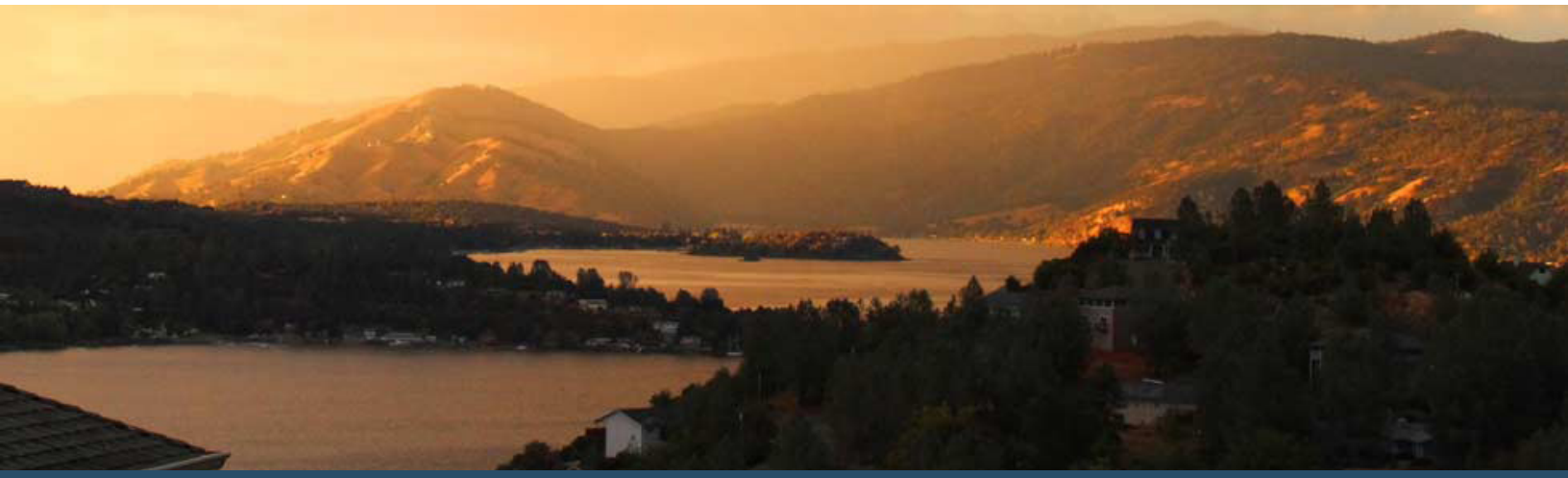
Lake Transit Authority
Bus Passenger Facility Plan

Draft
November 2019



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Chapter 1 | Introduction

1.1 Plan Overview

The Lake Area Planning Council (LAPC) has been awarded a California Department of Transportation (Caltrans) Sustainable Transportation Planning Grant to develop a Bus Passenger Facility Plan (Plan) to identify a strategy and priorities for improvements to bus passenger facilities in Lake County. This Plan provides an overview of existing conditions, analysis of design standards to be adhered to for bus stop improvements, and an analysis and conceptual site designs for three priority sites as well as estimated capital and operations costs.

1.2 Plan Organization

The Plan is comprised of the following four chapters:

- Chapter 1 – Introduction
  - Provides an overview of the Plan and community outreach activities performed.
- Chapter 2 – Existing Conditions
  - Presents a literature review of recent plans and policy documents that impact transit facilities in Lake County, and an inventory of existing Lake County bus stops which includes surrounding roadway conditions and safety features.
- Chapter 3 – Design Standards
  - Presents the design parameters to be applied to this study, including sidewalk and bicycle facilities, bus pullout design, and passenger amenity design.
- Chapter 4 – Capital Improvement Plan
  - Details the capital and maintenance needs of bus stops in the Lake County project area, the conceptual bus stop designs for key stop locations, and identifies available potential funding sources to implement the proposed improvements.

1.3 Community Outreach

1.3.1 Public Survey

LAPC invited riders, local jurisdictions, Caltrans, and other stakeholders to participate in the planning process. LAPC developed a Bus Passenger Facility Plan Public Survey, which was open from August 13, 2018 to September 28, 2018. The survey contained questions regarding riders' preferences and priorities related to on-time performance, number of bus stops, bus stop

amenities, bus stop locations, and bus stop safety improvements. The survey received 169 total responses, and a summary of responses are included in Appendix A.

1.3.2 Community Workshops

In addition, LAPC held two public workshops on September 18, 2019 in the City of Lakeport and September 27, 2019 in the City of Clearlake. The meetings provided an opportunity for interested stakeholders to learn more about the project, visit display stations, take the survey, and submit their comments and responses. Meeting materials from these workshops are included in Appendix B.

Chapter 2 | Existing Conditions

2.1 Introduction

The purpose of this chapter is to present background and existing conditions information regarding transit passenger facilities in Lake County, California, served by the Lake Transit Authority (LTA). This includes:

- A review of existing plans and documents regarding transit passenger facilities
- A detailed inventory of existing bus stop conditions
- A summary of available existing data regarding passenger activity by stop

2.2 Literature Review

This section presents a summary of recent plans and other policy documents that impact the provision of transit passenger facilities in Lake County. These documents include the pertinent transit plans, roadway plans, bicycle/pedestrian plans, general plans and community plans. Documents were particularly reviewed for any recommended changes to roadways or facilities impacting transit stops, as well as policies that address transit stops.

