

Bus Stop Optimization and Maintenance Plan

Introduction and Purpose

The Vine Transit system is managed by the Napa Valley Transportation Authority (NVTA) and is comprised of roughly 346 bus stops throughout Napa County. The purpose of the Napa Valley Transportation Authority's (NVTA) Bus Stop Optimization and Maintenance Plan is to officially adopt a set of policies for the creation of new bus stops, the consolidation of existing bus stops, and to set the thresholds for allocating amenities throughout the Vine system. The plan will also ensure that in all cases where a stop is improved or added to the system proper specifications are adhered to as they relate to the American's with Disabilities Act (ADA), jurisdictions' and agency design standards.

Bus stops have been added incrementally over time leading to inconsistent spacing and arbitrarily placed amenities. This plan will review the whole system and optimize the placement of stops with the goal of increasing the efficiency of the Vine.

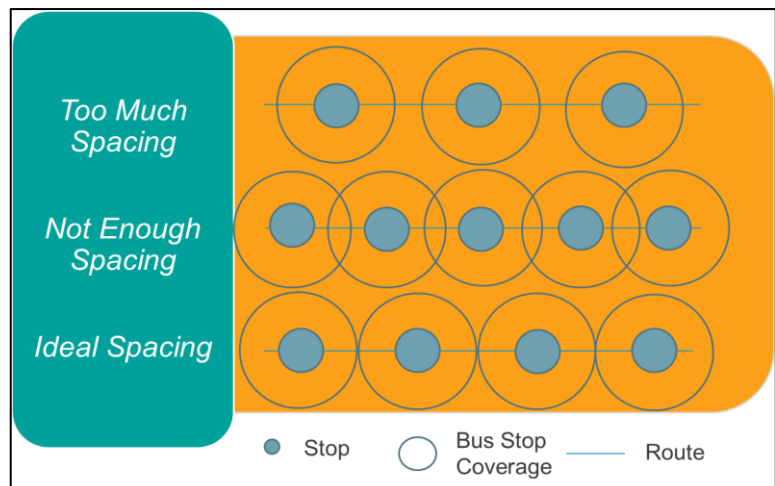
Why Optimize Bus Stops

Placing stops too close together can negatively impact the speed of service and placing stops too far apart may decrease the appeal of transit as walking distances become too far. Optimal stop spacing balances the need for a quick walk and efficient bus operations. As shown in Figure 1, stops spaced too far apart result in gaps in coverage and increased walking distances. Typically the walkshed for a bus stop is a quarter mile, roughly a 5-minute walk. Not enough spacing results in an overlap of coverage. Passengers waiting at stops become more spread out and the bus may need to board passengers at every stop along a heavily used corridor. Ideal stop spacing means that passengers can easily walk to strategically placed stops which consolidate boardings allowing the bus to travel at an optimal speed.

Peer Standards

NVTA staff reviewed several existing bus stop policies and found that there is no universally

Figure 1: Bus Stop Spacing Diagram



accepted stop spacing that can be applied to all land use patterns. Figure 2 shows the recommended spacing for specific land use patterns as determined by the Transportation Research (TRB) Board’s Transit Cooperative Research Program. The recommendations follow a distinct pattern, the denser the land use the closer the stops should be placed.

Figure 2: Bus Stop Spacing Transportation Research Board

Environment	Spacing Range	Typical Spacing
Central Business Districts	300 to 1,000 ft	600 ft
Urban Areas	500 to 1,200 ft	750 ft
Suburban Areas	600 to 2,500 ft	1,000 ft
Rural Areas	650 to 2,640 ft	1,250 ft

Additional data compiled by the Maryland Department of Transportation (MDOT) is shown in Figure 3. This data is from 2014 when the organization was updating its policy. The MDOT data indicates that many of the large transit agencies across the country also group their bus stop spacing based on the land use pattern being served. The agencies included in the data are: Southeastern Pennsylvania Transportation Authority that operates in Philadelphia (SEPTA), Tri-County Metropolitan Transportation District of Oregon that operates in Portland (Tri Met), San Francisco Municipal Transportation Agency that operates in San Francisco (SFMTA), Massachusetts Bay Transportation Authority that operates in Boston (MBTA), and Hampton Roads Transit (HRT). Similar to the recommendations in Figure 2, distance between stops increases as density decreases. There is a wide range of stop spacing in Downtown and Urban Areas, but across agencies, the suburban stop distance is consistently around 1,000 feet apart. Being large agencies primarily serving urban areas, the study did not provide rural stop spacing parameters.

Figure 3: Bus Stop Spacing of Select Transit Agencies

Stop Type	MTA	SEPTA	TriMet	SFMTA	MBTA	HRT
Downtown	500 - 750 ft	N/A	780 ft	N/A	1000 - 1,300 ft	N/A
Urban	600 - 1200 ft	500/1000 ft (existing/new routes)	1000 ft	800-1360 ft	750 - 1300 ft	750 ft
Suburban	1000 – 1500 ft	1000 ft (minimum)	As needed	N/A	1000 - 1300 ft	1050 - 1760 ft
Rural	N/A	As needed	N/A	N/A	N/A	N/A

Stop spacing can also be a product of service typologies. Figure 4 outlines the Alameda-Contra Costa Transit District’s (AC Transit) policy for local, rapid, transbay/express and flexible or community circulators. The spacing balances the need to provide geographic coverage versus the need for operational efficiencies.

Figure 4: AC Transit Stop Spacing Policy

Service Type	Spacing	Explanation
<i>Local (trunk, feeder, etc.)</i>	800 - 1,300 ft	Stops may be located more closely than listed based on trip attractors, stop activity or demand, transfer points or other land uses that may warrant it.
Rapid	1,700 - 5,000 ft	Stops may be located more closely than listed based on trip attractors, stop activity or demand, transfer points or other land uses that may warrant it provided that the increased stops do not cause operational delays
Transbay/Express	1,000 - 2,600 ft	Service may use local stops as necessary to provide geographic coverage and to minimize delay for longer distance riders.
Flexible or Community Circulator	TBD	Stops would be determined on a route by route basis and would consider trip attractors, transfer areas or other factors.

Additional key considerations taken from the background research are as follows:

- Changes should not result in an existing customer being more than ½ mile from the new/changes stop
- Be sure to comply with ADA requirements
- Transfer locations should be within ½ block

Bus Stop Spacing Guidelines for NVRTA

This section compares the current baseline data for the Vine system against the best practices data and makes recommendations about the type of bus stop policy that NVRTA should institute. The current spacing of stops varies greatly throughout the Vine service area. The Vine operates in cities and towns of the Napa Valley as well as the agricultural areas of the unincorporated county. The diverse land use patterns served by the Vine result in a system wide average of 1.84 miles between stops. Local routes (Routes 1-8) in the City of Napa are spaced on average 1,583 feet apart (0.28 miles). On regional services (Routes 10, 11, 21 and 29) the distance between the stops jumps up to 2.58 miles on average.

