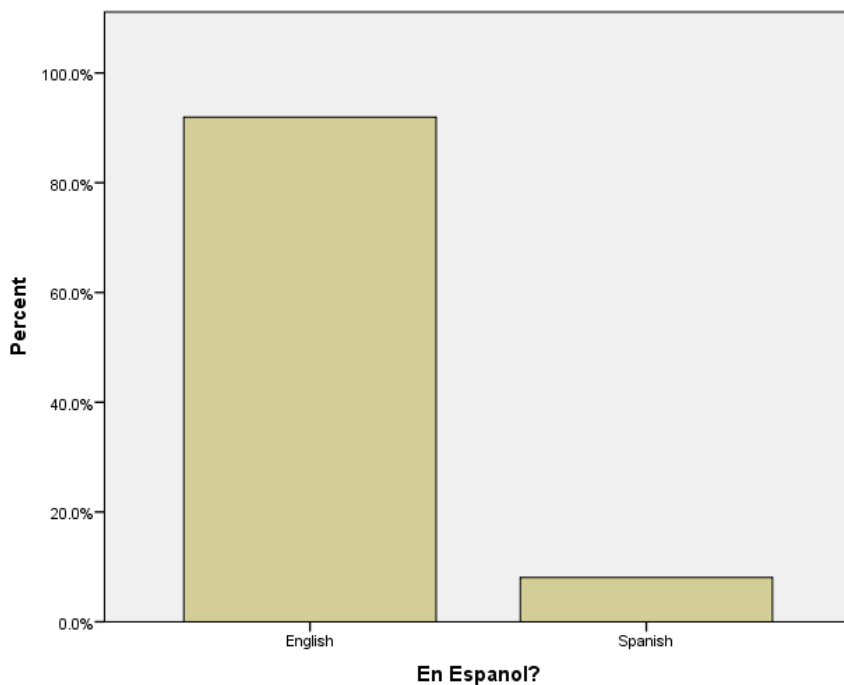
M = 3.6, SD = 2.4

Agreement with “Most of my trips require crossing the freeway (101)” by age group:



Youth riders (18 and under) generally do not cross the freeway, while older groups generally do. The difference by age is statistically significant ($F_{5,346} = 17.3$, $p < 0.000$). The results are consistent with the 2010 and 2012 survey results.

Spanish and English speaking riders



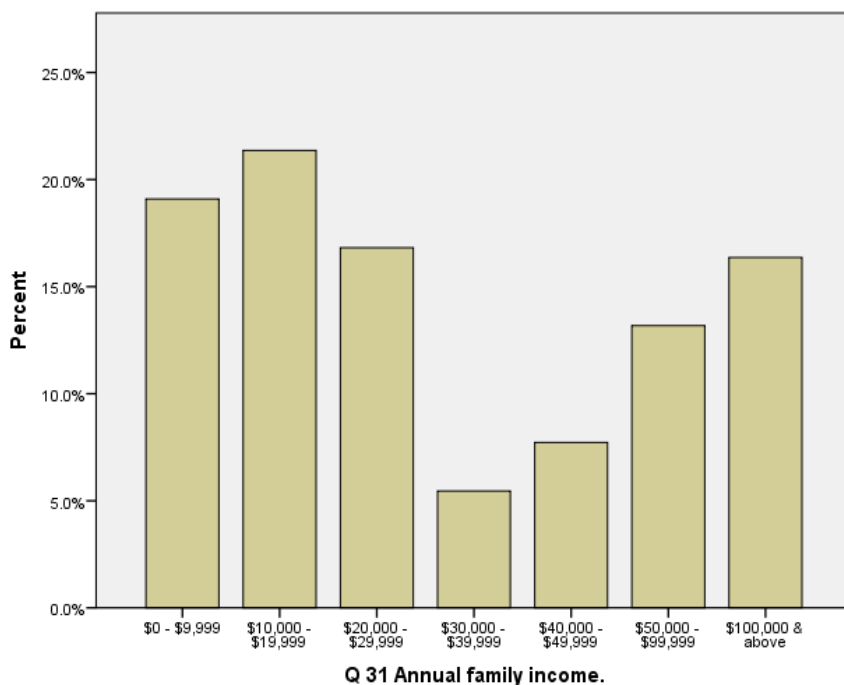
The proportion of respondents who took the Spanish survey was just 8.1% (34 out of 422). This continues a steady decline from 11.6% in 2012 and 15.7% in 2010.

En Espanol? * Q 18 One most common route taken Crosstabulation

			Q 18 One most common route taken								Total
			route 1	route 1T	route 24	route 2	route 3	route 33	route 11	route 3T/33T/33M	
En Espanol?	English	Count	7	20	17	34	51	37	81	89	336
		% within Q 18 One most common route taken	100.0%	87.0%	81.0%	82.9%	96.2%	100.0%	97.6%	98.9%	94.6%
	Spanish	Count	0	3	4	7	2	0	2	1	19
		% within Q 18 One most common route taken	0.0%	13.0%	19.0%	17.1%	3.8%	0.0%	2.4%	1.1%	5.4%
Total		Count	7	23	21	41	53	37	83	90	355
		% within Q 18 One most common route taken	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

There is a significant relationship between language and primary route ($\chi^2_{(7)} = 28.9$, $p < 0.000$). Spanish speakers are most prevalent on routes 1T (13%), 24 (19%), and 2 (17%), while they are least prevalent on routes 1 (0%) and 33 (0%). However, the overall low numbers of Spanish language respondents makes these results volatile. The 2012 results had the most Spanish speakers on routes 1 and 2, and the least on routes 1T and 3T.

Family incomes of riders



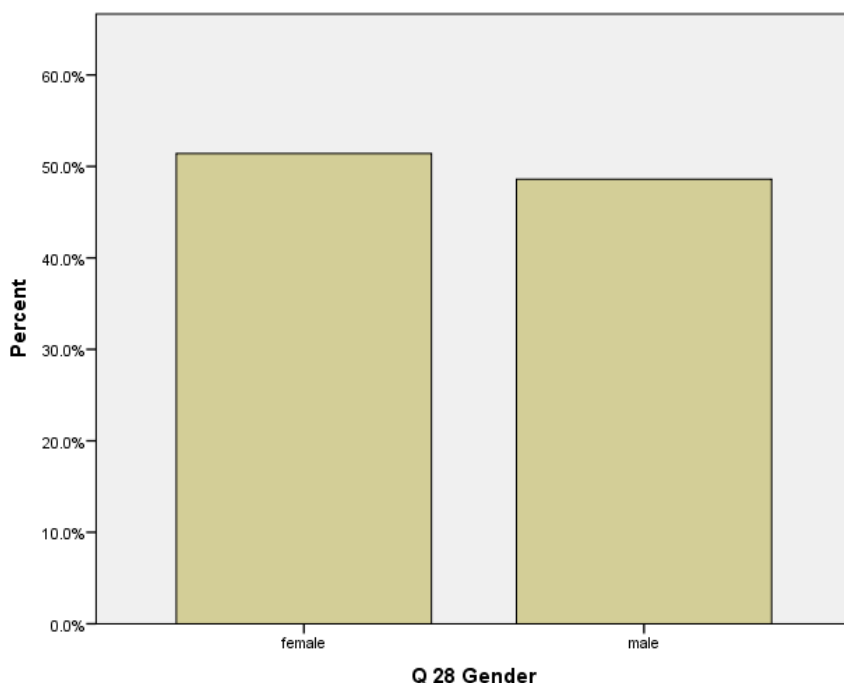
The income distribution is bimodal at low and high income ranges. The same general pattern was evident in 2012. However, in 2012, about 20% of respondents came from families with annual incomes of \$50,000 or more. In 2014, that percentage rose to almost 30%.

En Espanol? * Q 31 Annual family income. Crosstabulation

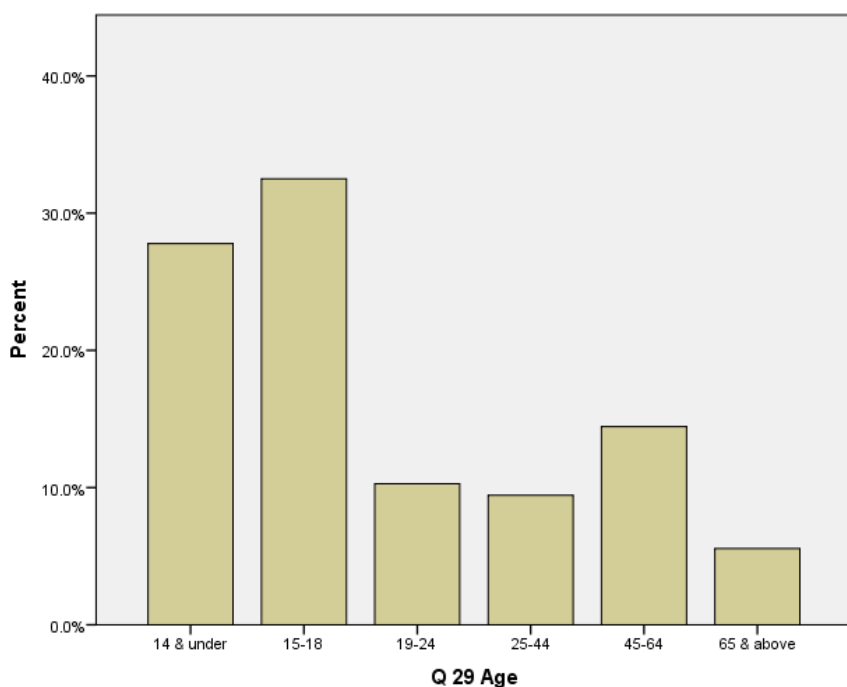
			Q 31 Annual family income.							Total
			\$0 - \$9,999	\$10,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$99,999	\$100,000 & above	
En Espanol?	English	Count	41	41	33	12	17	29	35	208
		% within Q 31 Annual family income.	97.6%	87.2%	89.2%	100.0%	100.0%	100.0%	97.2%	94.5%
	Spanish	Count	1	6	4	0	0	0	1	12
		% within Q 31 Annual family income.	2.4%	12.8%	10.8%	0.0%	0.0%	0.0%	2.8%	5.5%
Total		Count	42	47	37	12	17	29	36	220
		% within Q 31 Annual family income.	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The low numbers of Spanish speaking respondents do not allow for a chi-square test, but the frequency distribution above clearly show that Spanish speaking riders are more prevalent in the lower income categories.

Gender and age

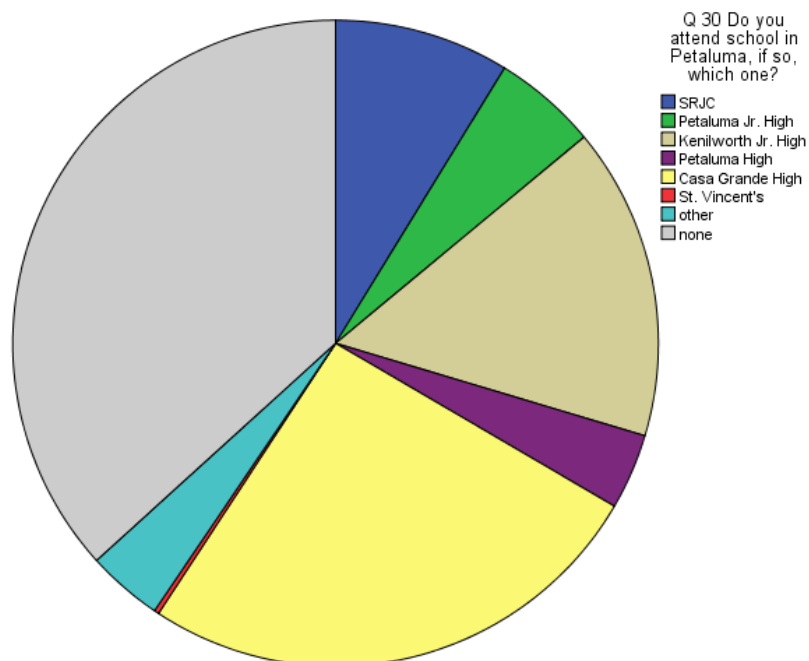


Slightly more than half (51%) of respondents were women. In 2012, that majority was slightly more pronounced (55%).



A large majority of respondents are 18 or younger (60%). 25-44 year olds dropped from about 21% in 2012 to 9% in 2014.

