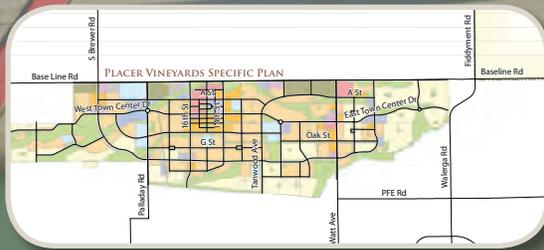




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Final
**Placer Vineyards
Transit Master Plan**

March 2014
RS13-3105

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1.0 INTRODUCTION

1.1 PLAN PURPOSE

The Placer Vineyards Development Agreement requires the completion of an approved Transit Master Plan (TMP) prior to “the approval for recordation of the first Final Large Lot Map within any portion of the Specific Plan” or “of any Final Development Entitlement.” The agreement requires that the TMP use the “service requirements and service levels described in Alternative No. 5” of the West Placer Transit Study (October 2005) as the basis for determining appropriate transit services within the Specific Plan area. Subsequent to this agreement, Placer County staff indicated support for a TMP aligned with the service levels described in Alternative No. 3 of the West Placer Transit Study, for consideration by the Board of Supervisors. This change effectively allows for reduced headways on local bus service within the Plan area by replacing “High Suburban Local” bus service with “Typical Suburban Local” bus service.

In addition to transit-related requirements contained in the development agreement, the environmental documentation for the Placer Vineyards Specific Plan includes the following transit-related mitigation measures:

1. An internal transit system will be planned and implemented as the project is constructed that connects the Village Centers with the Town Center and other areas as deemed appropriate.
2. An ADA dial-a-ride service will be provided
3. Commuter service will be provided to downtown Sacramento
4. Placer Vineyards will participate in regional service with connections to the Watt Avenue Light Rail Station in Sacramento County, Regional University, Galleria Mall and other Regional Centers

1.2 PROJECT LOCATION AND SETTING

The Plan Area consists of approximately 5,230 acres of flat grassland bounded to the north by Baseline Road, to the east by Walerga Road, and to the south and west by the Placer County line. The land to the immediate north and south of the project site is undeveloped, but the project will feature similar land use characteristics to the adjacent communities of Antelope and western Roseville, located to the southeast and northeast of the project area, respectively. Both Baseline Road and Watt Avenue provide regional connections to the project, connecting the site to Interstate 5, downtown Roseville, Interstate 80, and Business 80 (Capital City Freeway). Watt Avenue also provides a direct connection between

Placer Vineyards and the nearest light rail station to the area – the Watt Avenue Station, which serves as the northern terminus of the Sacramento Regional Transit Agency’s (RT) Blue Line.

1.3 REPORT ORGANIZATION

The remainder of this report is organized into four sections and an appendix. Section 2 presents an inventory of all existing transit service in close proximity to the project, and discusses future planned service in the vicinity of Placer Vineyards. Section 3 discusses the proposed placement of transit stops and proposed alignment of route alternatives. Section 4 outlines operating characteristics of each route alternative and presents cost estimates based on those characteristics. Finally, Section 5 discusses one potential combination of alternatives that serves as a potential implementation scenario, and provides the total estimated costs and revenues associated with this scenario. Additionally, section 5 discusses opportunities for future system expansion and enhancement, and phasing considerations for the ultimate transit system.

2.0 EXISTING AND FUTURE TRANSIT SERVICE

Existing transit service in the project's vicinity is provided by Placer County Transit, Roseville Transit, and Sacramento Regional Transit. Figure 1 depicts the transit routes currently operating in this area. As shown in Figure 1, the Galleria Transfer point, located adjacent to the Roseville Galleria Shopping Mall, serves as a transfer point between existing Placer County Transit and Roseville Transit bus routes that operate to the east of the Plan Area.

2.1 SACRAMENTO REGIONAL TRANSIT

The Sacramento Regional Transit District (RT) operates 67 bus routes and 38.6 miles of light rail lines throughout a 418 square-mile service area. Light rail headways are 15 minutes during the day and 30 minutes in the evening and on weekends and holidays. Fixed-route bus service operates on headways ranging from 12 to 75 minutes, depending on the route. Regional Transit routes 19 and 84 provide service closest to Placer Vineyards, travelling as far north as Elverta Road (approximately one mile south of the Plan Area).

- **Route 19** begins service at the Arden/Del Paso Light Rail Station, travels north through Rio Linda to Elverta Road, and continues south on Watt Avenue to the Watt Avenue/I-80 Light Rail Station.
- **Route 84** operates primarily on Watt Avenue, connecting the Watt/Manlove Light Rail Station with the Kaiser Hospital, McClellan Business Park, and Elverta Road where service terminates.

Other RT service is available at the Roseville Transit Louis Lane / Orlando Avenue transfer point near the interchange of Auburn Boulevard and Interstate 80. RT Routes 21, 93, and 103 provide service to this location. The Watt Avenue/I-80 Light Rail Station is the northern terminus of the Sacramento RT blue line and is the closest light rail station to the Placer Vineyards project site. The station is approximately 7.5 miles south of the project.



Similar to other transit systems that operate both bus and fixed rail service, RT modified its bus route system after the construction of the light rail system to allow the two services to complement one another. Several bus routes were changed to include stops at light rail stations, and serve as "feeders"

for the light rail system. Riders using feeder routes typically utilize the bus system as a connection to their final destination, but travel the bulk of their journey on the light rail system. This set-up is designed to result in greater efficiencies for the overall transit system and to help capitalize on the investment in light rail infrastructure.

This structure benefits riders by increasing the number of locations within reach of transit. If a rider's final destination is not within walking distance of one of the forty-seven light rail stations in the region, the regional bus system supplements light rail by providing connections to destinations outside of the immediate station areas. Direct bus connections are provided at the majority of light rail stations, and include not only RT bus service, but connections to regional operators including Placer County Transit, Elk Grove Transit, Roseville Transit, Yolo County Transit, as well as private shuttle operators.