2.2.1 Lake Transit Hub Location Plan, 2017

The 2017 *Lake Transit Hub Location Plan* is a study geared towards locating a new and enhanced transit hub, replacing the existing transfer point at the former Ray's Food Place. It provides a summary of existing site conditions, an evaluation of potential project sites, and recommendations for a preferred site, alternative site and back-up site for a new transfer hub. The plan identifies a preferred site at the county-owned property along the west side of Dam Road Extension south of South Center Drive. Two potential site designs include a corner-option and a mid-block option.

There are two other sites that the document also identifies as having potential. The report prioritizes them as the "alternative" and "back-up" site:

- The Old Airport Site (Site #1) (alternative site)
- The lot adjacent to the Burns Valley Shopping center (Site # 5) (back-up site)

2.2.2 Lake County Transit Development Plan and Marketing Plan, 2015

The primary purpose of the *Transit Development Plan and Marketing Plan, 2015* (TDP) is to guide the development of Lake Transit services in order to provide improved mobility for Lake

County residents and visitors over a five year period. This document also includes a marketing plan. The document notes that the expanded Route 1/8 schedule with additional runs to North Shore and expanded evening service was implemented in January 2015. The TDP calls for provision of schedule information panels in FY 2015/16 at the following key passenger activity centers:

- Clearlake
  - Ray's
  - Lakeshore & Old Highway 53
  - Austin Park/City Hall
  - Burns Valley Mall
  - Yuba College
- Lakeport
  - 3rd & Main
  - Mendocino College
  - Kmart
- Sutter-Lakeside Hospital
- Middletown – Hwy 29 & Young Street
- Kit's Corner

In FY 2017/18, the plan calls for the elimination of Route 5 and termination of Nightrider service.

The discussion on stakeholder outreach noted that the bus stop improvement at St. Helena Hospital needs to be a partnership between St. Helena Hospital and Lake Transit. The document noted, "*there are expensive improvements required to both the bus stop itself as well as an ADA-compliant path from the bus stop to the entrance of the Hospital*."

Long-term improvements that include route expansions (and potentially require new bus stops) are:

- Extending Route 1 to Konocti Vista Casino, which would include the elimination of Route 8 (to be replaced with a local community service route) and extension of Route 1
- Possible expansion of Route 1 to Cache Creek Casino
- Consider connecting Lake Transit to Santa Rosa and Cloverdale

Improvements to bus stops was a major theme raised at the interviews and focus groups. Identified needs include:

- Many bus stops are not signed
- There is a need for posting of route destinations and departure times at bus stops
- High-volume stops need benches and shelters
- Bus stop spacing needs to be closer – for seniors or people with disabilities it is hard to get to the bus stop. Also, sidewalks are needed.

- The bus stop at Clearlake St. Helena Hospital is in need of upgrade. The bus stop is just a patch of dirt with no pad, bench, or shelter. There is just a broken sign. Hospital has a shelter they would provide for installation. Improvements to this stop need to be a collaboration between Lake Transit and St. Helena Hospital. In addition to access improvements, there is a need for improvements from the bus stop to the door of the hospital.
- Bus stop at St. Helena Clinic in Clearlake. A doctor has requested the bus enter the parking lot and come up to the door of the clinic.
- Job Zone bus stop has high usage and no amenities

In the financial plan, the complexities of addressing bus stop improvements was mentioned, noting that in many cases drainage and right-of-way issues need to be addressed to determine whether a bus stop can be upgraded to American with Disabilities Act (ADA) Paratransit standards. A map provided in this plan shows the relative usage of different bus stops.

2.2.3 Lake County 2014-15 Coordinated Public Transit – Human Services Transportation Plan

The *Coordinated Public Transit – Human Services Transportation Plan* (Coordinated Plan) focuses on serving transportation-disadvantaged populations and is linked to three grant programs: Job Access and Reverse Commute; the Enhanced Mobility of Older Adults and Individuals with Disabilities capital program; and the New Freedom grant program. A key theme identified by stakeholders is that bus stop signage, amenities, and path-of-access concerns limit riders' access to and knowledge of existing Lake Transit services. Detailed comments on this theme are summarized in the *Transit Development Plan and Marketing Plan, 2015.*

The Coordinated Plan includes the following projects:

1.1.3 Seek funding for and implement a bus stop improvement program of improved stop signage, bus stop amenities (including shelters and lighting) and paths of access that support the mobility needs of older adults, persons with disabilities and persons of low-income.

3.2.1 Identify special needs stop improvement projects within Lake County, such as at Clearlake St. Helena Hospital, which will help Coordinated Plan target groups to better and more safely use Lake Transit for medical trip purposes.

This plan identifies the need to improve the signage and information provided at Lake Transit bus stops. At minimum, each stop should have a clear sign identifying that it is indeed a bus stop. Furthermore, Lake Transit should aim to provide information regarding which buses service each stop and scheduling information at most if not all bus stops.