School attending

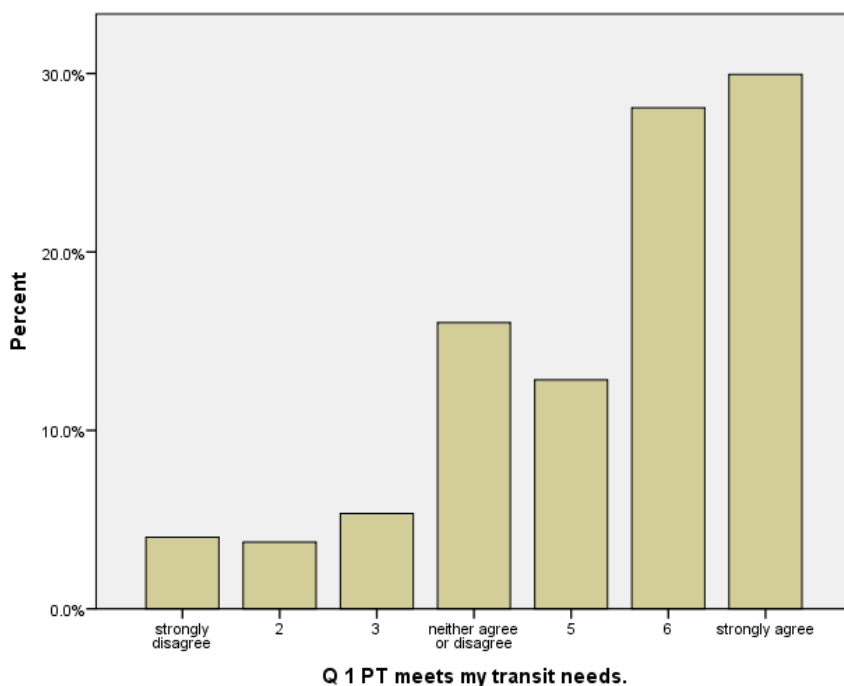


Nearly two thirds of respondents (63%) attend some school, with Casa Grande HS holding the plurality (26%), followed by Kenilworth JH (16%), SRJC (9%), Petaluma JH (5%), and Petaluma HS (4%).

	Frequency	Percent
Valid SRJC	37	8.8
Petaluma Jr. High	22	5.2
Kenilworth Jr. High	66	15.6
Petaluma High	16	3.8
Casa Grande High	109	25.8
St. Vincent's	1	.2
other	16	3.8
none	155	36.7
Total	422	100.0

2. Summary of perceptions of service

Meeting transit needs of riders



2014: Mean=5.3, SD=1.6; Median=6; Mode=7

2012: Mean=5.4, SD=1.6; Median=6; Mode=7

Q 1 PT meets my transit needs.

		Frequency	Percent	Valid Percent
Valid	strongly disagree	15	3.6	4.0
	2	14	3.3	3.7
	3	20	4.7	5.3
	neither agree or disagree	60	14.2	16.0
	5	48	11.4	12.8
	6	105	24.9	28.1
	strongly agree	112	26.5	29.9
	Total	374	88.6	100.0
Missing	System	48	11.4	
Total		422	100.0	

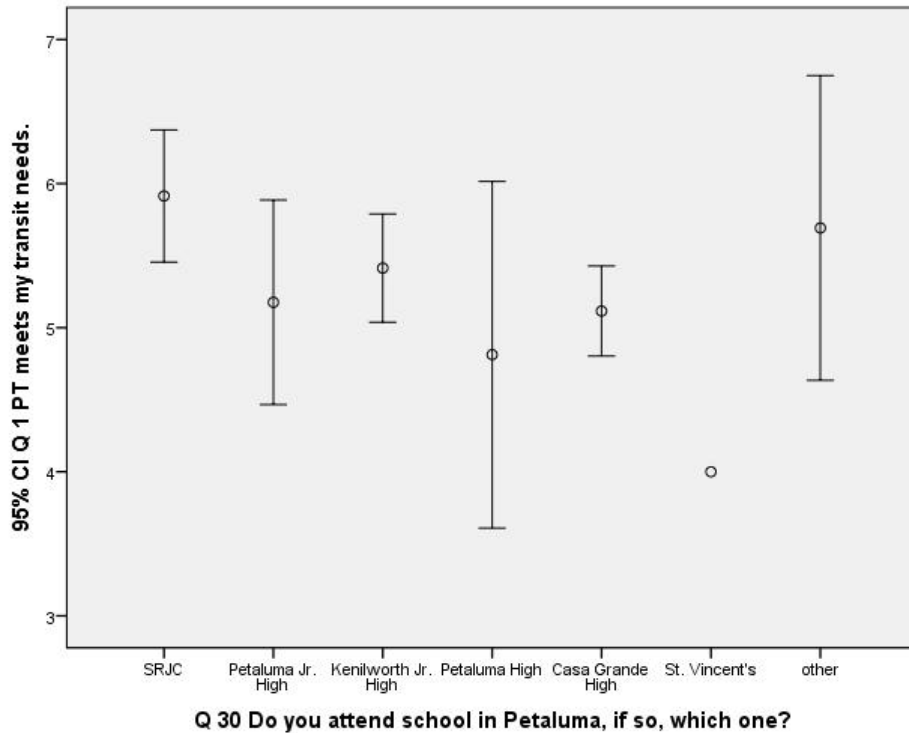
2014: 70.8% of respondents agreed that PT meets their transit needs.

2012: 76.6% of respondents agreed that PT meets their transit needs.

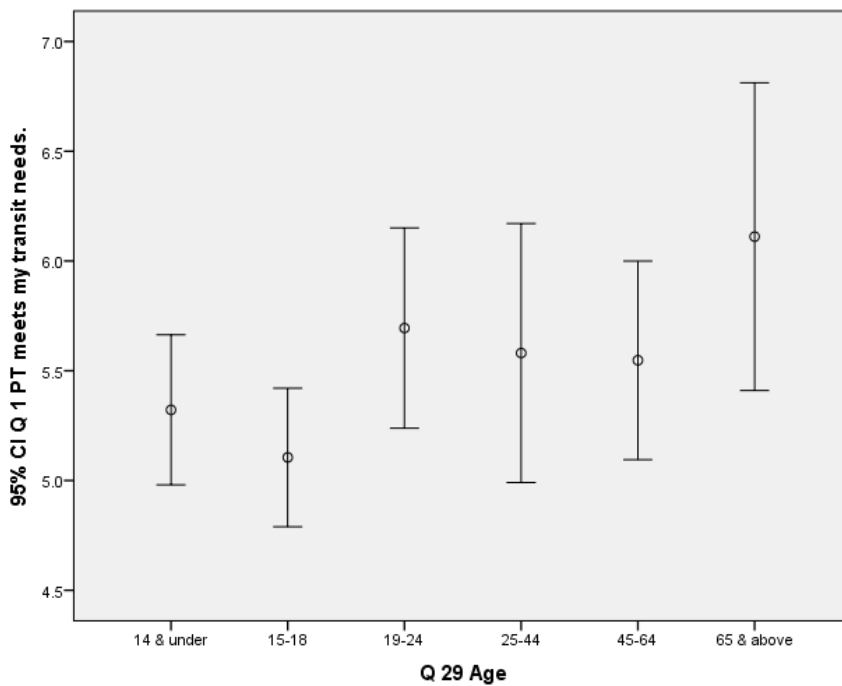
Q 1 PT meets my transit needs. * Q 5 Most of my trips require crossing the Freeway (101). Crosstabulation

Count		Q 5 Most of my trips require crossing the Freeway (101).							Total
		strongly disagree	2	3	neither agree or disagree	5	6	strongly agree	
Q 1 PT meets my transit needs.	strongly disagree	3	0	0	2	1	0	8	14
	2	4	0	3	3	0	1	3	14
	3	8	0	3	2	1	4	1	19
	neither agree or disagree	22	5	3	12	4	2	12	60
	5	21	3	7	6	6	2	3	48
	6	31	7	9	10	7	11	28	103
	strongly agree	46	6	5	10	6	10	26	109
Total		135	21	30	45	25	30	81	367

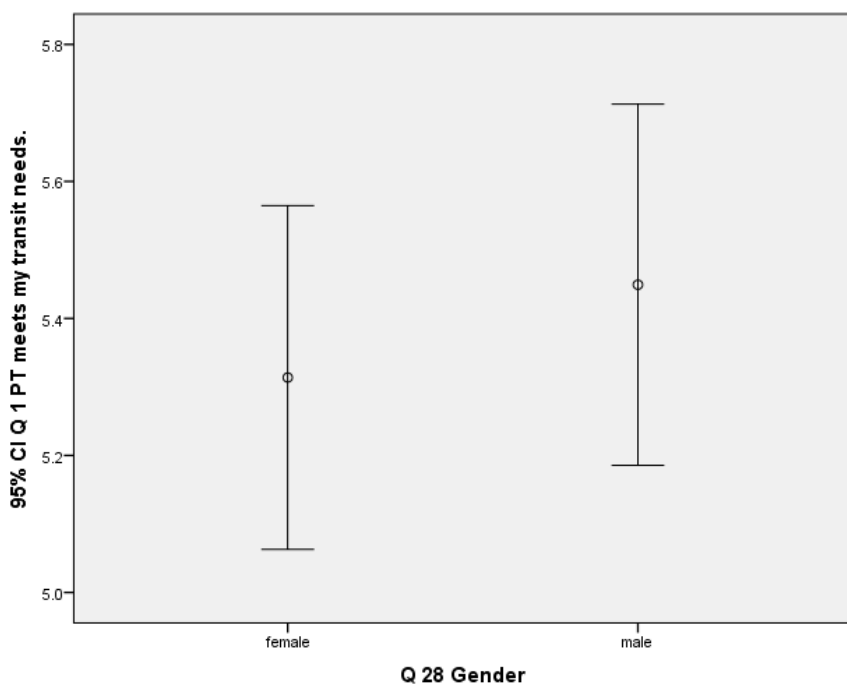
There is no significant correlation between crossing the freeway and satisfaction with Petaluma Transit. This is consistent with the 2012 findings, and an improvement over the 2010 findings when those not crossing the freeway were more dissatisfied than those crossing the freeway.



Of those riders who attend local schools, SRJC students are the most satisfied with PT, followed by other, Kenilworth JH, Petaluma JH, and Casa Grande HS. Only Petaluma HS students have a confidence interval reaching into the dissatisfied range.

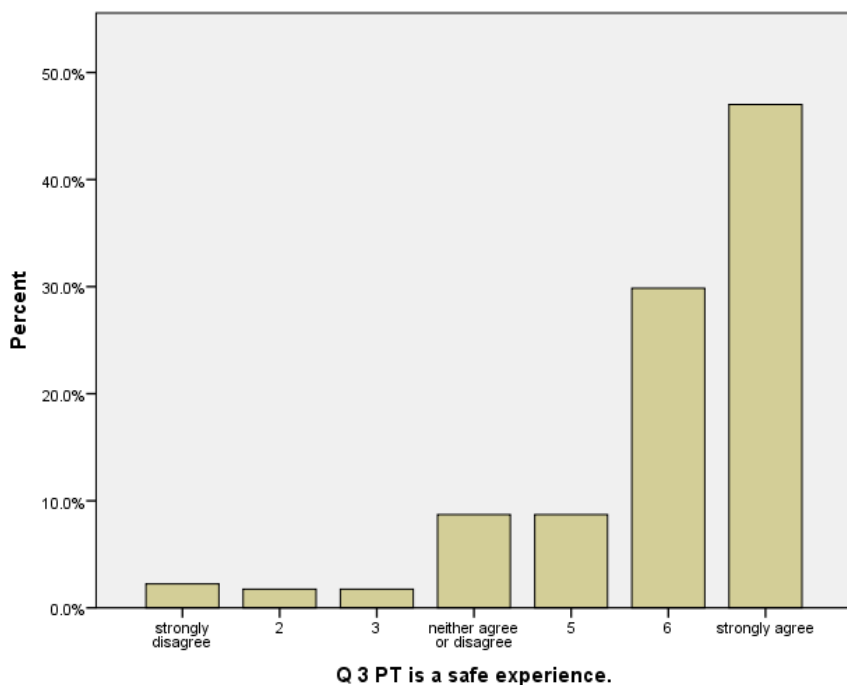


All ages of riders are significantly satisfied with PT, but older riders are generally more satisfied than younger riders.



There is no significant difference in satisfaction with PT between men and women.