However, many of the region's top destinations are within walking distance of the light rail system, and do not require a bus connection. These destinations include the following:

- Downtown Sacramento/Central Business District (various stations)
- Sacramento Valley Station¹ (Sacramento Valley Station)
- UC Davis Medical Center (29th Street, 39th Street Stations)
- State Capitol (various stations)
- Old Sacramento (Sacramento Valley Station)
- California State University, Sacramento / Sacramento Center for Innovation (University/65th Street Station)
- Downtown Folsom (Historic Folsom Station)
- City College (City College Station)

¹ This station is served by to long distance Amtrak routes, the Cost Starlight (Seat Seattle-Portland-Sacramento-Los Angeles) and the California Zephyr (Emeryville-Sacramento-Denver-Chicago). Additionally, the station is served by two Amtrak California regional routes, the Capitol Corridor (San Jose-Sacramento-Auburn), and the San Joaquin (Sacramento-Bakersfield). Amtrak's Fiscal Year 2012 *National Fact Sheet* lists the Sacramento Valley Station as 7th in the nation in total Amtrak ridership.

2.2 ROSEVILLE TRANSIT

Roseville Transit operates 11 local routes, commuter service to downtown Sacramento, and a demand-responsive dial-a-ride service within the City of Roseville. Local service operates Monday thru Friday from 5:30 AM until 10:00 PM and Saturday from 8:00 AM to 5:00 PM.

The project is closest to stops along local routes M, D, and I.

- **Routes D and I** connect Junction Boulevard west of Foothills Boulevard to downtown and central Roseville. Service is provided on an hourly headway roughly between the hours of 6:00 AM and 6:00 PM on weekdays, and 8:00 AM and 4:30 PM on Saturdays. No Sunday service is provided.
- **Route M**, pictured below, travels along Pleasant Grove Boulevard between Vintage Square (near the intersection of Pleasant Grove Boulevard and Market Street) and the Roseville Galleria. Buses run on hourly headways roughly from 6:00 AM until 10:00 PM on weekdays and from 8:00 AM until 5:00 PM on Saturdays. No Sunday service is provided.



Roseville Transit Commuter buses make nine morning and evening trips to/from downtown Sacramento. The earliest morning departure is at 5:10 AM and service continues until 7:18 AM. Afternoon departures leave downtown Sacramento starting at 3:25 PM and continue until 5:20 PM. Commuter service in Roseville is operated to and from park-and-ride lots and other regional destinations including the Roseville Galleria, downtown Civic Center, Saugstad Park, I-80 & Taylor Road, Mahany Park, Maidu Community Center, Sierra Gardens Transfer, Orlando/Louis Transfer Point, and the Roseville Amtrak Station.

2.3 PLACER COUNTY TRANSIT

Placer County Transit operates three routes in the vicinity of Placer Vineyards.

- **Commuter Express:** Operates between Colfax and downtown Sacramento via Interstate 80. Stops include Colfax Depot, Clipper Gap Park-n-Ride, Auburn Station, Penryn Park-n-Ride, Loomis Park-n-Ride, Rocklin Station, and the Roseville Transit I-80 / Taylor Road park-n-ride lot before continuing into downtown Sacramento. Service is provided as four inbound and four afternoon outbound trips per day on weekdays only. Morning service operates between 5:20 AM until 6:37 AM, and afternoon service operates between 4:17 PM and 5:15 PM.
- **Auburn to Light Rail:** This route provides service Monday thru Saturday between Auburn and the Watt Avenue / I-80 Sacramento RT Light Rail Station. No Sunday or holiday service is available on this route. Both inbound and outbound headways are hourly between 5:00 AM (first inbound trip) and 8:00 PM (last outbound trip). Stops include Auburn Station, Sierra College, the Roseville Galleria, the Louis Lane / Orlando Avenue transfer point, and the Watt Avenue / I-80 Light Rail Station.
- **Lincoln to Sierra College:** This route provides service between Lincoln and Sierra College via Rocklin Road, Pacific Street, Sunset Blvd, Industrial Avenue, and State Route 65. Major stops include Sierra College, the Roseville Galleria, Thunder Valley Casino, and the Twelve Bridges Library. Service is provided Monday thru Saturday with no service on Sundays or holidays. Headways are hourly between 6:00 AM and 7:00 PM.



2.4 FUTURE TRANSIT SYSTEM

In April 2009 RT adopted the TransitAction Plan. This plan recognizes that future transit investment decisions must be integrated with land use planning, and that transit-supportive communities and transit-oriented development are essential to increasing transit mode share in the region. The TransitAction plan provides an ambitious vision of the future of transit in the Sacramento region, developed from a clear public desire for a more robust system of transit options.

In addition to expanded bus, light rail transit (LRT), and commuter rail service, the plan includes new streetcar and “Hi-Bus” networks. The Hi-Bus network is proposed as a system of high-speed, high-frequency bus routes including new bus rapid transit (BRT) vehicles using dedicated lanes, enhanced service on existing bus corridors, and regional express bus service. The Hi-Bus network is intended to augment the rail components of the system to provide a regional high-capacity transit system. Although the implementation of any given route would be subject to more detailed planning and review, as well as funding considerations, the TransitAction Plan identifies several corridors for inclusion in a future Hi-Bus network. The Watt Avenue corridor, which runs through Placer Vineyards, is included as part of this future network,² and would provide a direct connection between Placer Vineyards and the Watt Avenue Light Rail Station.

² The Metropolitan Transportation Plan for 2035 project list does not identify funding specifically for Hi-Bus enhancements on Watt Avenue. However, the plan includes \$216,001,000 for annual operating and maintenance (O&M) cost for bus rapid transit within Placer County (transit operator to-be-determined). The plan also includes \$270,544,000 in funding for region-wide “Operational & transit-specific street improvements to support BRT/Enhanced Bus on major arterials with service” that could be used for this purpose.

3.0 TRANSIT ROUTE ALTERNATIVE DEVELOPMENT

Route alignments have been designed provide as much coverage within the Plan Area as possible, with a focus on serving the most transit-supportive land use types and linking destinations both within the plan area as well as in the surrounding region. All identified route alternatives provide service to the project's Transit Center located on Watt Avenue north of the planned Town Center Drive, as well as to the project's Town Center. The transit center will serve as a primary transfer point between the various routes proposed within the Placer Vineyards, and would also accommodate planned future BRT service along Watt Avenue. The Town Center is located near the center of the development and includes a complementary mix of land use types including commercial development and high density residential.

While the future operator of transit services within Placer Vineyards remains unknown at this time, transit routes were designed to tie in with the surrounding regional transit network and to complement existing and transit services within the area. The intent of this master plan is to allow for flexibility in terms of which entity ultimately operates the transit routes described below.