2.2.4 Lake County Transit Energy Use Reduction Plan, 2015

The Plan identifies the following recommendations to reduce Lake Transit's energy use:

- Implement indoor and outdoor light replacements and UV film installation[1]
- Investigate feasibility of solar installation (in form of bus canopy at current facilities)
- Acquire four electric buses (and associated charging station)
- Investigate feasibility of full or partial conversions to propane and/or natural gas

2.2.5 Lake County Transit Development Plan Study, 2008

The 2008 *Lake County Transit Development Plan* identifies issues in the community regarding transit, determines the public's need for service, considers the strengths and weaknesses of the current transit service, and defines solutions to improve transit in Lake County. The plan recommends financially constrained and financially unconstrained alternatives:

Financially Constrained

- Implement a three-route Clearlake Service to improve service quality
- Expand Route 3 by adding two more runs daily to serve commuters and improve connections to intercity services

Financially Unconstrained

- Implement a local fixed-route in Lakeport
- Expand Route 1 during commute hours
- Support Senior Transportation Programs in coordination with the Social Services Transportation Advisory Committee

2.2.6 Transit Passengers Facilities Development Plan for Lake County, 2006

The *Transit Passengers Facilities Development Plan* provides transit improvement standards appropriate to the specific conditions of the LTA service area. The standards are intended to guide government agencies, commercial and residential developers, employers, and others in their efforts to provide attractive and safe transit facilities for the County's transit patrons. The plan also presents a recommended program of transit passenger facilities improvements. This program was based upon an extensive inventory of existing stops throughout Lake County, a review of existing traffic conditions, the pertinent elements of the ADA, and findings regarding the most effective overall strategy for improving the quality of service provided to LTA's passengers.

The plan identifies design guidelines for the following categories:

- Bus stop area, bus landing pads, and accessible paths
- Bus stop spacing
- Bus stop placement

[1] The project has since been completed.

- Bus pullouts
- Signs
- Passenger amenities (shelters, benches, trash receptacles, lighting, bicycle parking)
- Park-and-ride/multimodal facilities
- Turning radii

The plan also identified a priority implementation list for each community area based on various factors, including the presence and condition of a bus stop sign, safety, traffic volumes on the adjacent roadway, and boarding and alighting counts at each stop. These factors were used to prioritize bus stop facility improvements. A detailed list of priority bus stops and recommended improvements is included in the plan. In addition, for each community there is a list and/or map showing which bus stops require signage, improved accessibility, pullouts, street furniture, and bus landing pads.

2.2.7 SR 53 Corridor Studies (TJKM-2011 and Caltrans-2014)

The study, completed in 2011 by TJKM, notes that a 4-lane freeway/expressway along State Route (SR) 53 will be necessary to accommodate the increased traffic volumes by approximately 2028. A *Caltrans Transportation Concept Report* (TCR) was completed in March 2014 to further define this project. Recommendations identified in the TJKM study that could impact transit stops include:

Year 2020 - Minor Improvements:

- SR 53/Olympic Drive: signalize intersection and add eastbound right-turn lane
- SR 53/40th Avenue: add northbound left-turn lane
- SR 53/Dam Road/Old Highway 53: add northbound right-turn lane
- Dam Road Walmart Driveway: add roundabout control and a northbound left-turn lane

Year 2020 - Major Improvements:

- SR 20/SR 53 Roundabout: improve intersection with roundabout

Year 2030 - Minor Improvements:

- SR 53/40th Avenue: add eastbound and westbound left-turn lanes and a northbound left-turn lane
- SR 53/18th Avenue: add east and westbound left-turn lanes and a northbound right-turn lane
- SR 53/Dam Road/Old Highway 53: add northbound left-turn lane and westbound right-turn lane
- Dam Road/Walmart Driveway: add eastbound left-turn lane
- SR 53/SR 29/Main Street: add southbound right-turn lane

Year 2030 - Major Improvements:

- Yuba College Access Road Tight Diamond Alternative (preferred alternative), or
- 18th Avenue/SR 53 Tight Diamond Interchange (acceptable but not preferred)

The Caltrans *Transportation Concept Report* also identified a "Tight Diamond Interchange" at Route 53 and Center Drive as a promising alternative location for an interchange.

2.2.8 Transportation Concept Report (TCR) Route 20 East

The TCR for Route 20 East identifies a facility concept for the four different segments of the roadway, defined as:

- Segment 1 - Junction US 101 to the Mendocino/Lake County line
- Segment 2 – Mendocino/Lake County line to Junction SR 29
- Segment 3 - Junction SR 29 to Junction SR 53
- Segment 4 - Junction Route 53 to Lake/Colusa County line

The facility concept for Segments 1 and 2 is a 4-lane freeway or expressway. The facility concept for Segment 3 is a 2-lane conventional highway. Additional Complete Streets treatments may be necessary in communities along Route 20 East. The facility concept for Segment 4 is a 2-lane conventional highway with passing lanes.

2.2.9 Transportation Concept Report Route 29

The Caltrans TCR for Route 29 noted that in 2013 a project to widen an eight mile stretch of Route 29 (LAK-29-23.80/31.60) between Lower Lake and Kelseyville was programmed. An EIR has subsequently been prepared, and funding for the initial phase of construction is included in Caltrans' *Draft 2018 Interregional Transportation Improvement Program*.