Perceptions of safety



2014: Mean=6.0, SD=1.4; Median=6; Mode=7

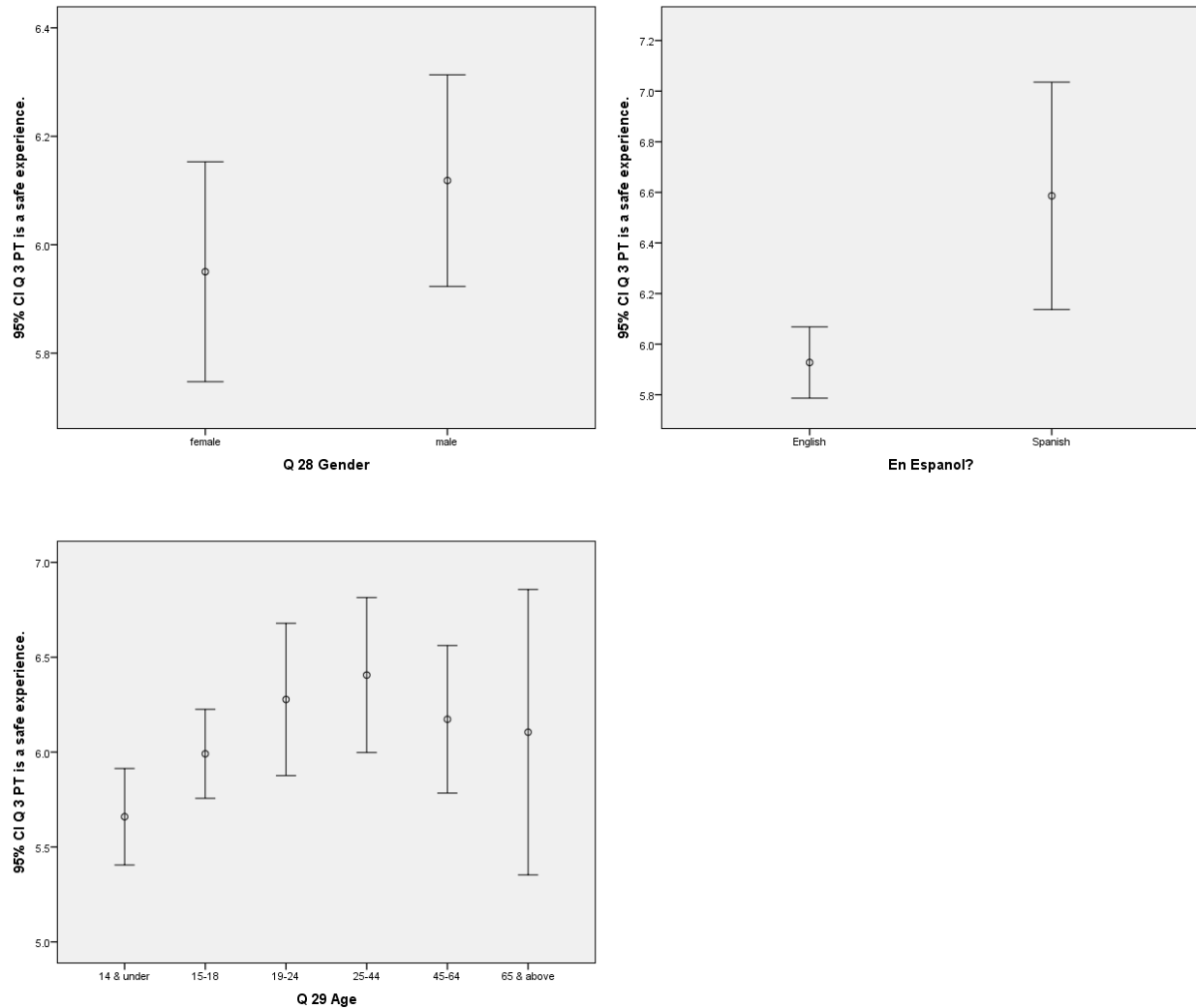
2012: Mean=5.8, SD=1.7; Median=7; Mode=7

Q 3 PT is a safe experience.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	strongly disagree	9	2.1	2.2	2.2
	2	7	1.7	1.7	4.0
	3	7	1.7	1.7	5.7
	neither agree or disagree	35	8.3	8.7	14.4
	5	35	8.3	8.7	23.1
	6	120	28.4	29.9	53.0
	strongly agree	189	44.8	47.0	100.0
	Total	402	95.3	100.0	
Missing	9	1	.2		
	System	19	4.5		
	Total	20	4.7		
Total		422	100.0		

2014: 85.6% of respondents agreed that PT is a safe experience.

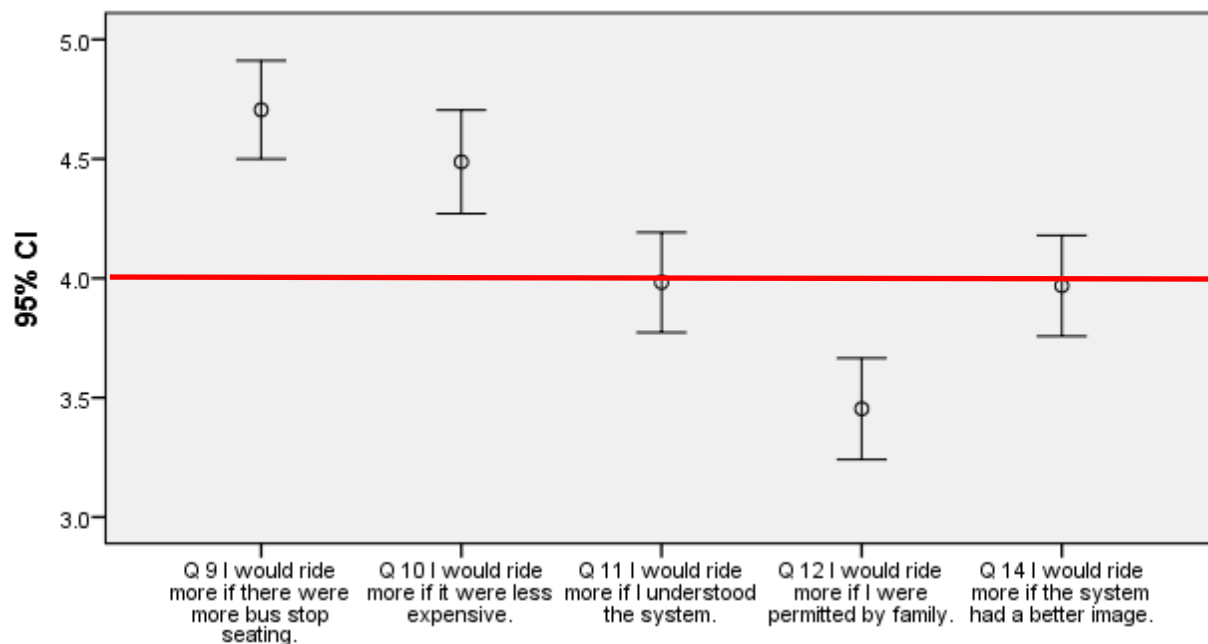
2012: 86.6% of respondents agreed that PT is a safe experience.



The above graphs show the confidence intervals of the mean scores for perceptions of safety, by gender, language, and age.

- Both men and women feel safe on PT, and there is no significant difference between their perceptions of safety.
- As for language, while both English and Spanish language riders feel safe on PT, Spanish language riders feel significantly safer than English language riders.
- All ages feel safe on PT, but younger riders (14 and under) feel less safe than 25-44 year olds. Senior riders have the most variance in their perceptions of safety.

3. Barriers to riding more

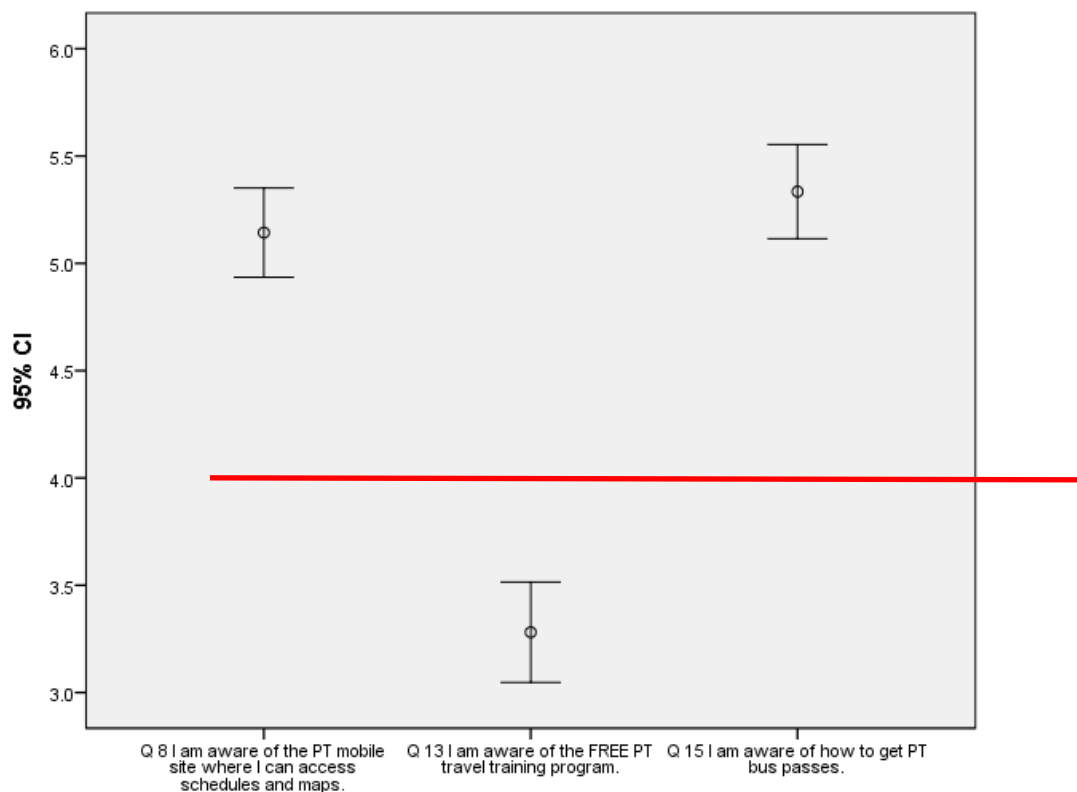


One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Q 9 I would ride more if there were more bus stop seating.	399	4.75	1.972	.099
Q 10 I would ride more if it were less expensive.	393	4.50	2.101	.106
Q 11 I would ride more if I understood the system.	394	4.01	2.016	.102
Q 12 I would ride more if I were permitted by family.	374	3.49	2.041	.106
Q 14 I would ride more if the system had a better image.	386	3.98	2.028	.103

Questions 9, 10, 11, 12, and 14 compare barriers to riding more on PT. Three factors varied significantly from the neutral score of 4. Respondents disagreed that family permission (Q12) is a barrier (mean=3.5), which is consistent with the 2012 findings. They generally agreed that more bus stop seating (Q9 mean=4.8) and less expensive rides (Q10 mean=4.5) would increase their ridership.