As identified in the West Placer Transit Study (October 2005), this plan includes provisions for the following bus service types:

- **Suburban Local:** Fixed-route local circulator service operating within Placer Vineyards that links residential areas to commercial areas, the Town Center, school locations, and the transit center.
- **Inter-regional:** Longer distance fixed-route service between the Placer Vineyards Plan Area and nearby regional destinations (e.g., Roseville Galleria and the Watt Avenue Light Rail Station).
- **Commuter:** Routes providing morning and evening one-way service with limited stops between the Placer Vineyards Plan Area and downtown Sacramento.
- **Dial-a-Ride:** Demand-responsive paratransit service operating within three-quarters of a mile of fixed routes within Placer Vineyards.

3.1 SUBURBAN LOCAL SERVICE

The identified local loop route addresses the need of internal circulation within Placer Vineyards. The primary purpose of this route alternative is to connect the project's residential neighborhoods with local attractions (i.e. retail and commercial centers) and to connect passengers to inter-regional and commuter routes. The suburban local service provides relatively closely spaced stops designed to enhance access for land uses along the route.

As shown in Figure 2, the identified route travels on portions of A Street, West Town Center Drive, East Town Center Drive, and Dyer Lane. This route would provide a high level of coverage within the Plan Area, and would be approximately nine miles in length. The identified route provides for flexibility in that it is likely to initially operate in one direction (i.e., clockwise loop to minimize left-turn delay), but operations could be expanded to bi-directional travel along the route in the future.