2.2.10 Lake County General Plan, 2008

The *Lake County General Plan* includes a Transportation and Circulation section establishing the goals, policies, and implementation programs covering Roads and Highways, Public Transportation, Aviation, Bicycle and Trails, Transmission Lines and Pipelines, Boating and Implementation Measures. The policies under the goals for each section are general policies that support the safe and efficient use of the different transportation facilities. There are also a set of implementation measures related to coordination among agencies, maximizing funds and developing public outreach processes. There are no roadway or transit projects specified. One policy related directly to the provision of transit:

- *Policy T-2.3 Support Transit within the Regional Transportation Plan - The County should support the list of priorities for development of transit services outlined in the Regional Transportation Plan and Transit Development Plan. Efforts should be directed first towards: encouraging new and improving existing transportation services for the elderly and disabled; serving the high density areas of Lakeport and Clearlake; providing intercommunity services around Clear Lake; and supporting efforts to expand intercity transit carriers, particularly to Ukiah and the Central Valley.*

2.2.11 Lake County Regional Transportation Plan, 2017

The *Lake County Regional Transportation Plan* covers a 20-year horizon with an overall goal of promoting the safe and efficient management, operation and development of a multi-modal transportation system that, when linked with appropriate land use planning, will serve the mobility needs of people and goods movement throughout the region. The plan identifies roadway, transit, bicycle and pedestrian, and other transportation projects. There are several policies related to transit or transit stops:

- 2.1 - Coordinate with local agencies and organizations (including the Social Services Transportation Advisory Council (SSTAC) and Lakeport's Disability Advisory Committee) to identify needs and opportunities to improve services and facilities
- 3.1 - Support implementation of the Transit Passenger Facilities Development Plan
- 3.2 - Coordinate with local agencies, organizations and businesses to improve and install transit passenger facilities, including bus stop, turnouts, benches and shelters along existing and new routes
- 3.7 - Improve streets and road conditions, including drainage, along transit routes

2.2.12 Lake County Active Transportation Plan, 2016

The Lake Area Planning Council developed the *Active Transportation Plan* in coordination with the County of Lake, the City of Lakeport, the City of Clearlake and the Lake Transit Authority. The plan provides a regional vision for improving and integrating the bicycle and pedestrian network, including a list of planned projects, and a description of how bicycling and walking and transit support each other.

2.2.13 Middletown Community Action Plan, 2014

The following is a list of future improvements on SR 29 through the downtown area of Middletown identified in the *Community Action Plan* that could impact transit stop planning or improvements, as contained within the SR 29 South Corridor Engineered Feasibility Study. Lake Transit's Route 3 traverses Highway 29 in Middletown.

Future Improvements

- Shoulder Widening and Center Left-Turn Lane from Wardlaw Street to Butts Canyon Road
- Bike Lanes, On-Street Parking and Sidewalks from Douglas Street to Lake Street
- Sidewalk Bulbouts and Decorative Crosswalks at Callayomi Street, Douglas Street, Armstrong Street, Main Street (SR 175), Young Street, and Wardlaw Street
- Sidewalk from Wardlaw Street to Bible Church Driveway (west side)
- Eastbound and Westbound Left-Turn Lanes at Main Street (SR 175)
- Roundabout at Wardlaw Street
- Roundabout or Traffic Signal at Butts Canyon Road

There are also improvements to improve school safety and traffic:

- Southbound right-turn lane at the Wardlaw Street/SR 29 intersection
- Closure of driveway on Wardlaw Street just west of SR 29
- Revisions to on-campus student drop-off areas
- Revisions to driveway access directions (i.e. inbound and outbound)

Sidewalk bulbouts and decorative crosswalks are included at the following locations on SR 29 within the downtown plan:

- Callayomi Street
- Douglas Street
- Armstrong Street
- Main Street (SR 175)
- Young Street
- Wardlaw Street

Sidewalks are proposed on the following streets where there may be bus stops:

- SR 29 - Wardlaw Street to Bible School Driveway (west side)
- SR 29 - Young Street to Callayomi Street (various locations west and east sides)
- Wardlaw Street - SR 29 to Washington Street (south side)

New paved on-street parking is planned for:

- SR 29 - Douglas Street to Lake Street (west and east sides of highway)

The downtown plan includes the following bike facility improvements that coincide with the bus routes:

- Calistoga Street (SR 29) - Wardlaw Street to Hill Street (Class II bike lanes)[2]
- Main Street (SR 175) - Santa Rosa Road to Washington Street (Class III bike route)

Streetscape improvements have been identified to create a sense of place within the downtown area.

These streetscape improvement areas include improvements to both existing sidewalk corridors and new streetscape zones. These high priority projects are as follows:

<u>Existing Sidewalk Corridors</u>

- Calistoga Street (SR 29) - Wardlaw Street to Armstrong Street

[2] For downtown concept plan Option A only.