4. Catalysts to riding more



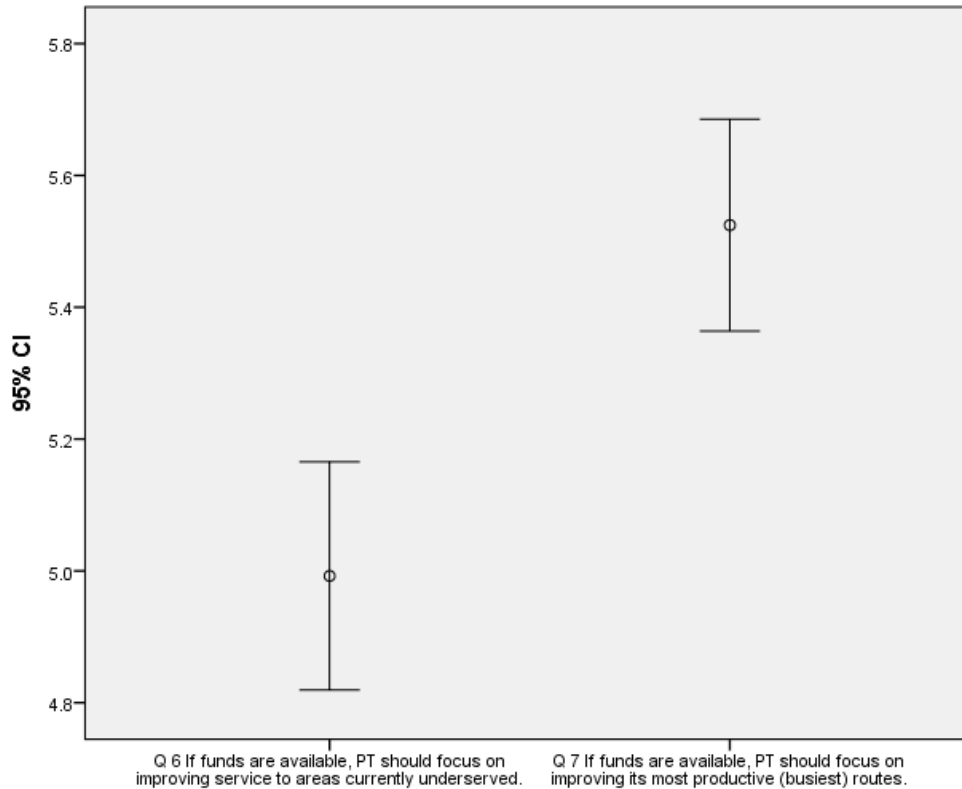
One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Q 8 I am aware of the PT mobile site where I can access schedules and maps.	397	5.12	2.071	.104
Q 13 I am aware of the FREE PT travel training program.	392	3.29	2.327	.118
Q 15 I am aware of how to get PT bus passes.	388	5.34	2.162	.110

Questions 8, 13, and 15 measure riders' awareness of PT resources available to them. For all of the resources, respondents' awareness varied significantly from the neutral score of 4. Riders are generally aware of PT mobile site for schedules and maps (Q8 mean=5.1), and they are aware of how to get PT bus passes (Q15 mean=5.3). However, riders are generally not aware of the free travel training program (Q13 mean=3.3).

5. Riders' preferred changes to service areas

Underserved areas v. busiest routes



While riders want better service to both underserved areas (Q6 mean=5.0, SD=1.7) and the busiest routes (Q7 mean=5.5, SD=1.6), their stronger preference for improving the busiest routes is statistically significant.

Neither age nor school of attendance were significantly related to preferences for either underserved areas or busiest routes.

One destination that needs a closer stop (Q17)

Below are the unedited write-in responses to the question, “If there is ONE destination that you travel to that needs a CLOSER BUS STOP, that would be?”

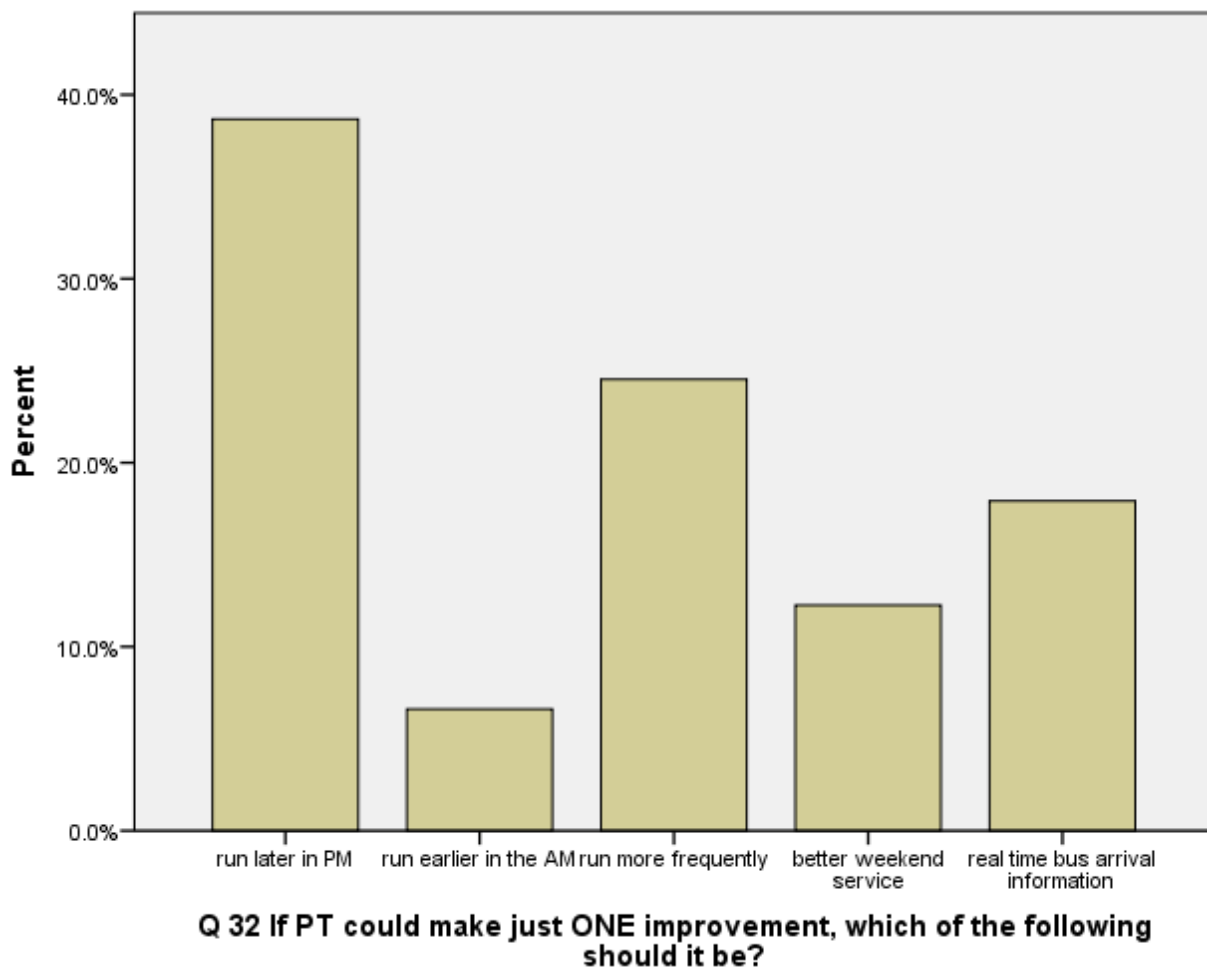
mcdowell	Burger King	corona creek
Petaluma High School	baywood apartments	SRJC
Kenilworth JHS	downtown cinemas	lakeville Circle
1130 St. Francis Drive	24 hour fitness, cinemas	PHS - more than just a few

Ninguno	tennese	trips a day
Target Shopping Center	San Francisco	Canada
store circle by IHOP and 7-	target	the mall
11	105 Marvin Court	faster bus from kenilworth
evel Kaiser cada media hora	pool hall	to safeway
In and Out burger	pool hall	corona creek
ninguna	Grant School, kids have to	G and G Market
1304 Evergreen Lane	walk 4th & C	would prefer earlier AM
B street dental clinic	Adobe Road	operations
trader joes	Cherry Street	St. Francis Drive
Downtown	Petaluma High School	by Enclave main entrance
no se (not yet)	Casa Grande	by Enclave main entrance
11	Skyrim	Grant Elementary
raley's - petaluma plaza	Petaluma Health Center	I street or Mtn View, west of
south	6th and Mtn. View	PBS
11	Victoria	24 hour fitness
horrible	PBS, between D and I	PJHS
home on St. Francis Drive	streets	by the new Luckys store
adobe creek	lakeville Circle	movie theater
On Payran St.	Petaluma High School	Jack in the Box
Casa Grande	San Antonio High School	In and Out burger
school	closer to corona creek	Roundwalk Circle
k-mart	elementary	caufield & Eli, Pyran
In-N-Out	downtown (movies)	brians comics - downtown
movie theater or mall	liberty ln	Petaluma
817 Bantam Way	brians comics - downtown	nowhere
adobe creek	Petaluma	city hall
Denny's	petaluma outlets	New Target and Friedmans
g & g	G and G Market	mi pueblo stop, by the
the mall	my house	police station
Applebees	brians comics - downtown	7-11 and shell
Maria Drive	Petaluma	further downtown by
The Province of Skyrim	the stop I get off at	howard
sprouts & Wilson and Two	Target, deeper into	prince park
Rock Elementary Schools	neighborhoods	downtown
on f st	westside rolls	cat walk
Liverpool Way	corona creek	

good	Baywood Dr
PBS and K Street	safeway
PHS	theatre
Old Adobe and Sonoma	westridge knolls
Mounain	movie thartre
in the middle of kmart and	the skate park
safeway	washington square, valley
westridge	orchards
Sutter Street	Premium Outlets
Target Shopping Center	adobe creek

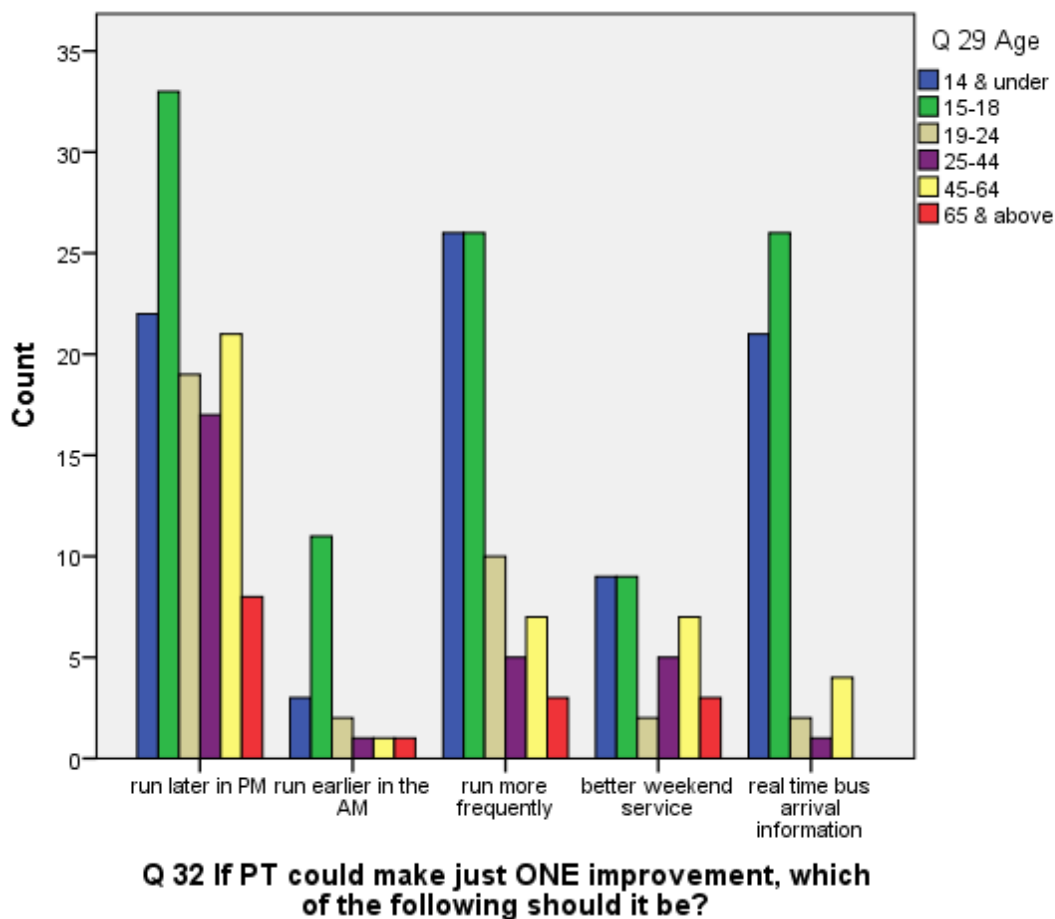
6. Riders' preferred changes to service schedules

One improvement on service schedule (Q32)



A plurality of respondents identified later service as the single most preferred improvement on service schedule (39%). In 2012, the same option also received the strongest preference. More frequent service took second place (24%), followed by real time bus arrival information (18%), better weekend service (12%), and earlier service (7%).