Existing Stop Distances

Local Routes

The local routes in the Vine system include Routes 1 through 8, which operate within the limits of the City of Napa. With the exception of Downtown Napa, these routes operate in a suburban environment and adhere to the spacing recommended by the Transportation Research Board as well as the bus stop spacing policies of many of the largest agencies across the country.

- Route 1 – 1,741ft (0.33 miles)
- Route 2 – 1,398ft (0.26 miles)
- Route 3 – 1,619ft (0.31 miles)
- Route 4 – 1,731ft (0.33 miles)
- Route 5 – 1,607ft (0.30 miles)
- Route 6 – 1,495ft (0.28 miles)
- Route 7 – 1,277ft (0.24 miles)
- Route 8 – 1,335ft (0.25 miles)

A closer look at the individual stops shows that no stops are more than 0.5 miles apart. Route 8 is an excellent example of ideal spacing, stops are nearly perfectly spaced along the route at about 0.25 miles or 1,335 feet as shown in Figure 6. Other routes, however, have stops that are

too close together. For example, on the Route 7 along Byway East there are stops to the north and south of Reed Circle, about a distance of only 350 feet. Overall, the need for new stops is limited, but there is justification for stop consolidation or elimination.

Figure 5: Local Routes with 0.25 Mile Radii around Stops

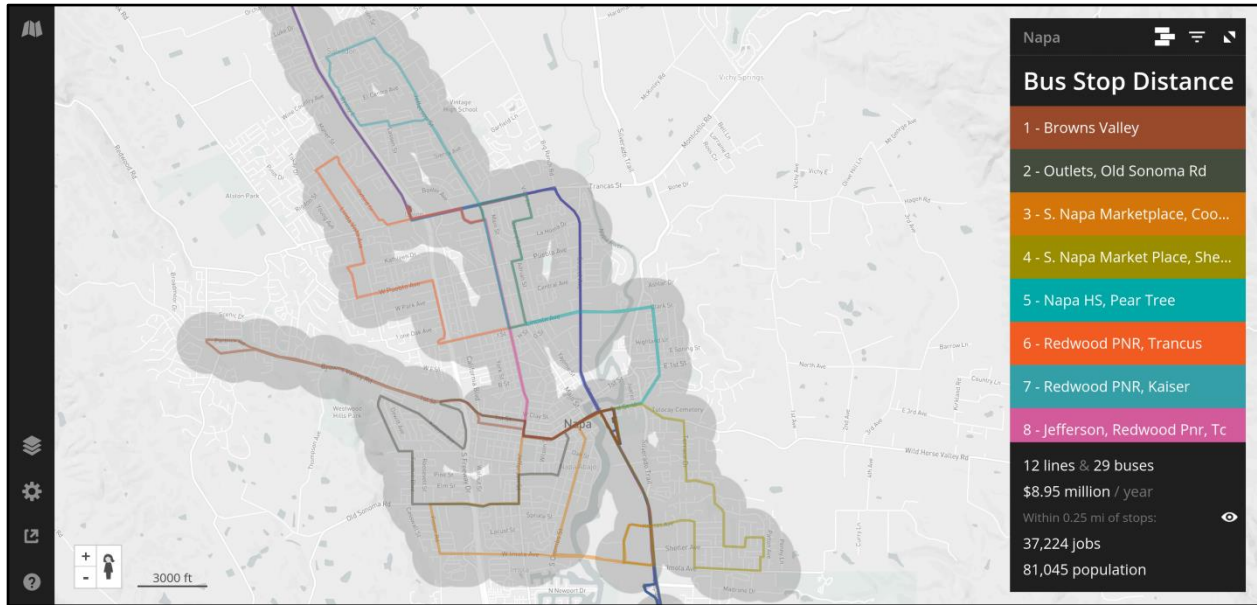
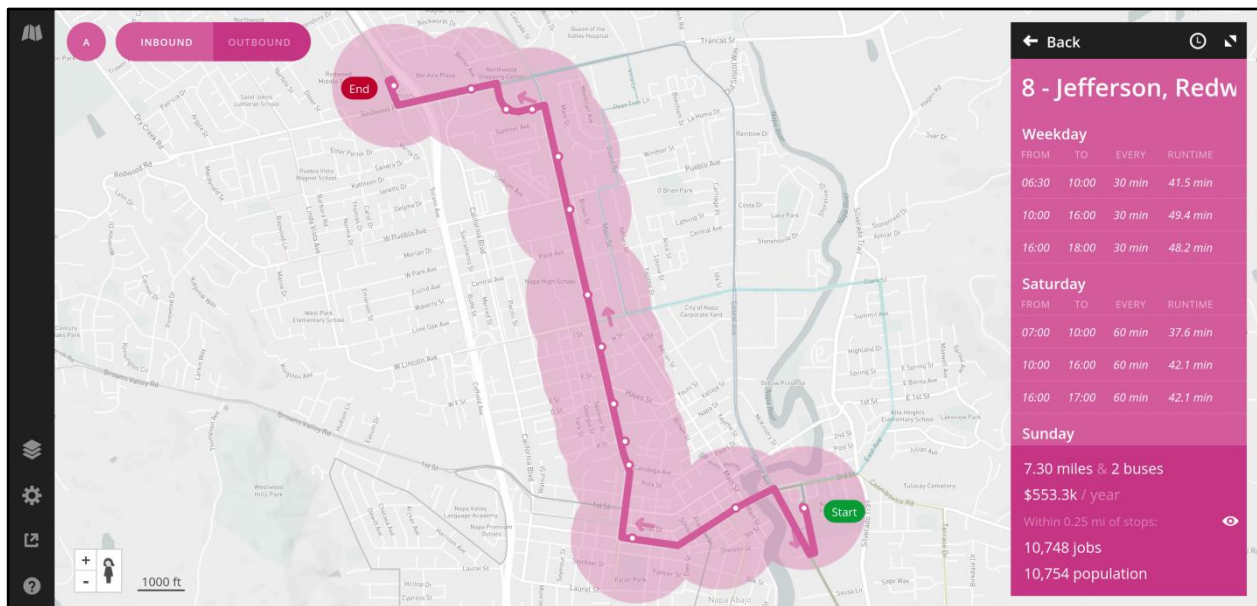