New Streetscape Zones

- Calistoga Street (SR 29) - Armstrong Street to Lake Street
- Main Street (SR 175) - Washington Street to Barnes Street

Streetscape improvements within these areas would consist of the following:

- Wide Sidewalks Zones
- Decorative Street Lighting
- Street Trees
- Benches
- Banners on Street Lights
- Commemorative Street Tree Covers

Transit Improvements

New sidewalks along the south side of Douglas Street are also included in the plan to connect the new transit stop to the Senior Center. The fixed route bus routes that would service this location include buses from Hidden Valley, Cobb Mountain, and housing areas along SR 29 south of Middletown. Parking on SR 29 adjacent to the existing northbound transit stop at the Hardester's Market should be removed to allow buses to stop adjacent to the curb. Additional new northbound and southbound transit stops are recommended at or near the following locations:

- SR 29 at Wardlaw Street (south side)
- Bush Street and Hill Street (across from park and ride)
- Central Park Road (adjacent to Calpine Center)

There are also improvements planned south of downtown, including shoulder widening on SR 29 from Dry Creek Cut-Off to Lake Street to accommodate bicycles.

2.2.14 Highway 20 Traffic Calming and Beautification Plan, 2005

The purpose of the *Highway 20 Traffic Calming and Beautification Plan* as it passes along the northern shore of Clear Lake is to facilitate and encourage improvements that help realize the community's vision for the Highway 20 Corridor. The study is conceptual in nature, and focuses on improving the overall appearance as well as establishing a strong mix of traffic calming measures to create a more pedestrian friendly "main street" feeling than a thoroughfare. The plan outlines beautification elements for various segments of road through each community along Highway 20, identifying elements like striped crosswalks, in-pavement crosswalk light installation, bulbouts, pedestrian islands, shorter median segments, streetlights in the commercial core, and bus stop improvements at the busiest transit stops.

The *Highway 20 Northshore Traffic Calming Plan and Engineered Feasibility Study* project will evaluate the needs, priorities and feasibility of traffic calming measures through four lake front communities along Clear Lake's north shore: Nice, Lucerne, Glenhaven and Clearlake Oaks. It is intended in part as an update to the 2005 *Highway 20 Traffic Calming and Beautification Plan*,

although its primary purpose is to analyze current conditions and formulate traffic calming projects including bicycle, pedestrian and transit friendly options to improve the attractiveness and overall livability of the area.

2.2.15 Lake County Area Plans

Lake County has developed a series of eight area plans which complement the General Plan. Each Area Plan allows for refined planning decisions based on community values and priorities of the residents of that planning area. The Area Plans address natural resources, public safety and community development. Most of the Area Plans make little mention of transit, or cite documents already summarized here. Specific mentions of transit and bus stops include:

Lakeport Area Plan

- *Policy 5.3.1.b: Encourage bus stops along arterials and Rural Minor Collectors in the planning area to facilitate public transit use*
    - *Implementation Program: Encourage Lake Transit Authority to build bus stops/shelters and place signs*

Middletown Area Plan

- *Policy 5.3.3b: Encourage bus stops near population centers in the Planning Area to facilitate public transit use*

Rivieras Area Plan

- *Policy 5.3.2b: Encourage bus stops near population centers in the planning area to facilitate public transit use*
    - *Implementation Program: Encourage Lake Transit Authority to build bus stops/shelters and place signs*

2.2.16 City of Clear Lake General Plan, 2017

The *City of Clear Lake General Plan* has a goal to have a high-quality transit system that serves the needs of all residents. Related policies and objectives include:

- *Objective CI 3.1*
    - *Develop and maintain adequate transit facilities throughout the City*

- *Policy CI 3.1.1*
    - *The City should encourage Lake Transit Authority to maintain safe and widely accessible transit facilities*

- *Program CI 3.1.1.1*
    - *The City should encourage Lake Transit Authority to extend the hours of service and improve service frequency for the transit system*

2.2.17 City of Lakeport General Plan, 2009

The plan has the following relevant policies related to transit:

- *Policy T 34.1: Design Guidelines for Public Transit. The City will coordinate with Lake Transit Authority and establish design guidelines for residential and commercial development to facilitate future public transit service.*
    - *Program T 34.1-a: The City will coordinate with Lake Transit Authority and establish design guidelines in the Zoning Ordinance to facilitate the future public transit service. Consider identifying areas for the location of future bus stops, right-of-ways for bus turnouts, and facilities in high density residential developments to facilitate future use of public transit.*
        - *Responsibility: Community Development and Public Works Departments*

2.2.18 Lakeshore Drive Downtown Corridor Plan, 2014

The *Lakeshore Drive Downtown Corridor Plan (Corridor Plan)* provides a set of specific design recommendations and potential projects for Lakeshore Drive that may be implemented through future planning efforts. The *Corridor Plan* notes that Lakeshore Drive is served by three transit routes with high ridership. Currently, bus stop amenities, such as benches, shelters, landing pads and signage are limited. Buses often must block the shoulder used by pedestrians and bicyclists in order to drop off and pick up riders.