Preferred improvement by age group



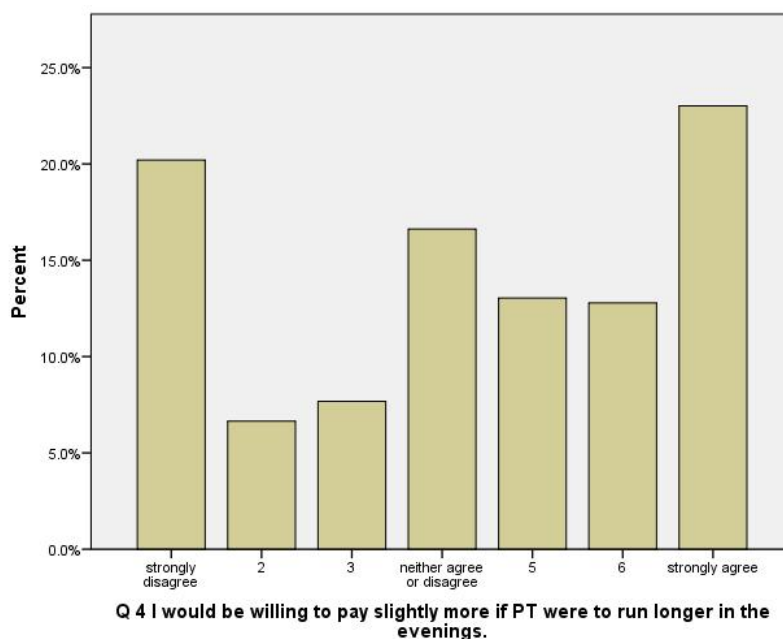
This graph illustrates the raw counts (not percentages) preferring each improvement option, so the volume under each improvement option indicates relative popularity, while the heights for each age group indicate the preferences of those groups.

For each age group except those 14 and under, later runs in the PM was the most preferred improvement. For the youngest group, their most preferred improvement was more frequent runs, followed closely by later runs and real time arrival information.

Rankings of improvement options by age group

	≤14	15-18	19-24	25-44	45-64	≥65
run later	2	1	1	1	1	1
run earlier	5	4	3 tie	4 tie	5	4
more frequent	1	2 tie	2	2 tie	2 tie	2 tie
better weekend	4	5	3 tie	2 tie	2 tie	2 tie
real time arrival	3	2 tie	3 tie	4 tie	4	5

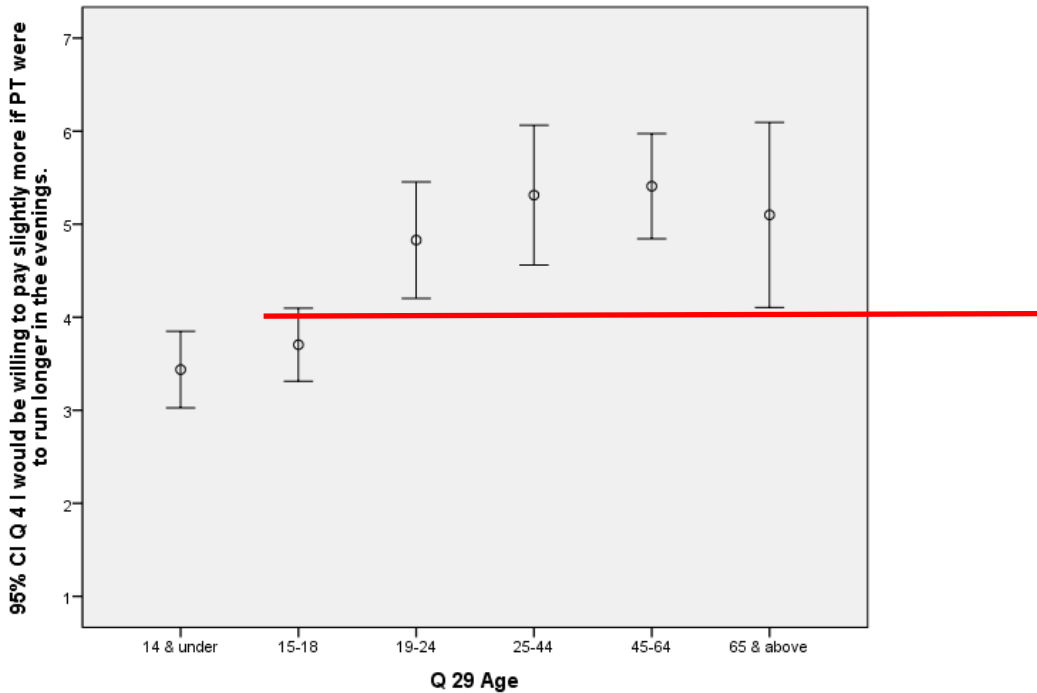
Evening service (Q4, Q16)



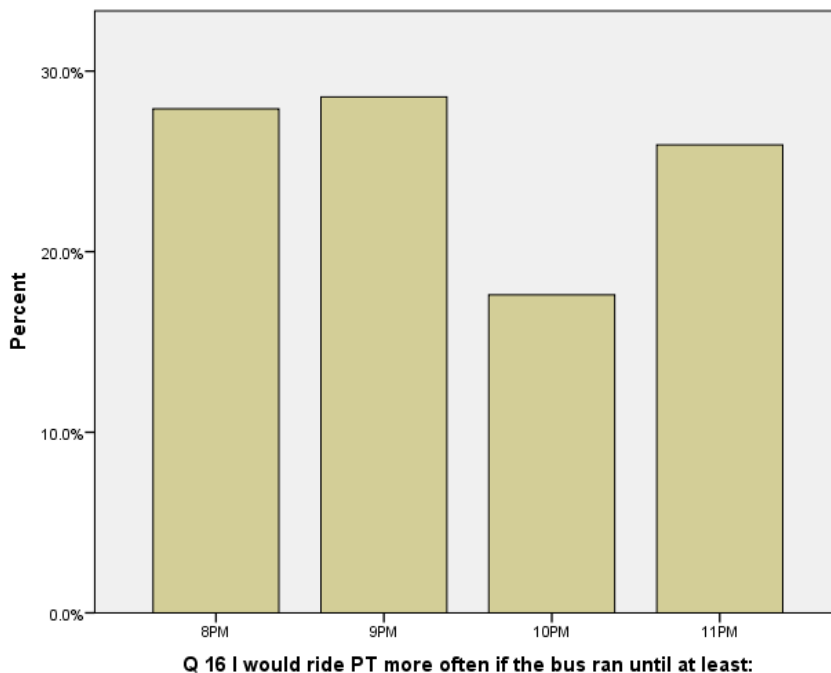
Mean=4.3, SD=2.2; Median=4; Mode=7

While respondents were across the scale on their willingness to pay more for later evening service, the mean score (4.3) is significantly higher than the neutral score of 4 ($t_{390}=2.4$, $p<0.019$). In other words, the average respondent is willing to pay a little more for later evening service.

The below graph compares willingness to pay for later runs by age group. It clearly shows that the average adult is willing to pay for later service, while the average minor is not.

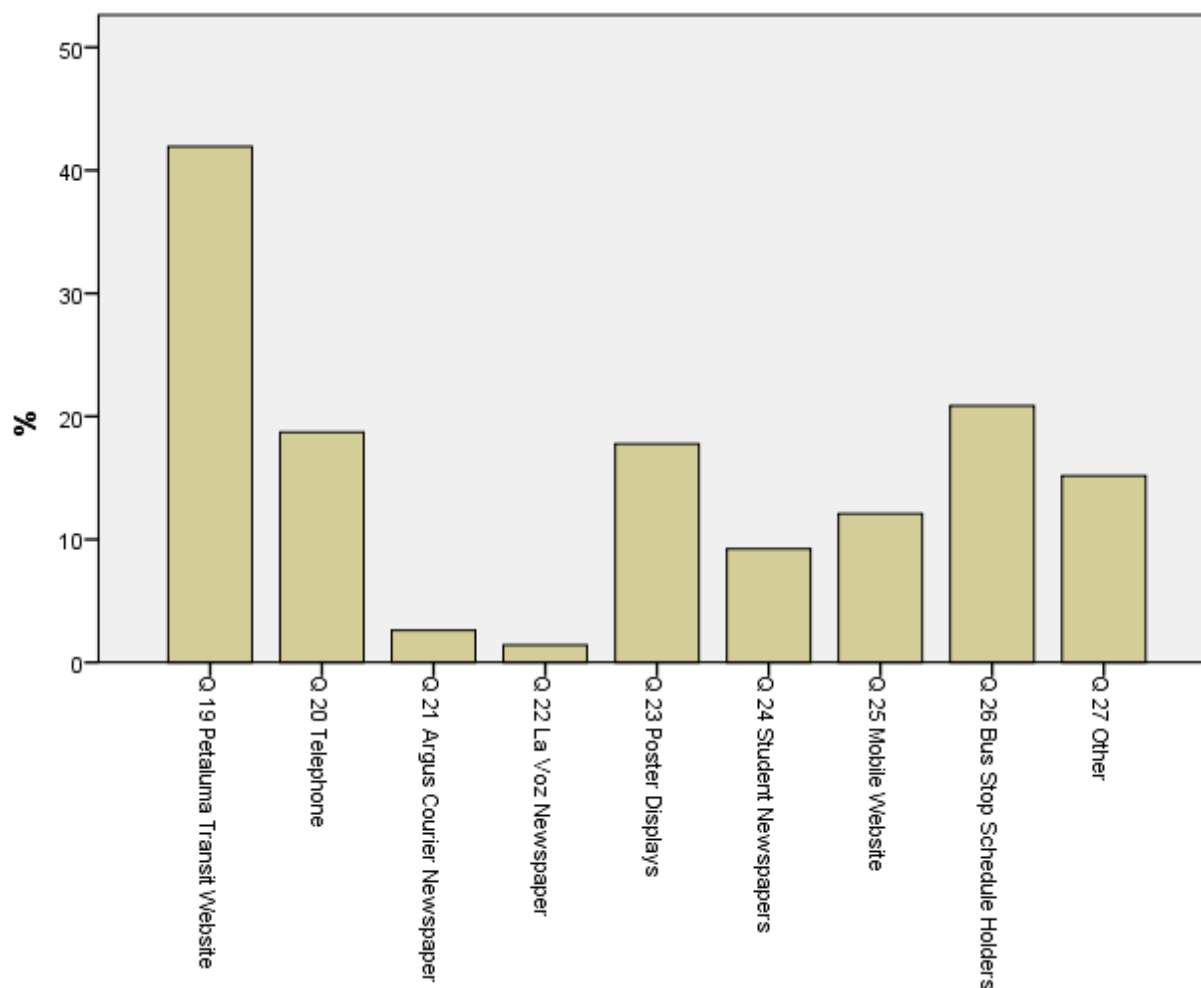


The below graph (Q16) shows that preferences for later hours of potential service does not decline substantially at 11pm, but does take a dip at 10pm. This suggests that extensions of service should go to 9pm or 11pm for the largest marginal gains in ridership.