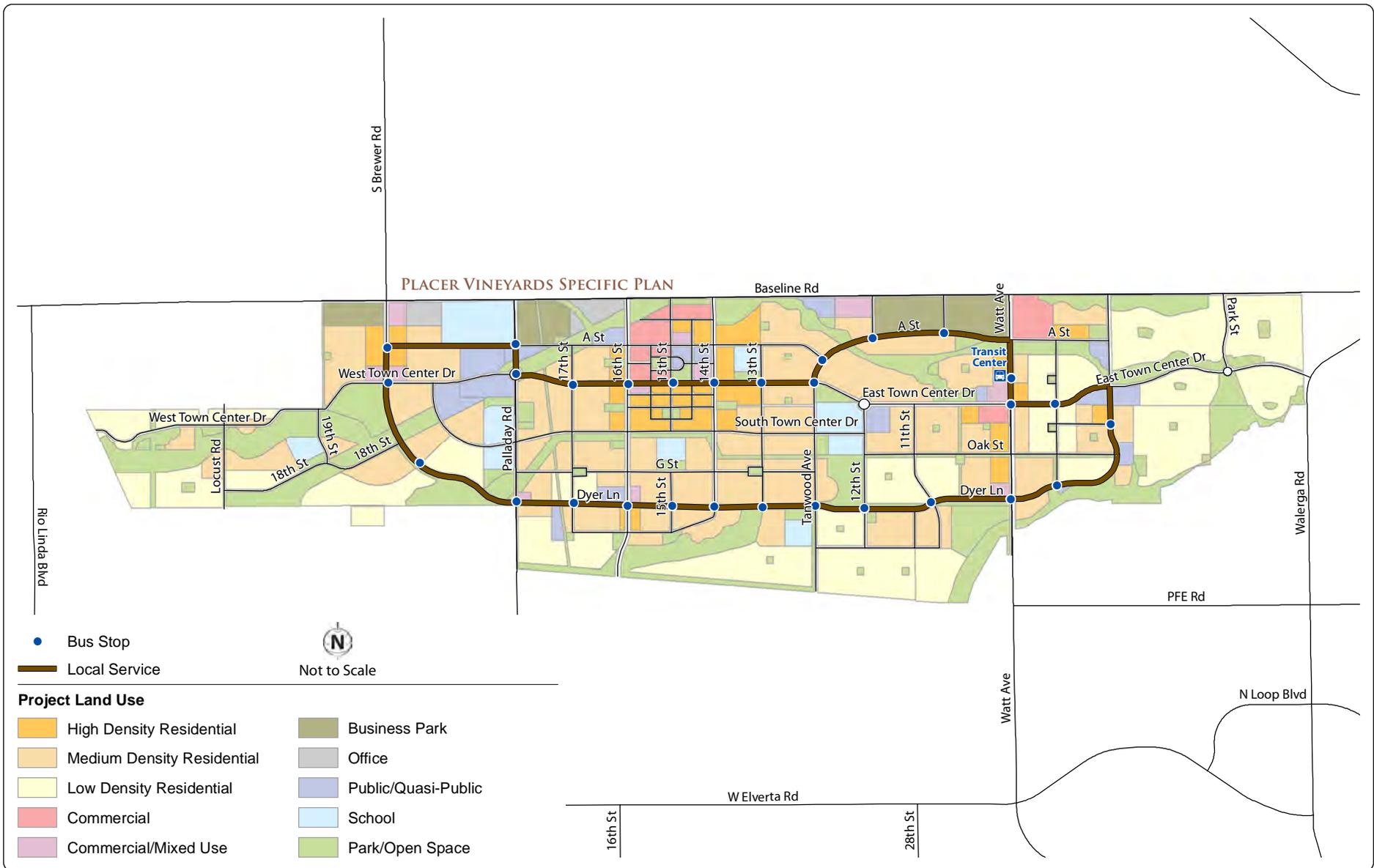
3.2 INTER-REGIONAL

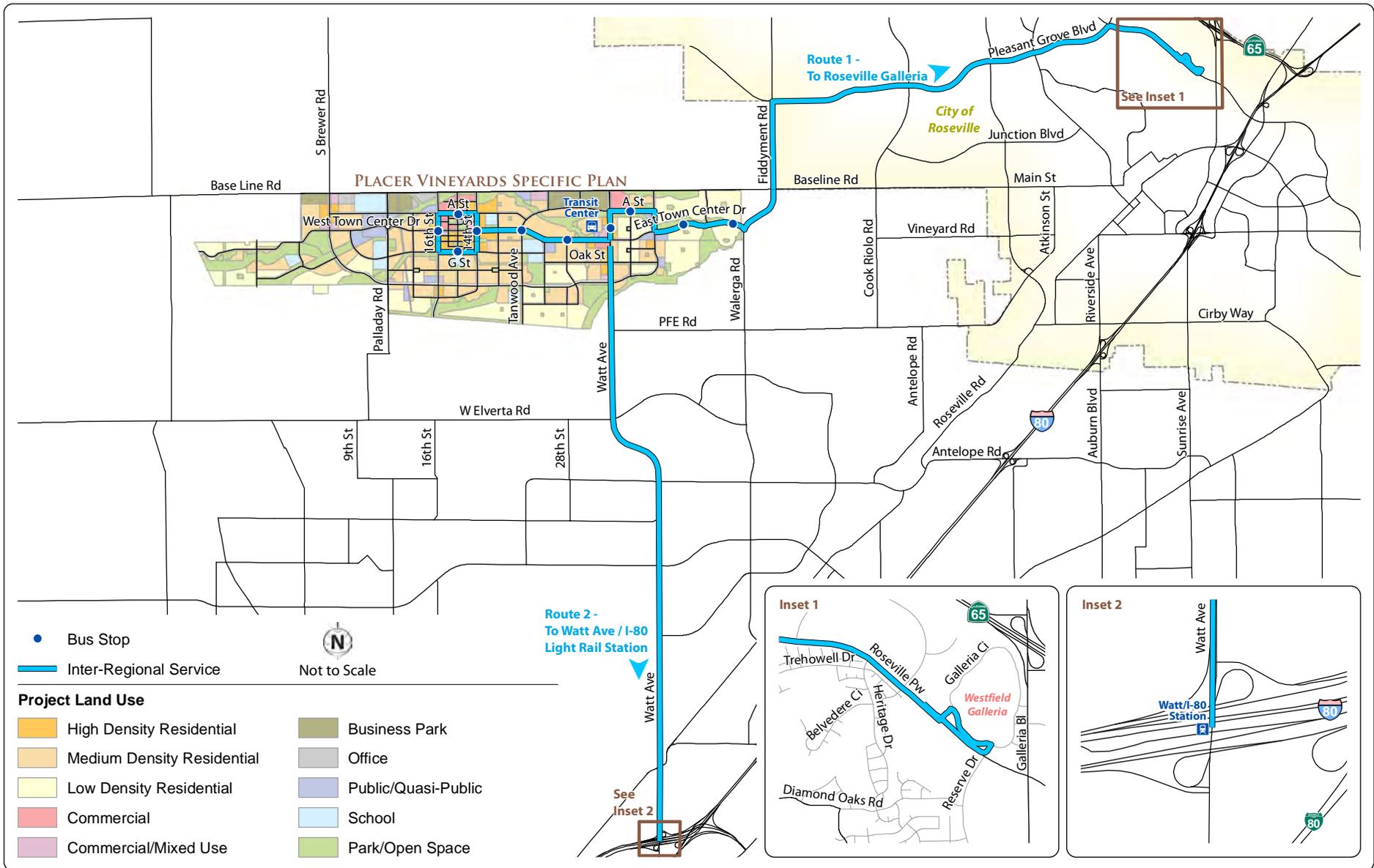
Figure 3 presents two proposed inter-regional route alternatives. As shown, relative to the proposed suburban local service, the inter-regional routes have stops spaced farther apart and travel longer distances. The primary purpose of these routes is to connect Placer Vineyards to nearby regional destinations, specifically, the Galleria Mall (and adjacent transfer point), and the Watt Avenue Light Rail Station, the closest light rail station to the Plan Area. These routes would link transit riders from Placer Vineyards to the region's existing transit system (and vice versa).

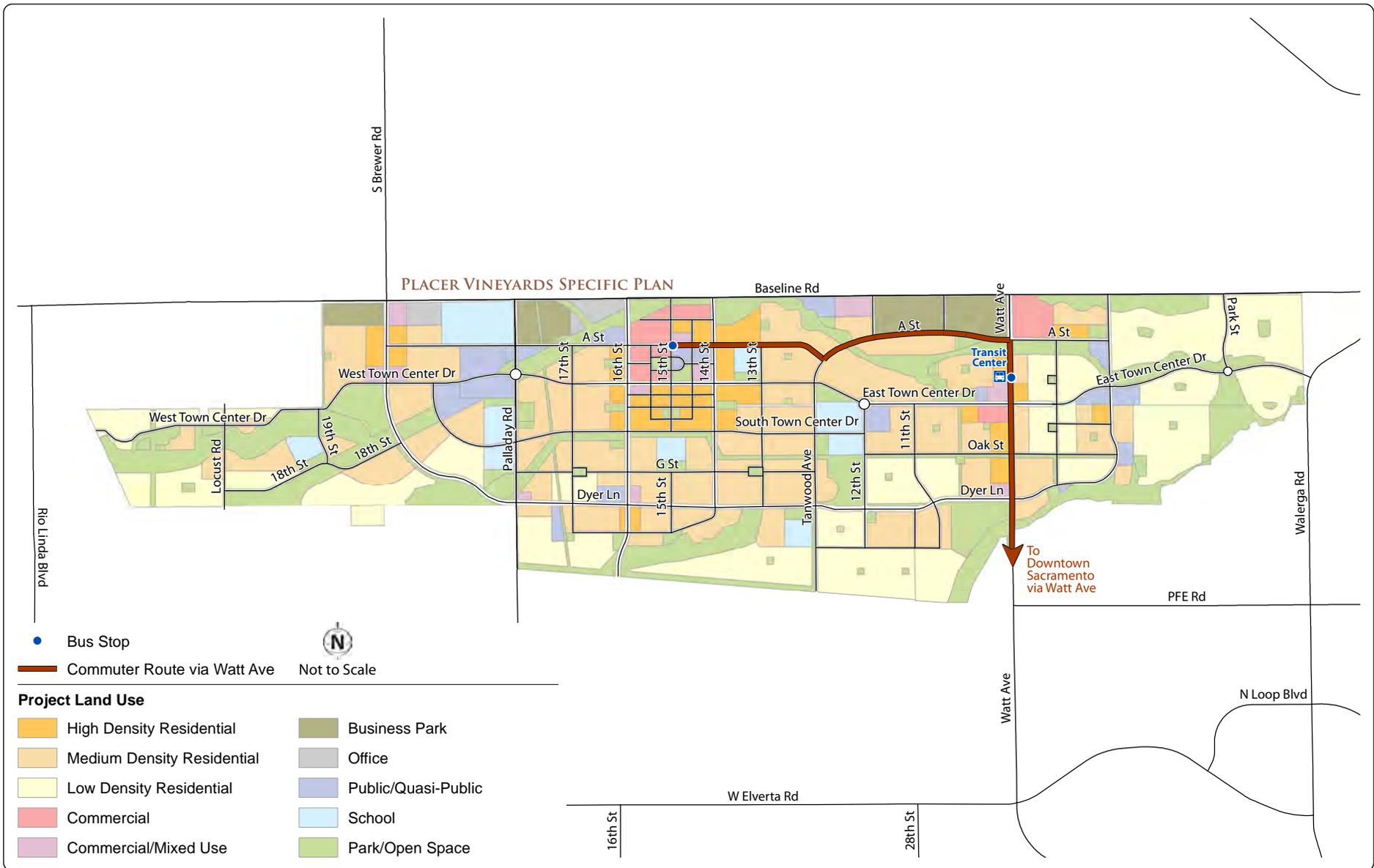
3.3 COMMUTER SERVICE

Proposed commuter service, shown in Figure 4, would have the most limited number of stops within the Plan Area. Unlike the two previously discussed bus service types, commuter service would have only two stops within Placer Vineyards before departing for Downtown Sacramento (the Town Center and transit center). Serving only these two stops reduces the travel time and costs of operation, while maintaining service at a convenient location that is easily accessed by transfer from the local bus route or potential future nearby park-n-ride lots. Additionally, since the primary purpose of the commuter is to connect Placer Vineyards to the region's primary employment center in Downtown Sacramento, routing this service through residential areas may produce duplicative service and increase operating costs.