Figure 6: Route 8 with a 0.25 Radii around Stops



Regional Routes

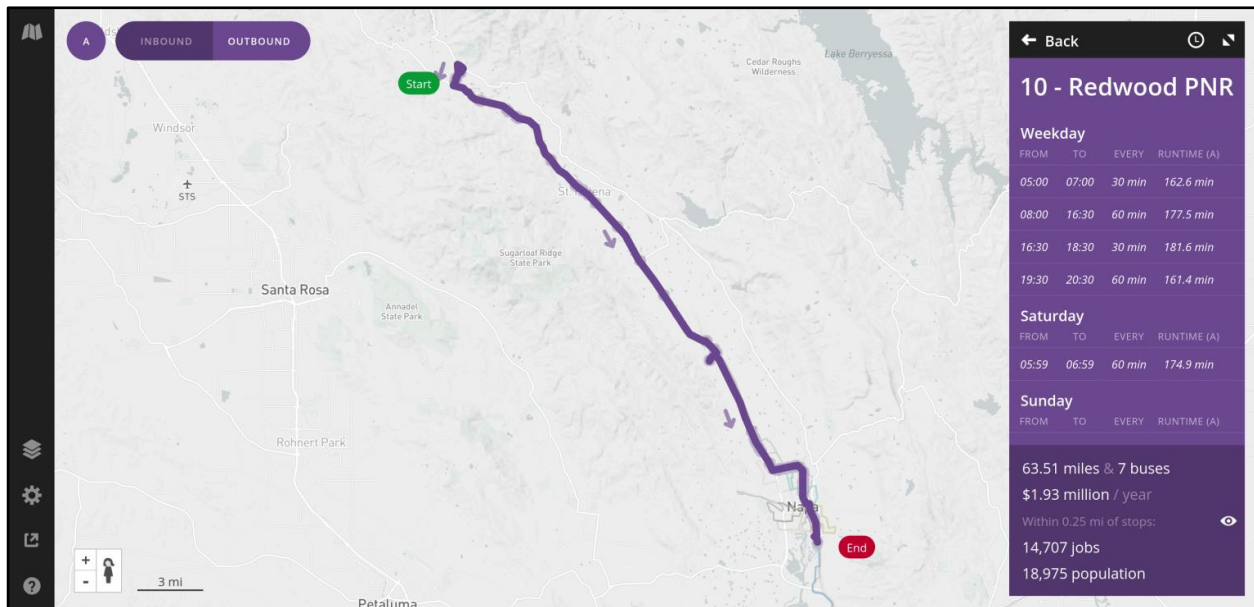
The regional routes in the Vine system include Routes 10 and 11. These routes travel up and down the Napa Valley and through all the incorporated areas as well as the rural unincorporated areas along Highway 29. It is hard to categorize these routes as either

downtown, suburban, or rural. The Route 10 and 11 also do not fit the definition of a local or rapid service type. The current bus stop spacing is similar for both routes at about 4,000 ft.

- Route 10 – 4,137 ft (0.78 miles)
- Route 11 – 3,852 ft (0.73 miles)

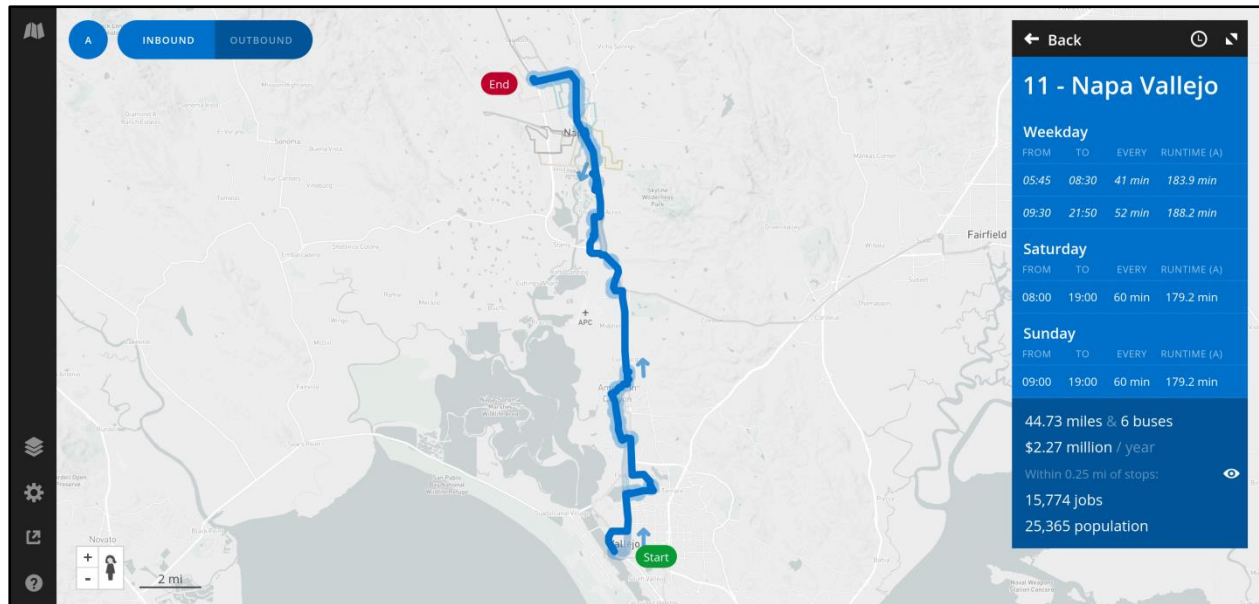
A closer look at the Route 10 indicates that the stops within 0.25 miles (Figure 7) are concentrated in the cities and towns with greater distances in the unincorporated areas. This makes sense given the densities in these areas. This equates to an average speed of 20.8 mph on weekdays along Route 10.

Figure 7: Route 10 with 0.25 Mile Radii around Stops



The Route 11 has stops that are slightly closer together on average and with a cluster of stops in American Canyon spaced about 1,000 ft apart (Figure 8). The end result of the stops being closer together and the traffic along SR 29 means the bus only travels at 14.1mph on weekdays. Even on the weekend, the travel time is still slow at 15.1mph on Saturday and 15.6 mph on Sunday.

Figure 8: Route 11 with 0.25 Mile Radii around Stop



Express Route

The express routes in the Vine system are the Route 21 to Fairfield and the Route 29 to the Vallejo Ferry and BART. These are very long routes with the Route 21 covering 44 miles roundtrip and the Route 29 topping out at 65 miles roundtrip. The distances between stops far exceed the recommended distance for rural areas and rapid routes. However this is more understandable given the locations served between the beginnings and ends of the routes.

- Route 21 – 20,795 ft (3.94 miles) between stops
- Route 29 – 34,875 ft (6.61 miles) between stops

Bus Stop Placement

The recommended stop spacing guidelines are based upon the best practices research and staff knowledge of local conditions. The goal is to balance the needs of passengers and the operator. While a short distance between stops means a shorter walk for customers, the result is a longer ride for them in the end. The more opportunities for boarding and alighting along a route results in longer trips because of the time it takes for the bus to decelerate, come to a complete stop, collect fares from passengers, wait for the passengers to sit down, and then accelerate and merge into traffic.

Local Route

Local stop spacing is broken down into two categories, urban and suburban. Urban is relegated to Downtown defined as First through Fifth Street and Main to Franklin Street and Suburban is

the rest of the City of Napa. For the Urban service type, the average distance between stops is 1,000ft apart and for Suburban the average is 1,500ft.

Regional Route

On the Routes 10 and 11 there is a wide range of stop distances due to the different land uses and densities along these two routes. The recommended average distance is 4,500 ft. The idea is that within incorporated areas the stops on average can be 1,500ft, in alignment with Suburban standards, and then in rural areas, particularly along the Route10, the stops can be further apart, closer to 20,000 ft.