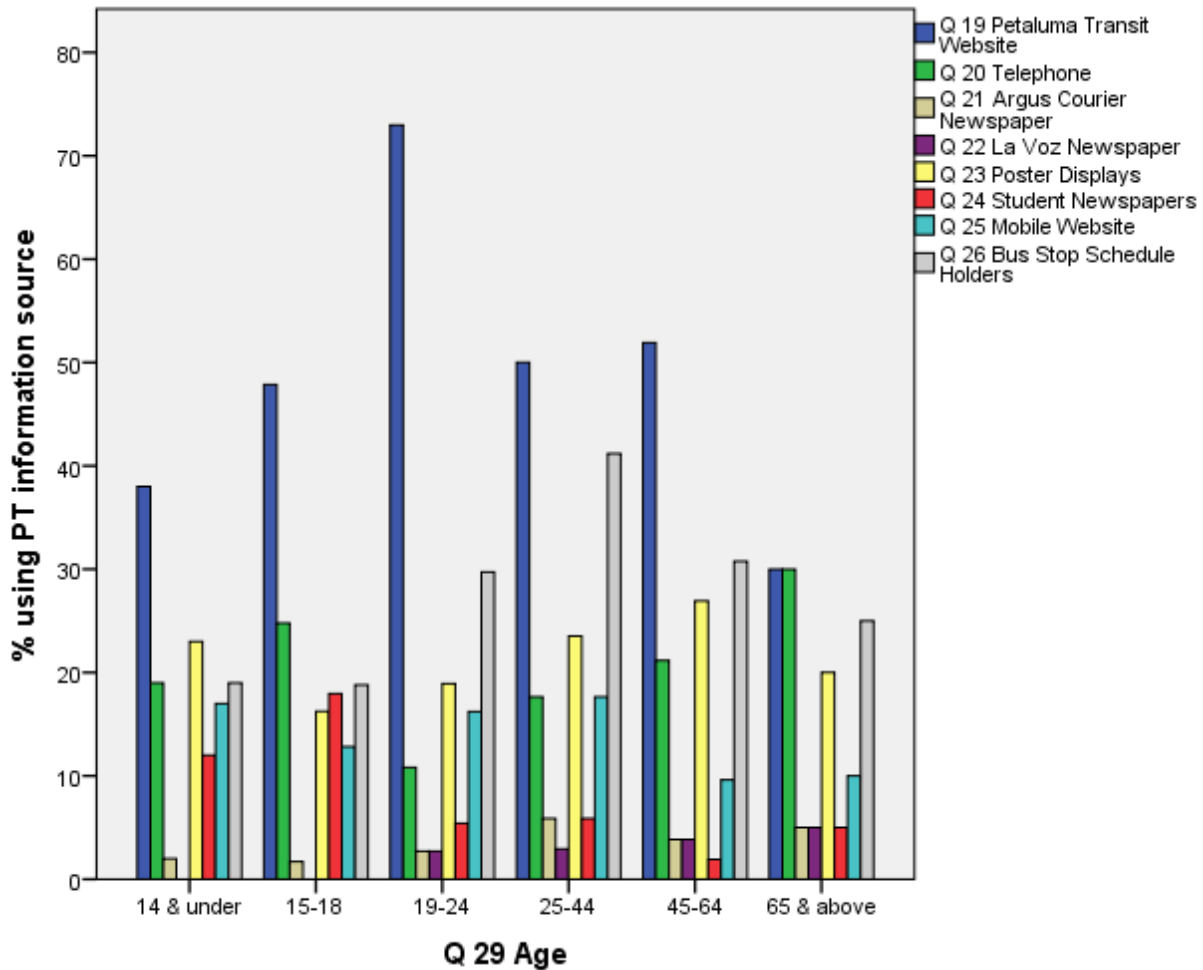


In summary, when thinking of improvements to the PT service schedule, riders most prefer later evening service, to at least 9pm, and adults are generally willing to pay a little more for that extended service.

7. Sources of PT information



Similar to 2012, respondents in 2014 identified the PT website as the most popular source of information on PT (42%), followed by bus stop schedule holders (21%), telephone (19%), posters (18%), and mobile website (12%). The three newspaper sources (Argus Currier, La Voz, and student newspapers) received the lowest percentages.

PT information source by age group

This graph illustrates the percentages of each age group that use each of the information sources. It clearly shows that the PT website (dark blue bars) is the most popular information source for each age group (tied with telephone for those 65 and older), used by a majority of those between 19 and 64. It is the only information source used by a majority of any age group.

Telephone use (green bars) ranges from 10% to 30%, most used by those 65 and older, followed by those 15 to 18.

The public newspapers (Argus Courier=tan bars, and La Voz=purple bars) were used by no more than 6% of any age group, and mostly by seniors. However, student newspapers (red bars) were used by 18% of 15-18 year olds, and 12% of those 14 and under.

Poster displays (yellow bars) were used by 16% to 27% of all age groups.

Mobile website (pale blue bars) were used by 13% to 18% of those aged under 45, but only 10% of those 45 and over.

Bus stop schedules (grey bars) were used by 19% to 41% of each age group, being most popular with those between 25 and 44, and least popular with those 18 and under.

APPENDIX D: Results of 2015 In-Depth Market Research

“How Petaluma Transit Can Improve Its Product-Offering and Increase Ridership:
An Examination of Students and Service Workers”

*A Research-Based Component of the
Petaluma Transit Short-Range Transit Planning Project*

Authored by: Jon M. Shapiro
July 6, 2015

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Introduction

Importance of Study

Students are important because they represent the future of the system, tend to be innovators or early adapters to public transit, and represent a significant proportion of the Petaluma Transit ridership. However, this group is often ignored and marginalized within transit studies and have limited political and policy-making power.

Service workers were explored for the first time and tend to be vibrant economic development facilitators. As Petaluma grows rapidly, a public transit responsive to the workforce may facilitate economic development and enhance employment opportunities.

TMTP Aims

The two central aims within the Transformative Mass Transit Planning (TMTP) study are: (1) to gain insight designed to improve the product and service, and (2) to facilitate cultural shifts and attitudinal change regarding public transit and Petaluma Transit. *TMTP* implies that the achievement of the first goal of product innovation is of shallow utility without the focus on, and achievement of the second goal of facilitating cultural shifts. These two goals feed synergistically into each other.

Methodology and Goals

Between April 22nd and April 25th, 2015, we conducted a series of 5 focus-groups and 3 in-depth interviews with the aim of improving Petaluma Transit's ability to provide outstanding service and forging enhanced meaningful relationships with key constituents. The two focal ridership segments include local Petaluma students and service-workers. To learn about these two groups, we interviewed students, school administrators, bus-drivers, and service workers. The transit manager participated actively with the consultant and took detailed notes, within all of the focus-groups with the goal of turning insight into service innovations.

First, Petaluma Transit interviewed students at Petaluma Junior High School and Casa Grande High School. These focus-groups were conducted during lunch-time at each of these school sites. This was followed by in-depth interviews with Petaluma Public School administrators and Eric Bachman, Assistant Principle of Casa Grande High School. We then conducted a focus group with Petaluma Transit bus drivers, followed by in-depth interviews with 3 local Petaluma service workers.

The aim of this study is to generate insight in order to guide Petaluma Transit's management in making informed decisions. With discovery-based research, the goal is to

understand the student's experience and her/his relationship with the service product. Key goals included an improved understanding of the following: (1) why students are not using the service more besides transit between home and school and what might change this, (2) how to make the reach students more effectively, and (3) how to better meet the transportation needs of Petaluma service workers.

Problem-Based Orientations

It should also be noted, that Petaluma Transit is an outstanding system with a strong recent history of conducting discovery-based research. It is clearly one of the excellent small town systems within the United States that this consultant has experienced. The fact that management prioritizes constituent understanding, and acts systematically on the emergent findings is a key reason. Correspondingly, and consequently, Petaluma Transit ridership has increased immensely over the last few years.

The reason this is mentioned is because, the tone of this type of report, by definition, is skewed toward negativity. The findings of discovery-based reports, by design, focus on gaps that constituents have that thwart usage and/or satisfaction. Once these gaps are bridged, the product improves and ridership should be happier and more numerous. Thus, our findings do not suggest that the present system is bad, only that management is prioritizing optimization. Accordingly, in contrast with the first iteration of this study in 2010, most attendees had a good general perception of Petaluma Transit and it required much greater effort to elicit negative comments.

Structure of the Report

In accordance with the TMTP aims, the following section introduces key, managerially significant ideas and recommendations that emerged from our data. These will be provided with the context of 12 emergent themes.

It should be noted that many of the vital focus-group-based recommendations would require a large infusion of new operating funding in order to implement effectively. However, Petaluma Transit is constrained operationally by a lack of funding for major service improvements, due in large part to the historical funding agreement between Golden Gate Transit and the transit operators in Sonoma County, that effectively takes 30% of Petaluma's funding off-the-top, and gives it to Golden Gate Transit to support the regional services they provide within the 101 Corridor. Over the last 5 years, there have been several major cost control streamlining measures implemented by Petaluma Transit (e.g., paratransit contracting model, route restructuring, and a reduction in intergovernmental fees), that have enabled the Petaluma service improvements done to date. However, there are now very limited further options to increase available operations funding besides **reconfiguring this ancient funding agreement with Golden Gate**

Transit that clearly impedes our ability to implement fundamental study-based service improvements that would benefit Petaluma's quality-of-life, and ridership-base satisfaction and usage.

Key Themes (Recommendations and Findings)

Theme: Flipping the Frame

First, it is essential for Petaluma Transit to utilize integrated marketing communications to help flip central destructive elements within the student-body narrative. Our key finding among junior high school students is that there is a real and robust social stigma associated with using fixed route buses. Students said this loudly and clearly. Sociologically, within this context, the use of fixed route buses may possibly serve as a vehicle for social subjection, where the rich look-down at the poor who ride the bus. Many students explicitly comment-on and ridicule riders' public transit usage. Surprisingly, fixed route bus ridership is also seen as being lower-rung than that of yellow-bus usage. Among many of the wealthier students, whose family drives them to school it is viewed as dreadful how these poor kids ride within these horrid Petaluma Transit buses.

This finding is surprising in both explicitness and magnitude. It undoubtedly provides a real opportunity for Petaluma Transit Management to seize the moment and launch a globally innovative strategy. Based upon interviews with students, administrators and drivers, the table appears to be set for flipping the narrative frame.

The aim is to flip the frame so student fixed-route bus riders move from being low-rung community members to becoming the higher-rung, or top-of-the-world constituents. This can be done through three interrelated narrative-based thematic elements: (1) environmentalism, (2) citizenship, and (3) futurism. These are three central constructs within the Zeitgeist shared among California youth, as well as many millennials globally. Correspondingly, it was recommended by a school administrator that Petaluma Transit utilize the pcsfoods website be used to convince students that riding the bus is cool and that it is environmentally good. This potentially valuable website will be discussed in great detail later within this report.

Successful flipping would provide vivid justification as to why public transit usage is "cool" and not an endeavor of subordination. At its best, if implemented successfully, flipping enables the dominant, power group to reexamine their assumptions and behaviors. It is vital for such integrated marketing communication projects to be co-developed with students. As a group they are aware of what message, and narrative structural elements

work effectively. They may collaborate with Petaluma Transit management to help guide the decision-making process. Based upon our discussions with Casa Grande High School administration and teachers, there appears to be a great alignment with students' academic needs and the pedagogical advantages of this socially viable, learning project. Within the context of a service learning project, the consultant would be delighted to help facilitate the process, with an secondary aim of replicating the process within other communities.

Theme: Crowding, Bullying, Safety, the Co-Pilot Project and the New App

In terms of student bus service overcrowding, safety, and bullying provide a complex and interrelated dynamic. First, overcrowding is a problem on routes going to, and leaving from school. Students are packed-in tightly and this can become dangerous when the bus accelerates, decelerates, or moves up and down hills. Students expressed that some drivers expect 3 students to share 2 seats, and some will sit on steps. Some of the buses are reported to be dirty, and some students consequently fall onto the floor and mop-up disgusting combinations of sticky dirt and noxious fluids. This is the only experience that many pupils associate with Petaluma Transit ridership, and this may inhibit their desire to use it for other contextual needs. As funds become available, it is recommended that Petaluma Transit employ more buses to alleviate this problem as well as examine the bus cleanliness.

Importantly, we learned that due to information disconnect, the school has taught students that the bus passes are only good for school-home usage, and for nothing else. We also discovered that there is a great administrative, dining-based website (pcsfoods.com) where Petaluma Transit has been given permission to communicate with students and educate them about all important factors.

Aggressive tensions tend to be more common among junior high school students than across high-school pupils due to differing levels of developmental dynamics. At the same time, there is a special program for older students whose member appear to enter Petaluma Transit buses. Some within this group appear to harass junior high school students. A few appear to be sending unwelcomed sexual innuendos to young women within the junior high-school student body.

Additionally, there are certain seats that tend to be at the back left of the bus, that appear to be owned by specific bullying students. Sometimes they will claim the entire rear row. It appears to be commonly believed that if you move back there, you are tempting fate and may be attacked by one, or more of the bus bullies.

It is unlikely the bus drivers can observe many of these dynamics , given the overcrowding on the buses and their complex tasks associated with driving safely within increasingly busy Petaluma traffic. As a result, bullying transpires and monitoring is inhibited. Of crucial importance, safety at the bus-stops is another problem that keeps students, especially women, from riding the fixed routes, or from feeling secure during their ridership experiences. The longer a person sits at the stops, the higher the probability that someone will attack the patron verbally and/or physically. However, there are two exciting ways to help circumvent these germane threats.