This plan focuses on how to provide bike lanes, sidewalks, and on-street parking with a variety of patterns such as back-in versus head-in versus parallel parking. Specific to transit, the plan identifies the following needs:

- *Stop Spacing -- Most of the stops are roughly ¼-mile apart, which is the recommended distance that best balances pedestrian access against transit efficiency and tends to minimize travel times for the greatest number of users. The exception is the spacing between the stops at Howard and Golf. Eastbound there is only one stop at Java Express, which is too close to Golf and too far from Howard. Westbound there are two stops, one at Java Express and one at Burger Time. Here the spacing is slightly too dense for optimal transit efficiency. Lake Transit might consider relocating the eastbound stop to Williams Jewelry on the south side of Lakeshore Drive, as this would put the stop roughly equidistant from the stops on either side. Lake Transit might also consider consolidating the two westbound stops into a single stop outside One Stop Automotive.*
- *Stop Amenities -- Lake Transit has identified several places to make access improvements for passengers. Their focus on providing concrete landing pads to accommodate wheelchair loading/unloading is particularly welcome. These landing pads should ideally be connected by a sidewalk to the nearest crosswalk – for example the eastbound stop at Nott's Liquor has neither a sidewalk nor a landing pad.*

Under "Policies and Programs," the *Corridor Plan* calls for updating the transit ridership survey to prioritize bus stop improvements.

2.3 Lake Transit Lake County Bus Stop Facility Inventory

Lake Transit Authority operates ten transit routes (1, 2, 3, 4, 4a, 7, 8, 10, 11, and 12) within Lake County, and connecting routes to Ukiah in Mendocino County (Route 7) and Calistoga in Napa County (Route 3). Bus stop amenities have a large degree of variation between stop locations. While some stops have bus shelters, large bus bays, and wheelchair loading pads, others are not even identified with a sign. The project team conducted an inventory of bus stop facilities within Lake County with the assistance of Lake Transit staff between May 26th and May 28th, 2018. Stops along all ten routes were surveyed. The stops outside Lake County are included in the inventory for informational purposes but are not included in the summary, as they are not the responsibility of local Lake County jurisdictions. Flex stops, which are only serviced when called or specially requested were also not included in this study.

Lake Transit staff drove a surveyor to each bus stop. This was done to ensure that the location of each bus stop was accurate. At each bus location several pictures were taken and the stop evaluated for the following amenities and conditions:

- **Amenities-**Presence and condition of:
  - Sign
  - Pole
  - Bench
  - Shelter
  - Shade
- **Setting/Roadway Condition:**
  - Presence of bus bay and pavement
  - Presence of raised curb and ramps
  - Presence of sidewalk
  - Presence of wheelchair pad
  - Number of travel lanes
  - Speed limit of roadway
- **Safety:**
  - Presence of cross walk
  - Presence of a trip generator across the street that would generate pedestrian crossing activity
  - Presence of lighting at bus stop
  - Driver sight distance
  - Overall identification of safety issues

2.3.1 List of Bus Stops

The tables included in Appendix F provide a comprehensive database of all bus stops that were evaluated. These include not only the major time point locations listed is the published schedule, but also the lesser stops along each route. The bus stops organized by route can be found in Table Set 1. Each stop was given a stop identification number (ID). The stop ID numbers are based on route number and direction of travel. The first two digit number represents the route and direction of travel. The second two digit number (represented by the

"xx" below), is the individual stop number, in the order which they appear. The stop ID numbers are correlated to the routes as follows:

Route	ID		Route	ID
1 WB	10.xx		7 WB	70.xx
1 EB	11.xx		7 EB	71.xx
2 SB	20.xx		8 NB	80.xx
2 NB	21.xx		8 SB	81.xx
3 SB	30.xx		10	100.xx
3 NB	31.xx		11	110.xx
4 WB	40.xx		12	120.xx
4 EB	41.xx			
4A WB	50.xx			
4A EB	51.xx			

As the routes share many of the same stop locations, many bus stops on the lists by individual routes are duplicated. These duplicated or shared stops were then combined. However, it should be noted that if a stop location provides service on both sides of the roadway (in both directions), it is considered two individual stops. A master list of bus stops was created which takes into account shared stops as well as stops on opposite sides of the road. This list can be found in Table Set 2. The original or historical name of each stop, which typically describes the landmark or business the stop is in front of, is retained. Once the shared stops were eliminated, a total of 311 unique bus stops were tallied, of which 304 are located in Lake County, 4 in Mendocino County and 3 in Napa County.

Existing passenger boarding counts were obtained from LTA. Boarding and alighting values were collected for Routes 1, 2, 3, 4, and 7 for three months (July 2016, October 2016, and March 2017). Data for Routes 8, 10, 11 and 12 were drawn from the three months of May through July, 2015. The proportion of total ridership at each stop within each route was then identified, and factored by the total average daily ridership by route for Fiscal Year 2017-2018, to provide the best available estimate of boardings by stop for the most recent fiscal year. Note that these estimates reflect stops within Lake County only.

These counts were conducted for route segments that contained generally 2 to 13 stops per segment. It is therefore not possible to specify passenger boarding figures for each stop, except for a very few key stops. The project team used the available data to categorize passenger activity based on this data, and considered the transit trip generators served by each stop and evidence of use at specific stops. An estimation of low, medium or high ridership was then assigned to each bus stop. In general, the low category corresponds to 7 or fewer passenger boardings per day, the medium category corresponds to 8 to 15 boardings per day, and the high category to more than 15 daily boardings. Table 2 presents the overall relative passenger activity over all routes serving each stop, while Table 5 (discussed below) provides the relative ridership by individual route. Overall, 4 stops are considered to generate relatively high ridership, 33 a medium level of ridership and 267 a low level of ridership.