The proposed commuter service will likely utilize Watt Avenue and Business 80 to travel to Downtown Sacramento; however this route is not fixed, and a combination of Baseline Road and Interstate 5 could also be used if it would provide a shorter travel time. Unlike the suburban local and inter-regional bus services, commuter service does not necessarily operate on a fixed route.







3.4 DIAL-A-RIDE SERVICE

Dial-A-Ride service provides on-demand, door-to-door paratransit service for persons with disabilities. The Americans with Disabilities Act (ADA) requires the provision of such service within 0.75 miles of fixed-route transit service, not including commuter services. The portions of the inter-regional routes identified in this study that fall outside of the Placer Vineyards Plan Area feature limited stops, and qualify as commuter service under ADA. Therefore, these portions of the inter-regional routes are not included in the identified dial-a-ride service area. Figure 6 illustrates the area in which Dial-A-Ride service would be required according to ADA regulations. As shown, the paratransit service area would cover the vast majority of Placer Vineyards, with the exception of the westernmost portion of the Plan Area.

3.5 STOP PLACEMENT

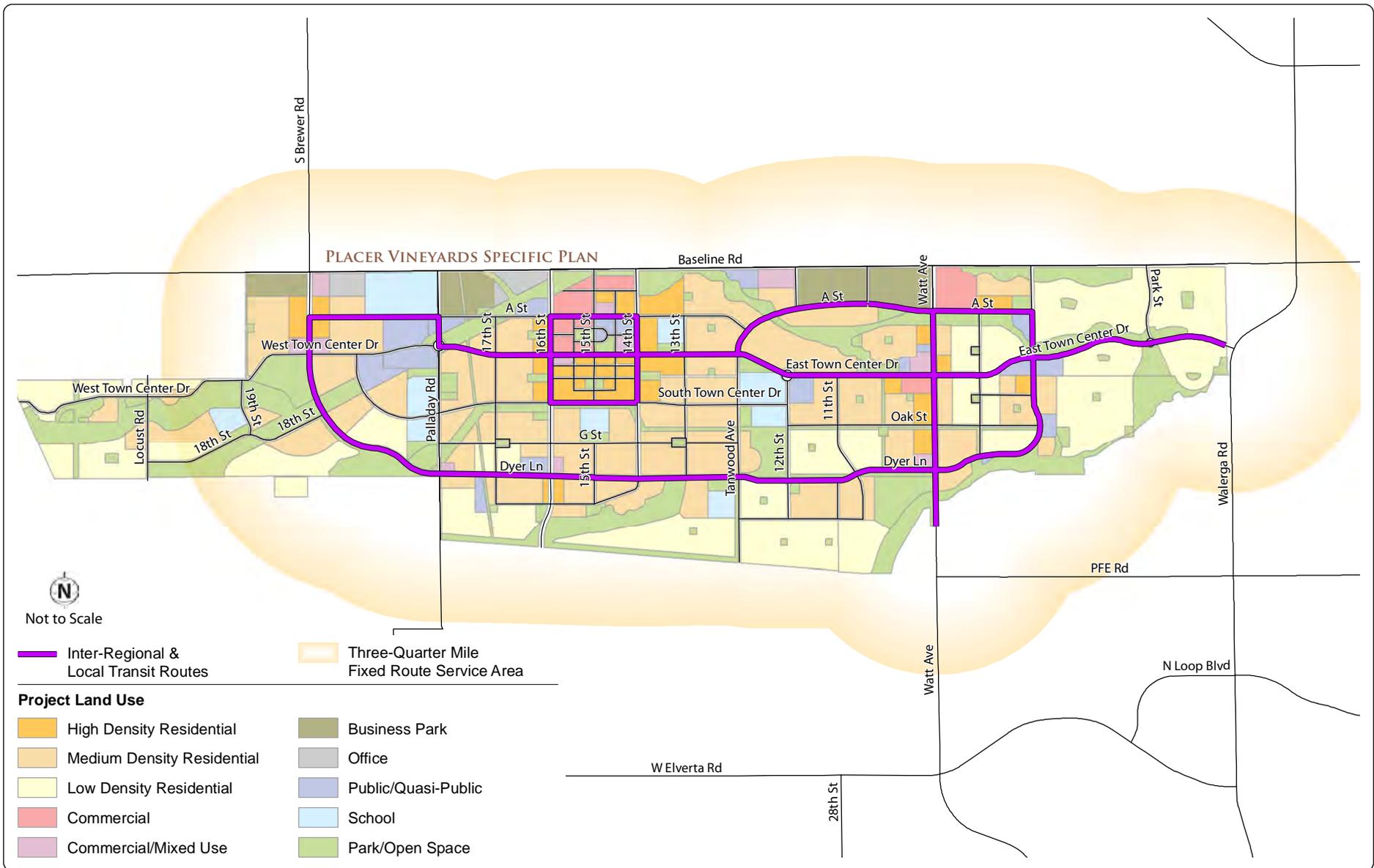
Transit planning best practices suggests that one-quarter mile is the furthest distance most potential riders would walk to utilize fixed-route bus service. The latest site plan for Placer Vineyards, obtained from the development group, shows most intersections occurring roughly along a grid at intervals of one-half mile. Therefore, bus stops are proposed at roughly every intersection served by the suburban local route, especially targeting higher density residential areas of the project and commercial areas. This route alignment maximizes the potential ridership of new routes by placing stops in the most transit-oriented areas of the Placer Vineyards project.

3.5.1 Buffer Analysis

Land use data supplied by the applicant contained a count of residential dwelling units within each parcel for parcels designated for low, medium, and high density residential uses. With this data, it was possible to calculate the number of dwelling units within one-quarter mile distance from transit stops. The proposed placement of bus stops serves roughly 10,300 dwelling units, or approximately 75% of Placer Vineyards' 13,721 total dwelling units,³ within a quarter-mile distance. Figure 5 displays the areas of Placer Vineyards within a quarter-mile of a transit stop.