First, it is believed that the planned Co-Pilot Program will help Petaluma Transit alleviate the bullying problem significantly. It is proposed that Casa Grande High School students volunteer through a service-learning project, to assist Petaluma Transit bus drivers in identifying bullying situations. The administration, teachers, and students appear to be ready to work on this project. Based upon the Assistant Principal's feedback, it is imperative to communicate this process with the schools. First, a general letter-of-intent should be sent through e-mail at the end of the spring semester. Then, Petaluma Transit management should plan to present to the teachers in the early fall (please see Exhibit B, p.18)

Bus drivers expressed the desire to play leadership roles in confronting bullies in order to help diminish their coercive power. It is suggested that all incidents should be reviewed through camera recordings from the bus as well through individuals' smartphones. Please be aware that students expressed a need to be assured that a potential Co-Pilot cannot use this position of power to punish a rider who s/he doesn't like. It is hoped that part of the Co-Pilot program will involve educating students about the definition of bullying, how it damages people for life, and different scenarios that involve elements of bullying. Co-Pilots will also help Petaluma Transit to communicate with riders by crafting messages that communicate policies within school, and within the bus, and at bus stops, and hopefully other relevant locales.

Please view Exhibit A (page 16) for a description of the Pilot Project service learning program draft. This describes the program in terms of potential learning objectives, student skills developed and outcomes for Petaluma Transit. This is followed by a draft of a complimentary service-learning project to enhance this process.

Second, the other promising, valuable service element is the upcoming geolocation-based application, called, "My Stop". The prospect of this app excites students incalculably! An important finding is that this soon-to-be new Petaluma Transit application is viewed as a

tool to reduce safety-related risk. Among interviewed students, young women participants found this to be remarkably valuable. However, the salience of this safety attribute will likely transcend gender. It is recommended that the presence of this application and its safety benefit be communicated within the buses, on a poster placed behind the driver's head, and across other appropriate channels to reach students effectively. Specifically, the My Stop application will tell riders, within a few meters, or seconds, where a bus is located and when it will arrive. No longer will riders with the application have to stand at a stop for 20 minutes, waiting. Instead, they may wait for less than a minute. One young woman who lives a block from the stop stated that she could run out of the house to the bus and her parents would feel considerably safer.

It should be noted that, paradoxically, student-bus overcrowding is a direct result of Petaluma Transit's great collaborative work within the student segment and with school administrators, which has led to the nearly tripling of student riders over the last 5 years. It is recommended, that California, or the local district should award Petaluma Transit with more buses to commensurate with increasing public demand. Most importantly, the political leaders should reconsider how they divide and distribute local funds to the various transit agencies with the goal of providing optimal bus service that the community deserves. It appears that Petaluma Transit is underfunded while Golden Gate Transit may be implicitly diverting funds from the Petaluma community.

Theme: New WI-FI: Improve and Leverage these Great Benefits

Petaluma Transit had invested significant resources to place Wi-Fi into every bus. This promises to provide information, entertainment and education enrichment to patrons. The significance of these benefits cannot be overstated. However, challenges and gaps exist that once bridged, will help make the system better and people's quality-of-life richer. First, students expressed that Wi-Fi is throttled within their crowded buses. This may be due to limited bandwidth or other technological parameters. However, other participants mentioned that Wi-Fi service was also sporadic when the bus was not crowded. Once this problem is fixed, Petaluma Transit has a great opportunity to leverage and promote in-bus Wi-Fi to multiple ridership segments. As discussed within a previous section, students have previously been told that their bus passes only work for service between home and school. Clearly, Petaluma Transit can promote its buses to compete with Starbucks, or McDonalds as a place where one can work the internet and apps on a smartphone or tablet. This usage promises to be highly synergistic with the emergent Petaluma Transit geo-location application (My Stop), which will help riders navigate the system more smoothly, easily and confidently.

Most importantly, among Petaluma's service workers, many riders are educated, interested in the world, and live near or below the poverty line. An increasingly large number of service workers are older and many lack technological education regarding emergent technologies. At the same time, the Petaluma community supports an outstanding library system as well as a fine senior center. Android tablets and phones, without any mobile phone service are increasingly affordable within most budgets. It is recommended that Petaluma Transit work to bridge the gap for this segment. One idea is to partner with the library, or senior center to offer free tablet training to show riders how they can ride the bus, download books and great periodicals for free, and enrich their lives as a benefit of riding Petaluma Transit. For example, the Washington Post and Los Angeles Times are available through a tablet or smartphone to any student for free. Much of this information can be downloaded and viewed later, anywhere without having WIFI. The local librarian will likely have many better ideas regarding accessibility to specific knowledge and entertainment-based resources. It is certain that the City of Petaluma pays significant sums for rich information and entertainment resources, through EBSCO Host, or another similar, newspaper/magazine/journal database, which could then be disseminated to more community members, following a variation of this approach.

This idea emerged from riding with older service workers, who did not have WIFI at home due to financial constraints. At the same time, the promoting of this benefit and the facilitation of technical training can traverse across multiple ridership segments, and serve as an invaluable reason to ride Petaluma Transit buses. However, it would be important to focus on one segment at a time initially in order to provide the correctly targeted messages. Another idea is to work with the library or another appropriate constituent, to obtain a grant so workshop participants could receive their basic tablet for free or for under \$25. Such a program could provide strong public relations for Petaluma Transit, facilitate increased ridership, and add to the value of procuring bus passes. Promotional themes could focus on obtaining a free ride with WIFI, through the bus pass. Finally, as one possible variant, these projects could be integrated into the future service-learning modules to be implemented by Case Grande High School students.

Theme: Distribution of Bus Passes and Communications with Petaluma Students

In recent years, the Petaluma School System has collaborated with Petaluma Transit in order to sell and distribute bus passes. Most importantly, they sell reduced-price passes to students and keep the information private so no one knows which students receive this benefit. The means-based information is derived from confidential school lunch-based data. Thus, means-based passes can be sold only through the dining hall because they aim

to keep this data private. Historically, the dining department has not received monetary benefit for their labor. This gap serves as a potential relationship threat.

Based on our meeting, the school board appears happy to continue and improve this relationship. Moreover, Petaluma Transit management plans to provide a small margin to this constituency for distributing full-priced passes. The dining organization expressed no interest in obtaining any margin from the reduced-price passes, as they care about their needs and development. In other words, no profits will be derived from the families that qualify for the reduced priced passes. In general, student's purchasing bus passes utilize a cash culture and only a minority use credit cards. Providing a fair margin on bus passes that makes the bus pass-distribution relationship with the food service sustainable is of strategic importance.

Interestingly, we discovered that perhaps the most powerful communications mode for the students is an unofficial website created and maintained by the food services (pcsfoods.com). It contains games and it is extremely attractive to the student body. Moreover, they have an underdeveloped link regarding Petaluma Transit. There exists an opportunity, to provide rich information to students through this link. Another thing we learned is that the school was telling students that these passes were **only** good between school and home. It is important to clarify the benefits and utilize this website to communicate many of the ideas discussed within previous sections (e.g., the new app, new Wi-Fi, the benefit of summer passes, using the bus across various needs-based contexts, the Co-Pilot program, service learning projects, bullying education, environmentalism, rider training, other student mobility needs, etc.). The leading administrator behind this website, Ray, appears to be extremely helpful, passionate, and caring, and has the potential to be an advocating constituent moving forth. Overall, it is recommended that Petaluma Transit partner and helps develop this website link (pcsfoods.com). Please refer to Exhibit B (page 18), which outlines a timeline to communicate with key constituents effectively in order to share information and help shape attitudes. The development of the pcsfoods website would also make an outstanding service learning project (Please refer to Exhibit A, page 16).

Some student expressed concerns associated with losing bus passes and wished there was a way to have them replaced if lost. For some, this has created inconvenience, or financial hardship because there is a significant lack of family-based disposable income.

Theme: Facilitation and Promotion of New Ridership Contexts

A key Petaluma Transit objective is to increase student ridership across contexts other than the traveling between home and school, over the next year. Currently, Petaluma Transit

offers a summer youth pass that should provide benefits to larger portions within this dynamic group. However, usage of bus-passes, outside of schooling purposes lags expectations. As previously stated, through this study's interviews we learned that the school currently does not inform students that bus passes can be used for other purposes. This is because administrators were unaware of this fact. Moreover, developing effective communiqués within the highly utilized dining services website should help increase student awareness significantly.

As a short-term student promotional strategy, it is recommended that Petaluma Transit consider some variation of the following approach. First, develop a narrative regarding how bus passes can be used for any Petaluma Transit bus, and outline a couple of key venues vividly, such as going out with friends to shop, play sports, dance, view cinema, or dine. In other words, create key usage and benefit-based scenarios. Additionally, explain how the summer youth pass can allow students to access the entire town. Interweave the advantages of on-board WIFI, and the upcoming app (MYSTOP) that will allow people to know about the “when” and “where” of the buses. Consider offering rider training lessons, and employ a free student ridership day during the first and last weeks of school.

Utilizing the food services website promises to be extremely advantageous. However, to augment this website as a communications channel, consider putting posters-up behind the driver, within the bus, and at school bus-stops, and ask the school to announce these central concepts within their public address announcements. Consider a public announcement within the Hispanic and other ethnic stations, and put-forth an article within the school newspapers. Finally, face-to-face interactions will be possible during certain open-school day events and parent evenings. Developing a brochure to be handed-out that outlines key benefits and how to obtain the pass, use the bus, the new Wi-Fi, and the emergent App could contribute immensely. Finally, elicit student help regarding how to best develop the announcements, and have them test whether their decoding aligns with the messages intended encoding.

Finally, consider investigating whether it might be feasible to implement cross-promotions with student-friendly venues. For instance, if the movie theatres, coffee shops, or other student-centric genres were willing to provide discounts for student bus pass holders, this could help provide another motivation to acquire bus passes and utilize the bus.

Theme: Automated Routing Channels with Schools

It appears that student perceive that it is possible to get into academic trouble when the bus is late arriving to school. This reality could improve if drivers had an effective and efficient process to communicate directly with these schools. Within this process, late

students would be able to mention the bus and not be counted at party. One idea may be to automate certain arrival times on the Petaluma Transit geolocation application, where the school receives a text message if select buses are late. If such a tactic were to be implemented, it is recommended that Petaluma Transit communicate this to students across the key aforementioned channels (e.g., behind driver, website, and application). As a result, it could be reinforced that Petaluma Transit is responsive to students' ideas, and riding to school now has less risk.

Theme: Service Learning Projects and School Relationships

As mentioned previously within this report, there exists amazing opportunities to collaborate with schools, facilitate meaningful student projects, and train future public transit advocating citizens. We have discussed the proposed Co-Pilot Program that will aim to help eradicate bullying and enhance safety. Other ideas include, developing segment-based informational promotional materials for the bus, the websites, speaker announcements, and the new app. In addition, students may work on projects that teach other colleagues about public transit usage, how to read a map, and/or use the app. Other project domains may include teaching seniors how to use the bus, and creating a student/senior dialogue on how to improve mobility within Petaluma (see Exhibit A, page 16).

Eric Bachman, Casa Grande's Assistant Principal, is willing and able to help and he provided some key dates. Exhibit B (page 18) provides an outline of all of the key dates and parameters derived from this interview. The dates within this Exhibit B, page 18, are important to follow, and this guidance provides an opportunity to enhance constituent relationships significantly. On another note, the consultant would be delighted to participate within the mentoring process.

Theme: Threats to Student Enrollment

As local real estate prices skyrocket many families are being priced out of Petaluma. Enrollment is consequentially decreasing, which will create more mobility and funding-based challenges. Therefore, there will likely be an increase in out-of-district students with more intercity transit trips taken. This suggests that the district will look for options to save money and Petaluma Transit has an opportunity to collaborate actively to solve such problems. It is recommended that Petaluma Transit endeavors to have a school district manager join its advisory board, and/or find new ways to collaborate more systematically and regularly.

Theme: Petaluma Transit Bus Drivers are Strength to be Cultivated

Bus drivers play a crucial role within Petaluma Transit. They are both a perceived and real asset. They provide information, develop meaningful relationships with patrons, and typically know when a new rider enters the bus, and monitor the environment in terms of safety. Unfortunately, drivers are grossly underpaid, especially at the lower end of the cohort pay scale. Besides being unsustainable, this leads to turnover that threatens service quality and safety. In addition, the cost of training new drivers leads to a counterproductive economic situation. It is suggested that bus drivers have a special suggestion box or e-mail account that can be reviewed in real-time, given how knowledgeable they are in terms of operational and other strategic parameters. Most importantly, bottlenecks have become endemic. A lot of this is related to highway and road improvements. On many days, this leads to delays, misconnections, and some drivers ride rapidly to attempt to avoid tardiness. This rushing results in a potential threat to safety. It was suggested that better real-time communications exist among the City of Petaluma, Petaluma Transit management, Petaluma Transit bus drivers, and Petaluma Transit riders. Ideally, schedules, connections, and routing can become adaptable to these external environmental changes in order to make the experience safer and better. One recommendation is to allow the Highway #101 lights to go longer in order to clear-out the traffic. Most of the problems are currently east of Washington.