Type of NVTA Service	Range	Average
Local - Urban - Suburban	500 to 1,500 ft 1,000 to 2,000 ft	1,000 ft 1,500 ft
Regional	1,500 to 20,000 ft	4,500 ft
Express	Major Employment Center	25,000 ft

The Routes 10 and 11 share an alignment between Napa Valley College and the Redwood Park and Ride. There may be opportunities to eliminate some duplicative stops along this shared alignment especially along Soscol Ave near the Soscol Gateway Transit Center (SGTC) where there are stops less than 1,500 ft from the SGTC that predate the construction of the SGTC.

Express Routes

The recommendation for stops to be located at a major employment center with an average distance of 25,000 ft apart is similar to the current spacing along the Routes 21 and 29. The *Express Bus Corridor Study* completed by NVTA in 2017 recommends the elimination of the Route 21 stop at Corporate Drive due to low boarding at that stop. The elimination of this stop will result in the modification of the route alignment between the Napa Valley College and the Devlin Road/Airport Blvd stop. These changes will decrease the travel time on the Route 21.

Minimal changes are necessary to the stop spacing on the Route 29. As outlined in detail in the *Express Bus Corridor Study*, in order to speed up the Route 29 there is a need to make efficiency improvements to existing stops and to move stops closer to the main Highway 29 corridor. If stops are added in the future, the stops should only be at major employment centers.

Process for Implementing Bus Stop Spacing Recommendations

Evaluate the Current Distance Between Bus Stops Against Spacing Guidelines

The next steps is to evaluate the current distance between bus stops against spacing guideline and either leave the stop unchanged, insert an additional stop, consolidate the stop or eliminate a stop as follows:

Unchanged - if the stop meets the spacing interval

Insert Additional Stop – spacing greater than the maximum recommended interval

Consolidate Stop

If spacing is less than interval then evaluate both stops

One stop is either a hub or has a shelter, evaluate the other stop

If the other stop meets the seven requirements of the Stop Consolidation Checklist then move forward with consolidation.

Eliminate Stop

If spacing is less than interval then evaluate both stops

Neither stop is a hub or has a shelter, evaluate the stop with the lower ridership

If the other stop meets the six requirements of the Stop Elimination Checklist the move forward with elimination.

Stop Elimination Checklist

In order to NVTA to eliminate stop the answer to the following questions needs to be Yes.

Criteria to Eliminate	Yes/No
The adjacent stops left unaltered adhere to the prescribed spacing requirements for their service area.	
Adjacent stops are designed accordingly to absorb additional ridership.	
The stops does not provide direct access to connecting transit services, or if it does there are stops further along the route that will provide the same connections.	
The stop being removed does not meet ADA guidelines, or both adjacent stops meet ADA guidelines.	
The stops does not serve existing community resources such as schools, hospitals, senior center, recreation centers, and locations providing public service.	

Stop Consolidation Checklist

In order to NVTA to eliminate stop the answer to the following questions needs to be Yes.

Criteria to Eliminate	Yes/No
The new stops location has adequate pedestrian access, such as direct sidewalk connections and safe pedestrian crossings	
The new stop location adheres to the spacing requirements with adjacent stops.	
The new location meets ADA guidelines or can be reasonably modified to meet guidelines.	
If either stop being considered for consolidation is a transfer stop, existing transfer opportunities at the new stops location are possible within two or fewer street crossings or at another stop location along the line.	
The stops being considered will not impact more than 20% of the entire route's daily ridership	
The stops being considered for consolidation do not directly serve existing community resources such as schools, hospitals, senior centers, and locations providing public services.	
The new location will improve or maintain running times.	

Bus Stop Shelter Placement and Design

In order to be considered as a potential location for a bus shelter, the stop in question must obtain a minimum of:

- 20 boarding's per average weekday on regional or express Routes
- 10 boarding's per average weekday on local routes

Stops which do not meet these minimum ridership requirements will not be considered for further analysis.

- Further analysis involves the following factors ridership, exposure, transfer, transit frequency, high priority community resources, close to areas where there is significant elderly and disabled populations, severe exposure to elements and the ability to remain ADA accessible.

Figure 9



When NVTA completed their rebranding, a specific shelter was selected for use throughout the system. It mirrors the shelter at the Soscol Gateway Transit Center, but has a solid roof for shading purposes. A picture of a 9ft version of that Tolar shelter is shown to the left. The cost of each shelter varies based upon the sizes and amenities.

Bus Stop Accessories

Bus stop accessories include benches, trash cans, ad boxes, simme seats (dual seats that attach to a bus stop poles) and real-time information signs. Appendix 1 contains a list of all of the stops in the Vine system and the types of accessories at each stop as of August 2016. Benches or simme seats are a good alternative when there is not space for a shelter, but the stop has ridership to warrant a shelter. Also, the addition of garbage cans at these sites would help alleviate trash left around the stops and would keep the site clean for neighboring property owners.

Maintenance Objectives

- It is the Authority's priority to have clean and well maintained shelters and bus stops in the Vine system. Currently, one contracted staff member is responsible for shelter and bus stop maintenance of the 73 shelters in the Vine system. This staffing level will be consistent for the foreseeable future so before each shelter is added maintenance staff will be consulted to make sure there is capacity for the maintenance. The maintenance objectives are as follows:garbage cans and litter/trash r at all of the stops will be removed daily
- twice yearly pressure washing of all stops using City-approved water recovery procedures, or as required by NVTA to ensure proper cleanliness and safety at each bus

stop location, pressure wash will be done more regularly at high visibility and/or high ridership bus stops

- General cleaning including but not limited to, graffiti removal, glass and bench cleaning, removal of foreign substances, and sweeping shelter interior and sidewalk immediately outside the shelter
 - NVTA's twenty high use, high profile shelter locations will be cleaned at least three times a week
 - NVTA's remaining shelters, 30 at present, will receive general cleaning once a week at a minimum. These may be cleaned more frequently depending upon the need
- Soscol Gateway Transit Center requires daily general cleaning, and complete detailing as required by NVTA for maintaining cleanliness, safety and a respectable image
- Two satellite sites (Park & Ride @ Redwood Road and Solano in Napa and Park and Ride at Solano and California in Yountville)
 - Cleaned daily
 - Bus shelters will be power washed according to cleaning schedule
 - Dangerous or hazardous waste will be removed immediately.

Finally, the replacement of damaged or destroyed bus shelters will be completed within 60-90 days of occurrence. All other shelters will be replaced as needed but not more than 20 years. The first shelters to be replaced will be those shelters that are functionally obsolete such as those without roofs and those that have been hit by vehicles. NVTA will replace up to five shelters a year depending on resource availability.