³ The Placer Vineyards Specific Plan includes 14,132 total dwelling units, however 411 of the units are located within "special planning areas" that are outside of the scope of this master plan.





3.4 CONNECTIONS TO EXISTING TRANSIT SERVICE

Coordination between new and existing transit service is essential to provide effective regional connections. Opportunities for such connections exist in both of the currently proposed inter-regional routes. The alternative to Watt Avenue / Interstate 80 Light Rail Station connects to RT light rail as well as RT bus Route 1. RT's light rail system connects to downtown Sacramento and Route 1 travels through Carmichael to American River College. The inter-regional alternative to the Roseville Galleria connects with numerous Roseville Transit and Placer County Transit routes that also serve the Galleria transfer point.

Future opportunities for connections may include modifying route alignments to connect with existing Sacramento RT routes in Antelope or Roseville Transit route M north of the project on Pleasant Grove Boulevard. Given these potential connections, operations plans and schedules should incorporate timed transfers between routes to minimize passenger wait time when utilizing routes from multiple transit providers during one trip. To this end, all route operating plans have been designed with 30 or 60 minute headway to match existing Sacramento RT, Placer County Transit, and Roseville Transit service and to facilitate the timing of connections between routes and service providers.

4.0 COST ESTIMATE AND OPERATING CHARACTERISTICS

This section of the Transit Master Plan describes the development of route operating characteristics (i.e. number of vehicles and route headway) and the resulting cost estimates. In each case, the cost is dependent on several operational details of service. For local and inter-regional services, the table displays the effect of increased peak period frequency. In cases where two costs are presented for the same route alternative, each cost figure should give a general indication of the financial implications of operational changes. Other potential operational adjustments which may affect the service cost include:

- Increasing or decreasing daily revenue hours
- Increasing or decreasing yearly service days
- Shortening or lengthening the route alignment

4.1 UP-FRONT COSTS

A transit center and transit-oriented roadway design features are important elements of transit service within Placer Vineyards. The transit center will be located along Watt Avenue on a two-acre site in the east village center and will serve as a convergence point for all Placer Vineyards transit routes and services operated by other regional operators. This includes the Watt Avenue Bus Rapid Transit proposed in the 2009 Regional Transit TransitAction Plan. According to the *Placer Vineyards Public Facilities Financing Plan* (July 2007), a total of \$212,000 has been allocated for construction of the transit center.

Roadway designs within Placer Vineyards will include features to facilitate transit service within the project and encourage its use among residents. Such features include bus turnouts and transit stop amenities. Bus turnouts allow traffic to pass transit vehicles as passengers board and alight. Turnouts also provide space between the road and transit stops, which provide passengers with an additional sense of safety. The placement of amenities such as benches and shelters at transit stops should be phased to reflect ridership growth as it occurs. While stops may be initially placed as a single signpost, future growth in ridership at a particular stop may warrant the installations of benches or shelters. Select stops, particularly those located near activity centers (e.g., the Town Center) or those that will serve multiple routes, will feature benches and/or shelters upon initial implementation of the transit system. The capital costs for bus turnouts and transit stops are embedded in the design costs of the project's roadways that will be constructed by the developer. The plan will provide \$6,815,000 for rolling stock (busses) and transit center improvements that will be paid in the form of a fee on each PVSP unit at the time of building permit issuance.

4.2 ROUTE CHARACTERISTICS

4.2.1 Suburban Local and Inter-Regional Service

Table 1 displays the operating characteristics of each route alternative. Target headways are based on the West Placer Transit Study and coordination with Placer County staff. In cases where peak and off-peak headways differ, the duration of peak periods was assumed to cover two hours in the morning and two hours in the afternoon. All headways are shown at either 30 or 60 minutes to facilitate timed transfers between new and existing transit service. However, in some cases a more frequent headway is achievable with the same number of vehicles in service and no additional costs.

After calculating the headway and vehicle requirements, annual vehicle revenue hours and cost estimates were developed for each alternative. Cost estimates are based on data obtained from Roseville Transit, which currently operates transit service in an area with similar land use patterns and transportation network characteristics to those planned within Placer Vineyards. New transit service is expected to mimic existing Roseville Transit service in both the number of days per year that service is provided as well as the approximate cost incurred per revenue hour. Roseville Transit reports a cost of \$96.22 per vehicle revenue hour for local and inter-regional routes. These values include all costs associated with running local service, including operations, maintenance, administration, marketing, and planning.

The inter-regional route to the Roseville Galleria overlaps with Roseville Transit's existing Route M service for much of the portion of the route that is located within the City of Roseville. Although the entity that will ultimately operate the routes identified as part of this study remains unknown at this time, one potential operating scenario for the Galleria inter-regional route would be to extend Route M service beyond the City of Roseville to Placer Vineyards. For this reason, Table 1 includes data shown in parenthesis for this route that indicate the values for the portion of the route located outside of the City of Roseville.

4.2.2 Commuter and Dial-A-Ride Service

Unlike suburban local and inter-regional service, the cost calculation for commuter and dial-a-ride services is based solely on hours of operation and run time and is not affected by headway. The commuter service alternatives assume the operation of three inbound and three outbound trips per day to and from downtown Sacramento. Commuter vehicles do not necessarily operate on a fixed alignment and may be dispatched on a route believed to have the least amount of traffic congestion. The cost of commuter routes is based on the Roseville Transit cost per vehicle revenue hour for commuter service of \$144.21. This value includes all costs associated with running the commuter service, including operations and maintenance.

Dial-A-Ride cost estimates assume between one and three paratransit vehicles will be in service for an average of 16 hours per day, which mirrors the hours of operation for Roseville Transit dial-a-ride. As with commuter service, the cost estimate is derived solely from the number of annual vehicle revenue hours and is based upon data from Roseville Transit. The resulting cost per vehicle revenue hour for dial-a-ride service is \$106.11.