Drivers should play a leadership role within the bullying solution. In general, they know the riders and can play a role in recruiting the correct Co-Pilots and work to develop the optimal course of action. Drivers also expressed the importance of having clear policies as kids love to break rules. It was reported that a driver was asking students to clean trash off of the floor, that the pupils claimed were not their doing. Another driver demanded that three students share two bus seats. It is suggested that drivers and management meet and develop a uniform and optimal policy regarding how students sit, or stand on the bus.

Theme: Better North-South Connections and Later Service

Overall, people are happier bus riders when compared with the past. However, within both the east and west side of town, enhanced north-south connections appear to be desired. In addition, as funding improves, later service that reflects the growing population is also desired. People appear to be extremely happy regarding the recent improvements involving later service.

Theme: Service Workers: Satisfied and With Unmet Needs

Mostly, this group appears to be happy and grateful for the service they experience. A significant number of service workers riding buses are senior-citizens. It was expressed

that changes in the west-side routing reduced walking accessibility to the downtown library, which threatens quality-of-life. A reconsideration of this routing was requested. Overall, it is recommended that Petaluma Transit conduct a systematic outreach to retail outlets and ask for bus-pass coordination/distribution (e.g., target, mall owners, and food stores, corporations). This is another service learning project option. Similarly, it appears logical to develop a brochure that contains information regarding where service workers can call to learn about bus timing and routing needs. Within the brochure, it also makes sense to promote the new MYSTOP app, and the fact that free WIFI is in place. Due to limited incomes and wealth, service workers disproportionately have no WIFI at home. Thus, having a Petaluma Transit pass may open the door for many to free WIFI. The idea of promoting a free library seminar with reduced price tablets may be seen as a great benefit, and the fact that new pads are relatively inexpensive may be seen as a benefit, especially among senior workers on limited incomes.

It appears that many service workers who utilize Petaluma Transit are satisfied with the system and have no complaints. Riders are extremely happy with the implementation of later-at-night service. It has enabled workers to have public transit access between home and work, and it has also facilitated grocery shopping after work, which is a big benefit for some. It was requested that Petaluma Transit implement later at night scheduling when feasible, to match demand, given some service workers get off later than the service runs. Service workers tend to love the Petaluma Transit drivers and view them as professional, helpful, and invaluable. The bus is seen to be quiet and clean. However, one service worker stated that she had seen urine on a seat within her experiences.

Overall, the routing changes have improved the system. However, it was requested that Petaluma Transit consider the amount of walking needed to access the library, consider a better developed east/west changeover on the north end of town (perhaps, have the #1 reach up to Corona Road), and improve the #1 and #24 changeover so it is easy to walk off of the bus to reach the connection, and it is there in real-time. Another participant discussed problems connecting from the #11 to the #2 after 9:20 p.m. leading to the need to call a taxicab. As Petaluma grows and more of the retail establishments offer later hours, the need will increase for later public transit service.

It was requested that more information be put onto buses. For instance, it would be helpful to have meetings posted the day before, and all other related information is most likely to be read within schedules, and on posters placed behind the bus driver.

In terms of promotions, it was suggested that Petaluma Transit conduct business outreach where they offer businesses the opportunity to provide bus passes to its workers in a subsidized manner. This might facilitate more usage and enable Petaluma Transit to forge stronger relations with this constituency.

Theme: Overall, Things are better and great!

Naturally, a project that looks for problems will be written with some negative orientation. However, it is worthy to note that compared with past studies there are fewer reported problems and people generally appear to be more satisfied with the prevailing service. This may be due to, in part, the fact that Petaluma Transit management actively seeks to uncover and anticipate problems and then fix them. As a result, ridership has nearly tripled and patrons are generally more satisfied. Consequently, fewer obvious problems exist and this is why we believe that continuous TMTP discovery-based research is of notable value.

Exhibit A: Sample Preliminary Projects and a Handout for Teachers and Students

Petaluma Transit is looking for motivated students to work on a vital service learning project. There are number of valuable, fun and enriching project described below, designed to match multiple interests and develop different skill sets. Students will receive credit, valuable career experience, the ability to facilitate a better Petaluma community, the ability to facilitate environmental participation, and a free bus-pass. Many key project ideas are listed below. However, Petaluma Transit Management is open to ideas that you might craft with your academic advisor.

Project #1

The Co-Pilot Program.

With the aim of improving community safety and terminating all transit-related bullying, student will **Co-Pilot** the bus and provide drivers with information regarding safely issues and/or bullying, in a confidential manner. Students may also participate in the strategic development and evaluation of this program as it advances. The goal is to develop and implement a successful program that disseminates to other communities within California and globally. Student Co-Pilots will ride the bus, inform drivers regarding specific bullying situation and processes, and develop creative and just modes to improve this context. The community will be helped in numerous ways. For instance, a safer system will enable more people to enjoy it, and possibly reduce injuries. More bus riders will lead to fewer cars on the road, less bottleneck, and cleaner air. Current research provides support that bullying affects children adversely for the rest of their lives, and innovative ways to stop this are of substantial social consequence.

Through this project, numerous student skill-sets can be developed, including: civic engagement, social policy development, written and verbal communications, social studies, marketing and psychology, sociology, artistic, technological, and social media.

Opportunities to present at national conferences may also emerge.

As part of this program, students may choose to help create anti bullying policy and literature for the bus, and key student-centric websites. These communication tasks may be done with the guidance of a current teacher, and/or a participating university professor associated with Petaluma Transit, and/or Petaluma Transit management. Participating students will receive valuable school credit, strengthen their resume, and enjoy a free bus passes.

Students will benefit the community by facilitating a safer environment, the eradication of bullying, and a higher overall quality-of-life due to improved mobility options that people are more aware of and less afraid to use.

Project #2***Social Marketing Program for Public Transit***

This project is suited for students interested in civic engagement, environmental issues, psychology, marketing, public policy, art, and/or technology. There are notable opportunities to develop meaningful skill-sets across any of these dimensions.

The basic goal of this project is to develop skills in writing and verbal communications, and public relations, in order to promote public transit usage to students, and/or other key ridership segments. This project will also involve creativity and will also be fun. As an option, students collaborate actively with a university marketing professor to help craft meaningful and optimal materials. Some ideas are listed below, but students may develop their own projects and discuss these with Petaluma Transit management to determine feasibility. Participating, students may obtain school credit, a strengthen resume, education on how to utilize all public transit, and will receive free student bus passes.

A key focus will be on the creation of a cross-promotional campaign. Some of the goals will include, finding out what students want in terms of all mobility needs, identifying venues of interest in terms of entertainment and quality-of-life, and working with local business to obtain meaningful benefits for student bus-passes.

Students may also work on developing website information related to Petaluma Transit, to educate about bus passes (and how they potentially facilitate better quality-of-life), bus usage, the new geolocation smartphone app (My App), new Wi-Fi, safety and bullying, and citizenship advocacy.

One key outcome of this project will be the development and implementation of strategies to determine how to better educate teachers and administrators about optimally and effectively disseminating innovative ideas. In other words, your social marketing ideas and policy will be communicated to educational leaders.

This project will benefit the community in numerous ways. For instance, participants may facilitate a safer environment, the eradication of bullying, and a higher overall quality-of-life due to improved mobility options, and reduced fear revolving the use of public transit.

Exhibit B: Timeline and Process for Communicating with Educational Constituents

(This timeline focuses on Casa Grande HS and the General Petaluma Administration)

1. Before spring semester ends, send a brief e-mail to Eric to ask him to inform teachers that Petaluma Transit will be providing meaningful service learning opportunities for students in the fall and that they will receive detailed information on September 1, 2015. Consider providing a basic outline of the project(s), but not too much detail (this is all based upon Eric's suggestions).
2. In June, Eric puts out a mailing to 300-400 students and is willing to include Petaluma Transit Information. This is a great opportunity and communication medium.
3. Contact Eric in order to contact his suggested list of teachers in the very early fall. After the first week, teachers should be provided with specific project information regarding these projects. Eric recommended September 1. Please consider contacting Jon to help facilitate this as well.
4. On last Tuesday within September, work with Eric so that this project(s) can be presented to the SLC (Small Learning Committee). This group meets the last Tuesday of the month.
5. Additionally, Eric recommended that we ask him to help Petaluma Transit contact the College and Career Coordinator as another great person to facilitate these projects.
6. According to Eric, the narrative should be based on the themes that "bus riding should be a cool choice, enhanced citizenship, and connecting with the community".
7. Communicate regularly with Pauline about routes and times.
8. Attend 8th Grade Parent Night to disseminate information and cultivate relationships. This is where students are transitioning from Junior High School to High School.
9. Attend Back-to-School Night to disseminate information and cultivate relationships.
10. Contact Casa Grande regarding Summer Program to learn about their registration days just before summer school, and fall school.
11. Attend Gaucho Round-Up Day.
12. Work with Ray from Food Services, as soon as possible, and develop the Petaluma Transit link, which is at the top of highly subscribed exhibitors.pcsfoods.com website. This website is a key channel of communications that can be interwoven with other tools. We can quickly educate students about the summer youth pass, and how they can be used for any Petaluma Transit Bus. Additionally, consider promoting the upcoming "My Stop" app and the new Wi-Fi. Developments within this website may become part of a student service learning project as well.
13. Rai's office puts out an annual information packet. It was recommended that Petaluma Transit provide information regarding WIFI, MYSTOP, bus passes, the

ability to use these passes within multiple contexts, and bus maps, etc. Parents from all four schools receive this packet through the mail.

Research Methodology

Between April 22nd and April 25th, 2015, we conducted a series of 5 focus-groups and 3 in-depth interviews with the aim of improving Petaluma Transit's ability to provide outstanding service and forging enhanced meaningful relationships with key constituents. The two focal ridership segments include local Petaluma students and service-workers. To learn about these two groups, we interviewed students, school administrators, bus-drivers, and service workers. The transit manager participated actively with the consultant and took detailed notes, within all of the focus-groups with the goal of turning insight into service innovations.

Overall, forty-one informants participated within the focus groups (group sizes were 13, 11, 9, and 8). Over the next seven weeks, the data were transcribed and analyzed. Based on one hundred and fifty transcribed pages, we developed emergent themes with corresponding strategic recommendations. These findings are being used to help guide Petaluma Transit's marketing-planning strategy and develop the annual survey, with subsequent data utilization to validate some key qualitative-based findings.

Resolution No. 2016-169 N.C.S.
of the City of Petaluma, California

**RESOLUTION ADOPTING 2016 PETALUMA TRANSIT
SHORT RANGE TRANSIT PLAN**

WHEREAS, the Federal Transit Administration (FTA) requires all direct grantees of FTA funds to complete a full update to the Short Range Transit Plan (SRTP) every four years to remain eligible to receive FTA funding; and

WHEREAS, City staff conducted a thorough outreach effort in support of this 2016 SRTP, including multiple surveys, discussion at Transit Advisory Committee (TAC) meetings, and a public workshop on December 2, 2015, to which all riders were invited; and

WHEREAS, the Metropolitan Transportation Commission supported the study, provided a content framework, and provided funding for the project; and

WHEREAS, staff has produced an updated Short Range Transit Plan that covers the years 2016-2025, featuring an operations plan, capital plan, and route-by-route analysis, which includes an analysis of the City's paratransit system, and route modifications to better integrate Petaluma Transit with the SMART Commuter Rail system.

NOW, THEREFORE, BE IT RESOLVED that the City Council of the City of Petaluma adopts the Petaluma Transit 2016 Short Range Transit Plan.

Under the power and authority conferred upon this Council by the Charter of said City.

REFERENCE: I hereby certify the foregoing Resolution was introduced and adopted by the Council of the City of Petaluma at a Regular meeting on the 17th day of October, 2016, by the following vote:

Approved as to
form: 

City Attorney

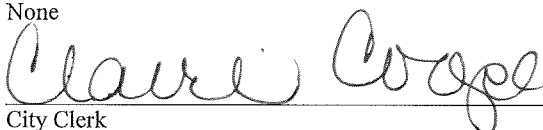

AYES: Albertson, Barrett, Mayor Glass, Healy, Kearney, Vice Mayor King, Miller

NOES: None

ABSENT: None

ABSTAIN: None

ATTEST:

City Clerk Mayor