2.3.2 Data Organization

Each bus stop was evaluated on site for the amenities and conditions. While some of the data can be provided as a simple yes or no, the passenger amenity condition data fields are provided by an A through F rating system (Table Set 5). As with the typical A-F rating conventions, A and B's are good, whereas D and F's are poor. C is acceptable, and in fields where condition of amenities is evaluated, C ratings were applied to note elements with noticeable wear, graffiti, or slight damage, but that are still functional.

Field notes were then organized and compiled electronically into a spreadsheet. In some cases the A-F field rating were then evaluated and simplified into a "yes or no" or "good, acceptable, or poor" result, as discussed below.

The results were then organized and presented by route in three categories:

- Location Information, as shown in Table Set 3
- Roadway Conditions, as shown in Table Set 4
- Passenger Amenities, as shown in Table Set 5

Locations

The location tables (Table Set 3) document the physical location of each stop and include the following fields: area, street, cross street, and the Global Positioning System (GPS) coordinates.

Roadway Conditions

The roadway conditions table (Table Set 4) includes fields related to the orientation of the bus stops relative to the roadway. A discussion of each of the surveyed fields follows:

- **Lanes -** Total number of lanes on the road which the bus stop is located. An odd number of lanes typically includes a center turn lane or a two way left turn lane. In a few instances only one lane is recorded. This occurs on small rural narrow roads where no center striping is marked.
- **Speed Limit -** The speed limit is typically recorded based on observed posted speed limit. Often posted speed limit is not available and an estimate of typical vehicle speeds is recorded.
- **Can Bus Pull Out of Travel Lane -** The results of this field have been simplified to a Yes or a No answer. In the event that the bus can partially pull out of the travel lane the surveyor determined if the bus can pull far enough out of the travel lane to not interfere with or block traffic. Overall, 69 percent of stops allow the stopped bus to not block a travel lane. Note that it is typically considered to be acceptable for buses to block travel lanes if (1) the traffic levels on the street are relatively low, (2) there is no driver sight distance problem and (3) the passenger activity is relatively low.
- **Trip Generator Across the Street/Crosswalk** - Pedestrian safety at bus stop locations is a major concern, particularly when the transit trip generator requires the passenger to cross a major street. This field records if there is a trip generator or clear reason why a pedestrian would want to cross the street. The presence of a crosswalk at or near the bus

stop is recorded. It is up to the surveyor's discretion as to record a yes or a no in this field based on the distance from the crosswalk and the various nearby land uses. Overall, 39 percent of stops were found to have a transit trip generator on the opposite side of the street and, of these, 65 percent did not have a designated crosswalk.

- **Driver Sight Distance** - The sight distance ratings of good, acceptable, and poor reflect several forms of sight distance evaluations. The two primary concerns are: 1) if the bus driver has adequate sight distance, as they pull back onto the travel lane, to see on coming vehicles with enough time to avoid a crash, and 2) if oncoming drivers have adequate sight distance to avoid a collision with a bus as it pulls back onto the roadway. Windshield surveys were performed to evaluate sight distance evaluations and were not performed according to the California Department of Transportation (Caltrans) standards. Additional considerations were made for vehicles turning out from side streets, driveways and parking lot aisles. In total, 72 percent of stops were found to have good sight distance in all directions, 18 percent were found to have acceptable sight distance, and 10 percent were found to have poor sight distance in one or more directions.

Passenger Amenities

The passenger amenities inventory can be found in Table Set 5. A discussion of each of the surveyed fields follows, and is summarized in Table 6:

- **Signs -** The identification of bus stop locations with a Lake Transit sign is the most basic amenity provided to transit users. A sign allows new users to the transit system to locate bus stops which are not time point locations listed on the schedule. It also helps passengers to know where to wait, bus drivers to know where to stop, and provides a marketing function by providing a "presence" on the street. The A-F rating for signs were determined as follows: A and B's are good, C is acceptable (i.e. sign is heavy faded), D reflects damage or vandalized with graffiti and should be able to be repaired or cleaned, and an F rating indicates that the sign needs to be replaced. Exactly half of the individual stops were found to be signed. Of these, most (81 percent) were in relatively good (A or B) condition. A total of 9 percent of the signs were found to be substantially blocked from view by vegetation.
- **Sign Mounting Poles -** Transit stop signs were found mounted on individual poles, poles shared with other signs, and directly affixed to the side of buildings or fences. The A-F rating for poles were determined as follows: A-good condition, B-loose pole, C-Bent or slightly damaged, F-extremely bent or out of the ground and requiring replacement. Some poles/signs were suspected of being been cut and stolen. Poles were found a 48 percent of the stops. Of these, 94 percent were found to be in good (A or B) condition.
- **Benches -** Most benches were found within a shelter or provided as part of an adjacent business. Makeshift benches or seating provided by local residents who frequent the bus stops were not included in the evaluation. The A-F rating for benches were determined as follows: A and B's are good, whereas D and F's are poor. C is acceptable and this rating was assigned to note noticeable wear, vandalized with graffiti, or slight damage, but still functional. A total of 65 stops (21 percent) were found to have benches, with 87 percent in good (A or B) condition but 11 percent in poor (D) condition. Of the total number of benches, 44 are provided by Lake Transit (31 in shelters and 13 without a shelter).