Similar to cost estimates, fare revenue estimates have been developed with the expectation that new service would operate with a similar farebox recovery ratio to existing Roseville Transit service. As such, estimates in the following table present fare revenue estimates as a fixed percentage of operating costs, based on data obtained from Roseville Transit for Fiscal Year 2012/2013. Based on this information, the following farebox recovery estimates were developed and utilized in the cost estimates developed for this study:

- 10.4% for Suburban Local/Inter-regional service
- 68.7% for Commuter service
- 8% for Dial-A-Ride service

TABLE 1: COST ESTIMATE OF TRANSIT ROUTE ALTERNATIVES

Route	Service Span		Trip Distance (mi) ¹	Trip Runtime (min) ¹	Headway (mins) ³	Vehicles Required ³	Daily Vehicle Revenue Hours	Daily Vehicle Service Hours	Yearly Vehicle Revenue Hours	Annual Cost Estimate ²	Fare Revenue Estimate ⁴
	Hours Per Day	Days Per Year									
Suburban Local	12	306	9.0	42.7	30	2	24	26	7,344	\$ 705,000	\$ 75,000
					30 peak; 60 off-peak	2 peak; 1 off-peak	16	18	4,896	\$ 470,000	\$ 50,000
Inter-Regional (to Roseville Galleria)	15	306	25.3 (15.3)	112.2	60	2	30	32	9,180	\$ 885,000 (\$ 540,000)	\$ 90,000 (\$ 55,000)
					30 peak; 60 off-peak	4 peak; 2 off-peak	38	42	11,628	\$ 1,120,000 (\$ 680,000)	\$ 115,000 (\$ 70,000)
Inter-regional (to Watt LRT)	15	306	15.0	72.7	60	2	30	32	9,180	\$ 885,000	\$ 90,000
					30 peak; 60 off-peak	3 peak; 2 off-peak	34	37	10,404	\$ 1,000,000	\$ 105,000
Inter-regional (to Watt LRT / Town Center)	15	306	20.8	94.8	60	2	30	32	9,180	\$ 885,000	\$ 90,000
					30 peak; 60 off-peak	4 peak; 2 off-peak	38	42	11,628	\$ 1,120,000	\$ 115,000
Commuter (via Watt Avenue)	3 AM trips; 3 PM trips	251	19.6	44.3	--	3	4.43	7.43	1,112	\$ 160,000	\$ 110,000
Commuter (via Baseline Road)	3 AM trips; 3 PM trips	251	24.9	56.4	--	3	5.64	8.64	1,415	\$ 205,000	\$ 140,000
Dial-A-Ride	16.25	283	--	--	--	1	16.25	17.25	4,599	\$ 490,000	\$ 40,000
						2	32.5	34.5	9,198	\$ 975,000	\$ 80,000
						3	48.75	51.75	13,796	\$ 1,465,000	\$ 120,000

Note:

- For suburban local service, distance and runtime are measured for a single loop. For inter-regional and commuter service, distance and runtime are measured for a round trip. Mileage in parentheses represent portion of route outside of the Roseville City limits.
- Value of \$144.21 (commuter), \$96.22 (suburban local and inter-regional), and \$106.11 (dial-a-ride) per vehicle revenue hour was obtained from Roseville Transit FY 12/13 Quarterly Performance Report for Q1-Q3 of fiscal year. Costs in parentheses represent the cost for the portion of the route outside of the Roseville City limits.
- Cost estimates for services with separate peak and off-peak periods assume 4 hours of peak service per day.
- Calculations for fare revenue estimates are based on Roseville Transit farebox recovery ratios obtained from FY 12/13 Quarterly Performance Report for Q1-Q3 of fiscal year. Ratio is 10.4% for Suburban Local/Inter-Regional service, 68.7% for Commuter service, and 8% for Dial-A-Ride service. Revenue estimates in parentheses represent the amount of revenue that is proportional to the route distance outside of Roseville City Limits.

Source: Fehr & Peers, 2013

5.0 IMPLEMENTATION SCENARIO COST ESTIMATE

This section discusses and estimates the cost of one of many potential combinations of transit service alternatives to serve Placer Vineyards. Table 2 presents a potential transit service implementation scenario, which consists of options previously presented in Table 1. Consistent with the West Placer Transit Study, this scenario includes suburban local, inter-regional, commuter, and paratransit (dial-a-ride) services. This selection of alternatives represents a cost estimate for providing one of each of the various service types required to be provided within Placer Vineyards, and allows for opportunities to modify or enhance future service using additional options previously identified in Table 1. For example, future service modifications could include adding a second inter-regional route, adjusting route headways, or adding a second paratransit vehicle. Table 1 details the cost implications for each of these potential changes.

The information below, based on data obtained from APTA's *2012 Public Transportation Fact Book*, provides a breakdown of the typical costs associated with operating and maintaining a bus system. As shown, salaries wages, and benefits account for about two-thirds of the on-going costs.

<u>Operating Expense</u>	<u>% of Overall Cost</u>
Salaries & Wages	39.7%
Fringe Benefits	28.4%
Services	6.0%
Materials & Supplies	12.9%
Utilities	1.2%
Casualty & Liability	2.7%
Purchased Transportation	9.1%
Total	100%

Table 2 shows the ultimate transit program proposed for Placer Vineyards which would result in a current total cost of \$2,890,000/year. The cost of this program would be offset by farebox revenue, Local Transportation Fund apportionments, State Transit Assistance allocations, Federal Transit Administration Section 5307 allocations, and contributions from other entities. The current net cost of the services after taking into account the various transit revenues is approximately \$556,000/year which is presumed to be

collected by a special tax through a County Service Area on Placer Vineyards properties in an estimated cost of \$41/unit/year.

Service would be expected to begin slowly and build over time based on demand and available revenues. Figure 7 displays the resulting transit system proposed for Placer Vineyards.

5.1 PHASING OF TRANSIT SYSTEM IMPLEMENTATION

At this time, the phasing of land use development within the Plan Area remains uncertain. Therefore, the phasing of transit services within the Plan Area should be reviewed as development occurs within Placer Vineyards. The following principles are intended to guide the phased introduction of transit services:

- Inter-regional service to the Watt Avenue Light Rail Station or the Roseville Galleria will likely be the first transit service to have a ridership market in Placer Vineyards. As residential housing stock is still under construction, this route would provide the link between the project's new residents and existing established regional attractions. In the early stages of construction, commuter bus service may not be sustainable as the project would not immediately have a large residential population. However, during this time, the Watt Avenue Light Rail bus would serve as a commuter service as passengers would be able to utilize this route to transfer to Sacramento RT light rail trains to downtown.
- Commuter service ridership will grow as the construction of new houses continues. Increased commuter ridership on the inter-regional routes may cause capacity issues and trigger the need to offer dedicated service between Placer Vineyards and downtown Sacramento.
- Finally, demand for the suburban local service will develop as the local attractions in Placer Vineyards (i.e. schools, library, etc.) are constructed.
- Initially, all service types would operate with the minimum headways identified in Table 1; as ridership increases, headways would also increase to meet demand (i.e., suburban local service would increase to 30 minute headways during all service hours, and inter-regional service would increase to 30 minute headways during peak periods).