Appendix 1: List of Bus Stop Amenities by Route

Route 1						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
3rd Street & Brown Street	No	No	No	No	No	No
3rd Street & Jefferson Street	No	No	No	No	No	No
1st Street & Monroe Street	No	No	Yes	No	No	Yes
1st Street & Freeway Drive	No	No	No	No	No	No
Browns Valley Road & Robinson Lane (NE)	No	No	Yes	No	No	No
Browns Valley Road & Thornhill Drive	No	Yes	Yes	No	No	Yes
Austin Way & Brown's Valley Road	No	No	Yes	No	No	No
Browns Valley Road & Westview Drive	No	No	No	No	No	No
Browns Valley Road & Partrick Road	No	Yes	Yes	No	No	Yes
Browns Valley Road & Rowena Lane	No	No	No	No	No	No
Browns Valley Road & Dezarai Court	No	No	Yes	No	No	No
Browns Valley Road & Austin Way	Yes	Yes	Yes	No	No	Yes
Browns Valley Road & Thompson Avenue	No	Yes	Yes	No	No	Yes
Browns Valley Road & Linda Vista Avenue	No	No	No	No	No	No
Browns Valley Road & Hudson Lane	No	No	Yes	No	No	Yes
1st Street & Chelsea Avenue	No	No	No	No	No	No
2nd Street & California Blvd	No	No	Yes	No	No	Yes
2nd Street & Patchett Street	No	No	No	No	No	No
3rd Street & Coombs St	No	No	Yes	No	No	No

Route 2						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
3rd Street & Brown Street	No	No	Yes	No	No	No
3rd Street & Jefferson Street	No	No	No	No	No	No
1st Street & Monroe Street	No	No	Yes	No	No	Yes
Premium Outlets	No	Yes	Yes	No	No	Yes
Kilburn Avenue & Cornwall Avenue	No	No	Yes	No	No	Yes
Kilburn Avenue & Bryan Avenue	No	No	No	No	No	No
Kilburn Avenue & Chelsea Avenue	No	No	No	No	No	No
Laurel Street & Kilburn Avenue	Yes	Yes	Yes	No	No	Yes
Laurel Street & Laurel Lane	No	No	No	No	No	No
Laurel Street & Griggs Lane	No	No	No	No	No	No
Foothill Blvd & Hilltop Drive	No	No	No	No	No	No
Foothill Blvd & Pine Street	No	No	No	No	No	No
Foothill Blvd & Greco Drive	No	No	No	No	No	Yes
Old Sonoma Road & Foster Road	No	No	No	No	No	No
Old Sonoma Road & Underhill Drive (SE)	No	Yes	Yes	No	No	Yes
Old Sonoma Rd at S Seymour St (Health & Human Services (SW))	No	Yes	Yes	No	No	Yes
Old Sonoma Road & Harston Street	No	No	No	Yes	No	Yes
Jefferson Street & Elm Street	No	No	No	Yes	No	Yes
Pine Street & Jefferson Street	No	No	No	No	No	No
Pine Street & Seminary Street	No	No	No	No	No	No
Pine Street & Adams Street	No	No	Yes	No	No	Yes
Franklin Street & Division Street	No	No	No	No	No	No
3rd Street & Coombs Street	No	No	Yes	No	No	No

Route 3

Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
3rd Street & Brown Street	No	No	Yes	No	No	No
Jefferson Street & Laurel Street	No	No	No	Yes	No	No
Jefferson Street & Madrona Street	No	No	No	No	No	No
Old Sonoma Road & Underhill Drive (NE)	No	No	Yes	No	No	Yes
Old Sonoma Road & Cherryview Court	No	No	No	No	No	Yes
Foster Road & Idaho Street (Old Sonoma Rd)	No	No	No	No	No	No
Foster Road & Indiana Street	No	No	No	No	No	No
Foster Road & Imola Avenue	No	No	Yes	No	No	Yes
Imola Avenue & Kent Street	No	No	No	No	No	No
Imola Park & Ride	No	No	No	No	No	No
Imola Avenue & Minahen Street	No	No	No	No	No	No
Imola Avenue & Jefferson Street	No	Yes	Yes	No	No	Yes
Gasser Drive & Hartle Court	No	No	No	Yes	No	Yes
Soscol Avenue & Kansas Avenue	No	No	No	No	No	Yes
Imola Avenue & Gasser Drive	No	No	No	Yes	No	No
Coombs Street & South Franklin Street	No	No	Yes	No	No	Yes
Coombs Street & Elm Street	No	Yes	Yes	No	No	Yes
Coombs Street & Pine Street	No	No	Yes	No	No	No
Coombs Street & 5th Street	No	No	No	No	No	No
Coombs Street & 4th Street	No	No	No	No	No	No
3rd Street & Coombs Street	No	No	No	No	No	No

Route 4

Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
3rd Street & Bailey Street	Yes	Yes	No	No	No	No
3rd Street & Juarez Street (SE)	No	No	Yes	No	No	Yes
Terrace Drive & Coombsville Road	No	No	No	No	No	No
Terrace Drive & Liberty Drive	No	No	No	No	No	No
Shurtleff Avenue & Ullman Court	No	No	No	No	No	No
Shurtleff Avenue & Cayetano Drive	No	No	No	No	No	No
Shelter Avenue & Shurtleff Avenue	No	No	No	No	No	Yes
Laredo Street & Maria Drive	No	No	No	No	No	Yes
Seville Drive & Perkins Street	No	No	No	No	No	No
Chamberlain High School	No	No	No	No	No	No
Imola Ave & Navarre Street	No	No	Yes	No	No	Yes
Imola Avenue & Parrish Road	No	No	No	Yes	No	No
Terrace Drive & Shetler Avenue	No	No	No	No	No	No
Terrace Drive & Kansas Avenue	No	No	Yes	No	No	No
Kansas Avenue & Wilkins Avenue	No	Yes	Yes	No	No	Yes
Kansas Avenue & Kansas Court	No	No	No	No	No	No
Kansas Avenue & Soscol Avenue	No	No	No	Yes	No	Yes
Gasser Drive & Hartle Court	No	No	No	Yes	No	Yes
Soscol Avenue & Kansas Avenue (SE)	No	No	Yes	No	No	Yes
Soscol Avenue & Silverado Trail (NW)	No	No	No	No	No	No
Soscol Avenue & Sousa Lane	Yes	Yes	Yes	No	No	Yes
Soscol and Eighth Ave	No	No	No	No	No	No

Route 5						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
3rd Street & Bailey Street	Yes	Yes	No	No	No	No
3rd Street & Juarez Street (SE)	No	No	Yes	No	No	Yes
East Avenue & Silverado Trail	No	No	No	Yes	No	No
East Avenue & Montecito Blvd	Yes	Yes	No	No	No	No
East Avenue & 1st Street	No	No	Yes	No	No	No
East Avenue & Highland Drive (NW)	No	No	No	No	No	No
East Avenue & Clark Street	No	No	Yes	No	No	No
Lincoln Avenue & Silverado Trail (NE)	No	No	Yes	No	No	No
Lincoln Avenue & Soscol Avenue	No	No	No	No	No	No
Lincoln Avenue (NW)	No	No	No	No	No	No
Main Street & Central Avenue	No	No	No	No	No	Yes
Main Street & Pueblo Avenue	No	No	No	No	No	No
Beard Road & La Homa Drive	No	No	No	No	No	No
Pear Tree Lane & Villa Lane	No	Yes	Yes	No	No	Yes
Villa Lane At Trancas Street (NW)	No	No	Yes	No	No	No
Trancas Street & Beard Road (SE)	Yes	Yes	No	No	No	Yes
Jefferson Street & Claremont Way	No	No	Yes	No	No	No
Jefferson Street & Sheridan Way (SW)	No	No	Yes	No	No	No
Jefferson Street & Pueblo Avenue (NW)	No	No	No	No	No	No
Napa High	Yes	Yes	No	No	No	No
Lincoln Avenue (SE)	No	No	No	No	No	No
Lincoln Avenue & Jordan Lane	No	No	No	Yes	No	No
Lincoln Avenue & Silverado Trail (SE)	No	No	Yes	No	No	No
East Avenue & Highland Drive (SE)	No	No	No	No	No	No
East Avenue & Evans Avenue	No	No	No	No	No	No
3rd Street & Juarez Street (NE)	No	Yes	Yes	No	No	Yes

Route 6						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Redwood Park & Ride	Yes	Yes	No	No	No	No
Redwood Road & Solano Avenue	No	No	No	No	No	Yes
Oxford Street & Carol Drive	No	No	No	No	No	Yes
Oxford Street & Wales Street	No	No	No	Yes	No	No
Oxford Street & Berks Street	No	No	No	No	No	No
Justin Siena High School	No	No	No	Yes	No	No
Trower Avenue & Lloyd Drive	No	No	Yes	No	No	Yes
Linda Vista Avenue & Trojan Road	No	No	No	Yes	No	No
Linda Vista Avenue & Redwood Road	No	No	No	No	No	No
Linda Vista Avenue & Sutherland Drive	No	No	No	No	No	No
Sutherland Drive & Linda Vista Avenue	No	No	No	No	No	No
Pueblo Avenue & Linda Vista Avenue	No	No	Yes	No	No	No
Pueblo Avenue & Pueblo Place	No	No	No	No	No	No
Pueblo Avenue & Solano Avenue	No	No	Yes	No	No	No
Solano Avenue & Park Avenue	No	No	No	Yes	No	No
Solano Avenue & Waverly Street	No	No	Yes	No	No	No
Solano Avenue & Lone Oak Avenue	No	No	No	No	No	No
Lincoln Avenue & Pacific Street	Yes	Yes	Yes	No	No	No
Lincoln Avenue & York Street	No	No	No	No	No	No
Lincoln Avenue & Jefferson Street	No	No	No	No	No	No
Main Street & Central Avenue	No	No	No	No	No	Yes
Main Street & Pueblo Avenue	No	No	No	No	No	No
Beard Road & La Homa Drive	No	No	No	No	No	No
Pear Tree Lane & Villa Lane	No	Yes	Yes	No	No	Yes
Trancas Street & Beard Road (SE)	Yes	Yes	No	No	No	Yes
Trancas Street & Jefferson Street	No	Yes	No	No	No	No
Claremont Way & Permanente Way	No	Yes	No	No	No	No
Trancas Street & Baxter Avenue	No	No	Yes	No	No	Yes
Redwood Park & Ride	Yes	Yes	No	No	No	No

Route 7						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Redwood Park & Ride	Yes	Yes	Yes	No	No	Yes
Trancas Street & California Blvd	Yes	No	Yes	No	No	No
Jefferson Street & Trancas Street	Yes	Yes	Yes	No	No	Yes
Jefferson Street & El Capitan Way (SE)	No	No	No	No	No	No
Claremont Way & Permanente Way	No	Yes	No	No	No	No
Jefferson Street & Sierra Avenue (NE)	No	Yes	Yes	No	No	Yes
Trancas Street & Baxter Avenue	No	No	Yes	No	No	Yes
Jefferson & Yellowstone	Yes	Yes	Yes	No	No	Yes
Trower Avenue & Glacier Drive	No	No	No	No	No	No
Trower Avenue & Lassen Street	No	No	Yes	No	No	No
Cask Way & Wise Drive	No	No	No	No	No	No
Byway Street East & El Centro Avenue	No	No	Yes	Yes	No	Yes
Byway Street East & Reed Circle	No	No	Yes	No	No	No
Byway Street East & Monarch Drive	No	No	No	No	No	No
Byway Street East & Salvador Avenue	No	No	No	Yes	No	Yes
Salvador Avenue & Dale Drive	No	No	No	Yes	No	No
Jefferson Street & Salvador Avenue	No	No	No	Yes	No	No
Jefferson Street & Joshua Court	No	No	No	Yes	No	No
Jefferson Street & Maximillian Court	No	No	Yes	No	No	No
Jefferson Street & Trower Avenue	No	No	No	No	No	No
Jefferson Street & Sierra Avenue (NW)	No	No	Yes	No	No	No
Jefferson Street & El Capitan Way (SW)	No	No	No	No	No	No
Jefferson Street & Trancas Street (SW)	No	No	Yes	No	No	No
Jefferson Street & Claremont Way	No	No	Yes	No	No	No
Claremont Way & Permanente Way	No	Yes	No	No	No	No
Trancas Street & Baxter Avenue	No	No	Yes	No	No	Yes

Route 8	Northbound and southbound					
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
3rd Street & Brown Street	No	No	Yes	No	No	No
3rd Street & Jefferson Street	No	No	No	No	No	No
Jefferson Street & Calistoga Avenue	No	No	Yes	No	No	No
Jefferson Street & Cedar Avenue	No	Yes	Yes	No	No	No
Jefferson Street & D Street	Yes	Yes	Yes	No	No	No
Jefferson Street & H Street (SE)	Yes	Yes	Yes	No	No	Yes
Jefferson Street & George Street	No	No	Yes	No	No	No
Jefferson Street & Pueblo Avenue	No	No	Yes	No	No	No
Jefferson Street & Sheridan Way (NE)	No	No	No	No	No	No
Claremont Way & Jefferson Street	No	Yes	No	No	No	No
Claremont Way & Permanente Way	No	Yes	No	No	No	No
Trancas Street & Baxter Avenue	No	No	Yes	No	No	Yes
Redwood Park & Ride	Yes	Yes	Yes	No	No	Yes
Redwood Park & Ride	Yes	Yes	Yes	No	No	Yes
Claremont Way & Permanente Way (NE)	No	Yes	No	No	No	No
Jefferson Street & Sheridan Way (SW)	No	No	Yes	No	No	No
Jefferson Street & Pueblo Avenue (NW)	No	No	No	No	No	No
Napa High	Yes	Yes	No	No	No	No
Jefferson Street & H Street (NW)	No	No	Yes	No	No	Yes
Jefferson Street & F Street	No	No	Yes	No	No	No
Jefferson Street & B Street	No	No	Yes	No	No	No
3rd Street & Jefferson Street	No	No	No	Yes	No	No
Randolph Street & 3rd Street	No	No	No	No	No	No
3rd Street & Brown Street	No	No	No	No	No	No
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes