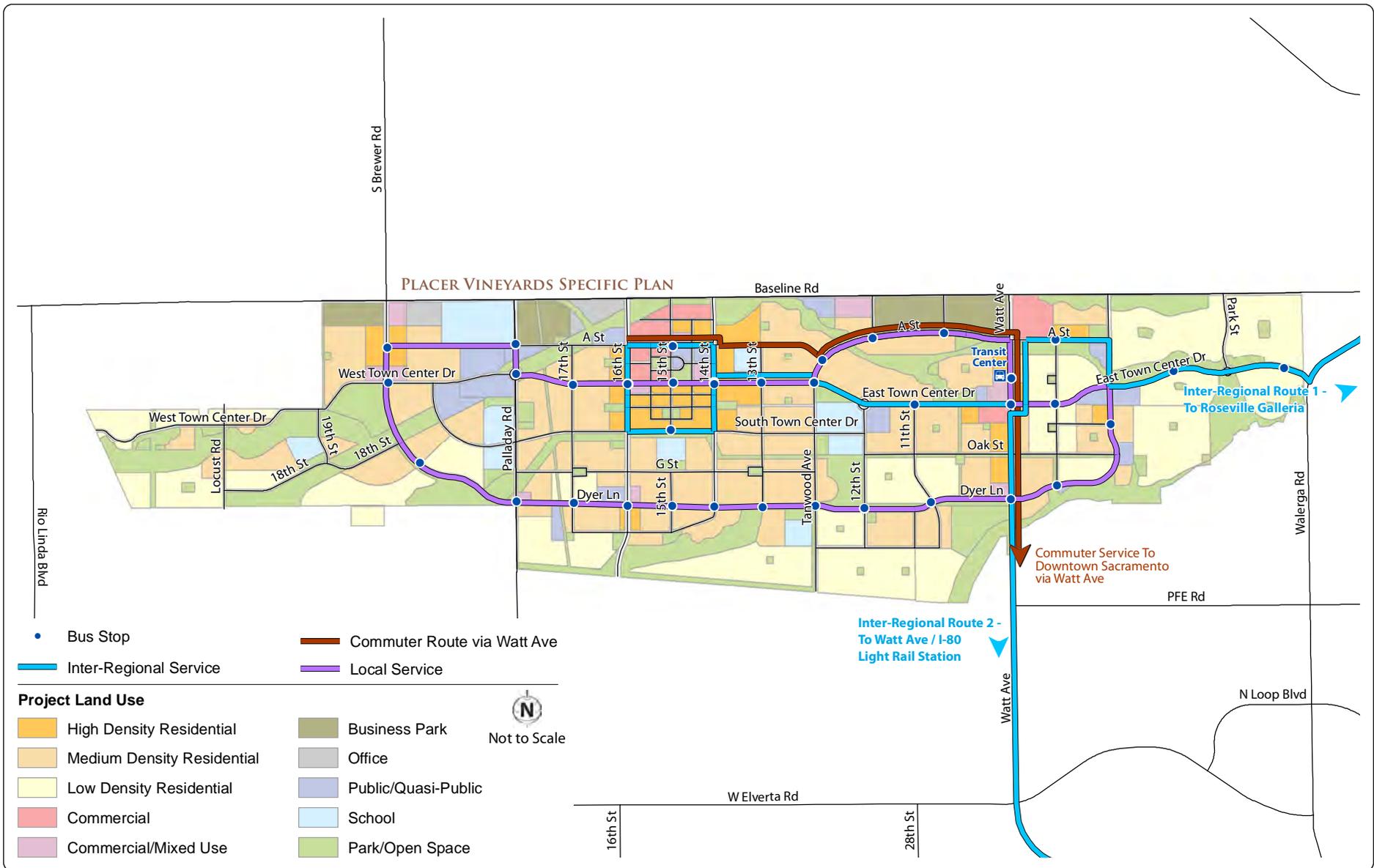


TABLE 2: IMPLEMENTATION COST ESTIMATE

Route	Service Span		Trip Distance (mi) ¹	Trip Runtime (min) ¹	Headway (mins) ³	Vehicles Required ³	Daily Vehicle Revenue Hours	Daily Vehicle Service Hours	Yearly Vehicle Revenue Hours	Annual Cost Estimate ²	Fare Revenue Estimate ⁴	LTF Estimate ⁵
	Hours Per Day	Days Per Year										
Suburban Local	12	306	9.0	42.7	30 peak; 60 off-peak	2 peak; 1 off-peak	16	18	4,896	\$ 470,000	\$ 50,000	\$350,000
Inter-Regional (to Roseville Galleria)	15	306	15.3	112.2	60	2	30	32	9,180	\$885,000	\$ 55,000	\$250,000
Inter-regional (to Watt LRT / Town Center)	15	306	20.8	94.8	60	2	30	32	9,180	\$ 885,000	\$ 90,000	\$250,000
Commuter (to Downtown Sacramento)	3 AM trips; 3 PM trips	251	19.6	44.3	--	3	4.43	7.43	1,112	\$ 160,000	\$ 110,000	\$120,000
Dial-A-Ride	16.25	283	--	--	--	1	16.25	17.25	4,599	\$ 490,000	\$ 40,000	\$370,000
Total										\$ 2,890,000	\$ 345,000	\$1,340,000

- Note:
1. For suburban local service (outer loop), distance and runtime are measured for a single loop. For inter-regional and commuter service, distance and runtime are measured for a round trip.
 2. Value of \$144.21 (commuter), \$96.22 (suburban local and inter-regional), and \$106.11 (dial-a-ride) per vehicle revenue hour was obtained from Roseville Transit FY 12/13 Quarterly Performance Report for Q1-Q3 of fiscal year.
 3. Cost estimates for services with separate peak and off-peak periods assume 4 hours of peak service per day.
 4. Calculations for fare revenue estimates are based on Roseville Transit farebox recovery ratios obtained from FY 12/13 Quarterly Performance Report for Q1-Q3 of fiscal year. Ratio is 10.4% for Suburban Local/Inter-Regional service, 68.7% for Commuter service, and 8% for Dial-A-Ride service.
 5. LTF: Local Transportation Fund. This per capita estimate of LTF funding is based upon the FY 2013/14 PCTPA Final LTF Apportionment (\$44.57).

Source: Fehr & Peers, 2013