Route 10 Northbound and Southbound City Stops						
Location	Ad Box	Shelter	Bench	Signage	I-Stop	Trash Cans
Napa Valley College	No	Yes	Yes	No	No	Yes
Soscol Avenue & Magnolia Drive	No	Yes	Yes	No	No	Yes
Soscol Avenue & Kansas Avenue (SE)	No	No	Yes	No	No	No
Soscol Avenue & Silverado Trail (SE)	No	No	No	No	No	No
Soscol Avenue & Sousa Lane	Yes	Yes	Yes	No	No	Yes
Soscol At Eighth Ave	No	No	No	No	No	No
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
Soscol At Third Ave	No	No	No	No	No	No
Soscol Avenue & Imperial Way	No	No	Yes	No	No	Yes
Soscol Avenue & Lincoln Avenue (SE)	No	Yes	Yes	No	No	Yes
Soscol Avenue & Stonehouse Drive	No	Yes	No	No	No	No
Soscol Avenue & Costa Drive	No	No	No	No	No	No
Soscol Avenue & Pueblo Avenue (SE)	No	No	No	No	No	No
Soscol Avenue & La Homa Drive	No	No	No	No	No	No
Soscol Avenue & Pear Tree Lane (NE)	No	Yes	Yes	No	No	Yes
Trancas Street & Valle Verde Drive	No	No	No	Yes	No	Yes
Trancas Street & Villa Lane (NW)	No	No	Yes	No	No	No
Trancas Street & Beard Road (SW)	Yes	Yes	No	No	No	No
Trancas Street & Jefferson Street	No	Yes	Yes	No	No	Yes
Trancas Street & Baxter Avenue	No	No	Yes	No	No	Yes
Redwood Park & Ride	Yes	Yes	Yes	No	No	Yes
Solano Avenue & Denvonshire Drive (SW)	No	Yes	No	No	No	No
Solano Avenue & Wine Country Avenue (SW)	No	No	No	No	No	Yes
Solano Avenue & Mobile Drive	No	No	Yes	No	No	No
Solano Avenue & Newell Circle (SW)	No	No	Yes	No	No	No
Solano Avenue & Hacienda Drive (SW)	No	Yes	No	No	No	No
Solano Avenue & Orchard Avenue (SW)	No	No	No	No	No	No
Yountville Veterans Home	No	Yes	Yes	No	No	Yes
Washington Street & Mission Street	No	Yes	Yes	No	No	Yes
Washington Street & Mulberry Street	No	No	Yes	No	No	No
Washington Street & Madison Street (SE)	No	No	No	Yes	No	No
Oakville	No	No	No	No	No	No
Rutherford	No	No	Yes	No	No	No
Highway 29 & Zinfandel Lane	No	No	No	No	No	No
Main Street At Pope Street	No	No	Yes	No	No	No
St. Helena City Hall	No	No	No	No	No	No
Main Street & Pratt Street	No	No	No	No	No	No
Highway 29 & Lodi Lane	No	No	No	No	No	No
Bothe State Park (NB)	No	No	No	No	No	No
Highway 29 & Peterson Drive (NB)	No	No	No	No	No	No
Highway 29 & Dunawee Lane (NB)	No	No	No	No	No	No
Highway 29 At Fair Way (NB)	No	Yes	Yes	No	No	No
Highway 29 & Brannan Street	No	Yes	Yes	No	No	No
Highway 29 & Brannan Street	No	Yes	Yes	No	No	No
Highway 29 At Fair Way (SB)	No	No	No	No	No	No
Downtown Calistoga	No	No	No	No	No	No
Highway 29 & Dunawee Lane (SB)	No	No	No	No	No	No
Highway 29 & Peterson Drive (SB)	No	No	No	No	No	No
Bothe State Park	No	No	No	No	No	No
Highway 29 & Byrd Hill Lane	No	Yes	Yes	No	No	Yes
Highway 29 At Elmhurst Avenue	No	No	No	No	No	No
St. Helena City Hall	No	No	No	No	No	No
Highway 29 & Main Street & Mitchell Drive	No	No	No	No	No	No
Highway 29 & Dowdell Lane	No	Yes	Yes	No	No	No
Highway 29 & Zinfandel Lane	No	No	No	No	No	No
Rutherford	No	No	No	No	No	No
Oakville	No	No	No	No	No	No
Washington Street & Madison Street (SW)	No	Yes	Yes	No	No	Yes
Washington Street & Mulberry Street (NW)	No	Yes	Yes	No	No	Yes
Washington Street & Mission Street (NW)	No	Yes	Yes	No	No	Yes
Yountville Veterans Home	No	Yes	Yes	No	No	Yes
Solano At Orchard (NW)	No	No	No	No	No	No
Solano Avenue & Newell Circle (NW)	No	No	No	No	No	No
Solano Avenue & Salvador Avenue	No	No	Yes	No	No	No
Solano Avenue & Wine Country Avenue (NW)	No	No	No	No	No	No
Solano Avenue & Denvonshire Drive (NW)	No	Yes	No	No	No	No
Redwood Park & Ride	Yes	Yes	No	No	No	No
Trancas Street & California Blvd	Yes	No	Yes	No	No	No
Trancas Street & Jefferson Street (SE)	Yes	Yes	Yes	No	No	No
Trancas Street & Beard Road (SE)	Yes	Yes	No	No	No	No
Trancas Street & Villa Lane (SW)	Yes	Yes	Yes	No	No	No
Soscol Avenue & Pear Tree Lane (NW)	No	Yes	No	No	No	No
Soscol At La Homa	No	No	No	No	No	No
Soscol Avenue & Pueblo Avenue (NW)	Yes	Yes	No	No	No	No
Soscol Avenue & Central Avenue	No	No	No	Yes	No	No
Soscol Avenue & Lincoln Avenue (SW)	No	No	Yes	No	No	Yes
Soscol Avenue & Tanen Street	No	No	No	No	No	No
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
Soscol Avenue & Oil Company Road	No	No	No	No	No	No
Soscol Avenue & Silverado Trail (NW)	No	No	No	No	No	No
Soscol Avenue & Kansas Avenue (SW)	Yes	Yes	Yes	No	No	Yes
Soscol Avenue & College Way	No	Yes	Yes	No	No	Yes
Napa Valley College	No	Yes	Yes	No	No	Yes

Route 11 Northbound and Southbound City Stops						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Redwood Park & Ride	Yes	Yes	Yes	No	No	Yes
Trancas Street & California Blvd	Yes	No	Yes	No	No	No
Trancas Street & Jefferson Street	No	Yes	Yes	No	No	Yes
Trancas Street & Jefferson Street (SE)	Yes	Yes	Yes	No	No	No
Trancas Street & Beard Road (SE)	Yes	Yes	No	No	No	No
Trancas Street & Villa Lane (SW)	Yes	Yes	Yes	No	No	No
Soscol Avenue & Pear Tree Lane (NW)	No	Yes	No	No	No	No
Soscol Avenue & La Homa Drive	No	No	No	No	No	No
Soscol Avenue & Pueblo Avenue (SE)	No	No	No	No	No	No
Soscol Avenue & Central Avenue	No	No	No	Yes	No	No
Soscol Avenue & Lincoln Avenue (SW)	No	No	Yes	No	No	Yes
Soscol Avenue & Tanen Street	No	No	No	No	No	No
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
Soscol Avenue & Oil Company Road	No	No	No	No	No	No
Soscol Avenue & Silverado Trail (NW)	No	No	No	No	No	No
Soscol Avenue & Kansas Avenue (SW)	Yes	Yes	Yes	No	No	Yes
Soscol Avenue & College Way	No	Yes	Yes	No	No	Yes
Napa Valley College	No	Yes	Yes	No	No	Yes
Kaiser Road & Corporate Way (SB)	No	No	Yes	No	No	No
Napa Valley Corporate Drive At LaTour	No	No	Yes	No	No	No
Health and Human Services	No	No	No	No	No	No
Devlin Road (SB)	No	No	No	No	No	No
Devlin/Airport Road	No	No	No	No	No	No
Hwy 12 and Hwy 29	No	No	No	No	No	No
Rio del Mar at Hwy 29	No	No	No	No	No	No
Rio del Mar & Carolyn Drive (SW)	No	No	No	No	No	No
Donaldson / Benton Way	No	Yes	Yes	No	No	Yes
Elliott Drive & American Canyon Road (NW)	No	No	No	Yes	No	No
American Canyon Senior Center	No	Yes	Yes	No	No	Yes
Elliott Drive & Maria Drive	No	No	No	No	No	No
Mini Drive & Elliott Drive	No	No	No	No	No	No
Soscol Avenue & Kansas Avenue (SE)	No	No	Yes	No	No	No
Soscol Avenue & Kansas Avenue	No	No	Yes	No	No	No
Soscol Avenue & Sousa Lane	Yes	Yes	Yes	No	No	Yes
Mini Drive & Elliott Drive	No	No	No	No	No	No
Broadway Street & Mini Drive	No	Yes	Yes	No	No	No
Tuolumne Street & Hospital Drive (NW)	No	No	No	No	No	No
Kaiser Hospital (SW)	No	No	No	No	No	No
Vallejo Transit Center	No	No	No	No	No	No
Vallejo Ferry Terminal	No	No	No	No	No	No
Vallejo Ferry Terminal	No	No	No	No	No	No
Sereno Transfer Center	No	No	No	No	No	No
Kaiser Hospital	No	No	No	No	No	No
Tuolumne Street & Hospital Drive (SE)	No	No	No	No	No	No
Mini Drive & Elliott Drive	No	No	No	No	No	No
Elliott Drive & Severus Drive	No	No	No	No	No	No
Elliott Drive & Kimberly Drive (SE)	No	No	No	No	No	No
American Canyon Senior Center	No	Yes	Yes	No	No	Yes
Elliott Drive & American Canyon Road (SE)	No	No	No	No	No	No
Donaldson Way & Benton Way (SE)	No	No	No	No	No	No
Rio del Mar & Carolyn Drive (SE)	No	Yes	Yes	No	No	No
Rio Del Mar / 7- Eleven	No	No	No	No	No	No
Napa Junction & Walmart	No	No	No	No	No	No
Devlin Road & Airport Blvd (NB)	No	No	No	No	No	No
Devlin Road (NB)	No	No	No	No	No	No
Health and Human Services	No	No	No	No	No	No
Napa Valley Corporate Drive At LaTour	No	No	Yes	No	No	No
Kaiser Road & Corporate Way (NB)	No	No	Yes	No	No	No
Napa Valley College	No	Yes	Yes	No	No	Yes
Soscol Avenue & Magnolia Drive	No	Yes	Yes	No	No	Yes
Soscol Avenue & Kansas Avenue (SE)	No	No	Yes	No	No	No
Soscol Avenue & Silverado Trail (SE)	No	No	No	No	No	No
Sosal Ave At Sousa Ln	No	No	No	No	No	No
Soscol At Eighth Ave	No	No	No	No	No	No
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
Soscol at Third Ave	No	No	No	No	No	No
Soscol Avenue & Imperial Way	No	No	Yes	No	No	Yes
Soscol Avenue & Lincoln Avenue (SE)	No	Yes	Yes	No	No	Yes
Soscol Avenue & Stonehouse Drive	No	Yes	No	No	No	No
Soscol Avenue & Costa Drive	No	No	No	No	No	No
Soscol Avenue & Pueblo Avenue (SE)	Yes	Yes	No	No	No	No
Soscol Ave At La Homa Dr	No	No	No	No	No	No
Soscol Avenue & Pear Tree Lane (NE)	No	Yes	Yes	No	No	Yes
Trancas Street & Valle Verde Drive	No	No	No	Yes	No	Yes
Trancas Street & Beard Road (SE)	Yes	Yes	No	No	No	No
Trancas Street & Jefferson Street	No	No	Yes	No	No	No
Trancas Street & Baxter Avenue	No	No	Yes	No	No	Yes
Redwood Park & Ride	Yes	Yes	Yes	No	No	Yes

Route 21 Eastbound and Westbound Stops						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
Napa Valley College	No	Yes	Yes	No	No	Yes
Corporate Drive & Corporate Way (SB)	No	No	No	No	No	No
Devlin Road & Airport Blvd (NB)	No	No	No	No	No	No
Devlin/Airport Road	No	No	No	No	No	No
Corporate Drive & Corporate Way (NB)	No	No	No	No	No	No
Suisun City Train Depot	No	No	No	No	No	No
Fairfield Transportation Center	No	Yes	Yes	No	No	Yes
Highway 12 & Highway 29 Gateway Junction (SB)	No	No	No	No	No	No
Highway 12 & Highway 29	No	No	No	No	No	No

Route 29 Northbound and Southbound Stops						
Location	Ad Box	Shelter	Bench	Simme	I-Stop	Trash Cans
Soscol Gateway Transit Center	No	Yes	Yes	No	Yes	Yes
Napa Valley College	No	Yes	Yes	No	No	Yes
Redwood Park & Ride	Yes	Yes	No	No	No	No
Vallejo Ferry Terminal	No	No	No	No	No	No
St. Helena City Hall (NB)	No	No	No	No	No	No
Highway 29 & Main Street & Mitchell Drive	No	No	No	No	No	No
St. Helena City Hall (SB)	No	No	No	No	No	No
Lincoln Avenue & Cedar Street	No	Yes	Yes	No	No	No
Calistoga Lincoln Bridge	No	Yes	Yes	No	No	No
Yountville California Dr. & Solano Ave	No	Yes	Yes	No	No	Yes
American Canyon Post Office	No	No	No	No	No	No
American Canyon Post Office (NW)	No	No	No	No	No	No
El Cerrito BART Station	No	No	No	No	No	No