- **Shelters -** Lake Transit provided shelters are prefabricated metal framed units with either Plexiglas or corrugated metal panels. Shelters located at business locations are often a covered walkway along the building. The A-F rating for shelters were determined as follows: A and B's are good, whereas D and F's are poor. C is acceptable and this rating was assigned to note noticeable wear, vandalized with graffiti, or slight damage, but still functional. Shelter is provided at a total of 58 locations, including 31 shelters provided by Lake Transit and 27 other locations where shelter is available. Many of the shelters (55 percent) are in very good (A) condition, but 6 are in poor (D) condition and one is in F condition.
- **Street Lighting** – Ambient street lighting is important for personal security reasons, given that Lake Transit hours of operation extend into the winter evenings. A total of only 21 percent of stops were considered to have a streetlight located close enough to provide the ability to discern the presence of other persons at a stop in the dark.
- **Wheelchair Accessibility –** Americans with Disabilities Act (ADA) guidelines state that a 5' (parallel with the bus) x 8' (perpendicular to the bus) hard surface pad is required for wheelchair loading. Wheelchair accessibility is recorded as a Yes or No to indicate whether a wheelchair or mobility scooter can load/unload at the bus stop location. Lake Transit staff noted that in some instances an ADA pad is not adequate to load a large mobility scooter due to space constraints involving maneuvering and ramp placement. In other instances, where a pad does not exist but the bus stop resides at a large level area of firm dirt with drainage, wheelchair accessibility is noted as being available. Just under half of all stops (47 percent) were found to have an adequate wheelchair loading area. Note that this assessment is based on a simple observation only, and did not include quantitative evaluation of design details such as slope. As such, it should not be considered a definitive evaluation of whether specific stops meet the full requirements of the ADA. In addition, many stops have a nearby opportunity to board a wheelchair not specifically at the stop (such as at a nearby driveway), which is not reflected in this inventory.
- **Shade -** Given the warm sunny climate of Lake County, the presence of shade at bus stop locations is important to passengers. Trees and buildings at some stop locations provide shade, while bus shelters provide shade at others. In some instances, a shelter was provided, but adequate shade was not guaranteed. Due to the angle of the sun and the relative small covering of a shelter, transit users could be exposed to direct sunlight while in a shelter. The availability of shade was rated with an A-F scale. The A-F rating for shade was determined as follows: A-Abundant natural shade; B-Partial shade or shelter; C-Some, but not ideal; D-Shade available nearby; F-no shade. A wide range of conditions were found at the various stops, with 23 percent of stops having no opportunity for shade and 48 percent with good (A or B) shade conditions.

Chapter 3 | Design Standards

3.1 Introduction

This chapter presents design parameters to be applied in the Bus Passenger Facility Plan regarding the design of bus stop improvements. Sidewalk and bicycle facilities are first discussed, followed by a discussion of bus pullout design and passenger amenity design. Finally, bus stop spacing and location factors are discussed.

3.2 Minimum Sidewalk and Bicycle Facility Parameters

3.2.1 Sidewalks

Americans with Disabilities Act Standards

All facilities must conform to the standards required by the Americans with Disabilities Act (ADA) as well as the associated *Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way* published by the United States Access Board.

ADA sidewalk widths require a minimum of 4 feet of width. Where sidewalks are less than 5 feet in width, a passing area at least 5' long and 5' wide is required at least every 200 feet. Any drop greater than one-half inch and any surface steeper than 1:20 (5 percent) requires a ramp.

Obstacles that protrude into the access path might restrict wheelchair movements. Obstacles that are higher than 27 inches or lower than 80 inches may cause problems for a person with a vision impairment, who may not be able to detect an obstacle with a cane.

Local Standards

The City of Clearlake standards call for a minimum sidewalk width of 4.5 feet adjacent to roadways, or 5 feet minimum if detached.

State Standards

The Caltrans Highway Design Manual (September 22, 2016 revision) indicates the following regarding sidewalk width (Section 105.2) "*The minimum width of a sidewalk should be 8 feet between a curb and a building when in urban and rural main street place types. For all other locations the minimum width of sidewalk should be 6 feet when contiguous to a curb or 5 feet when separated by a planting strip*."

Caltrans has also adopted standards to implement the ADA requirements, as documented in *Design Information Bulletin 82-05: Pedestrian Accessibility Guidelines for Highway Projects*. These parameters are consistent with those of the ADA.

3.2.2 Bicycle Facilities

Bicycle lane (Class II) width is governed by the California Highway Design Manual (December 15, 2016), for all public streets, which states (Section 301.3) that:

The minimum Class II bike lane width shall be 4 feet, except where:

- *Adjacent to on-street parking, the minimum bike lane should be 5 feet.*
- *Posted speeds are greater than 40 miles per hour, the minimum bike lane should be 6 feet, or*
- *On highways with concrete curb and gutter, a minimum width of 3 feet measured from the bike lane stripe to the joint between the shoulder pavement and the gutter shall be provided.*

3.3 Bus Pullout Design Parameters

Bus Pullout Design Specifications

The Caltrans *Highway Design Manual* defers to the American Association of State Highway and Transportation Officials (AASHTO) guidelines. These guidelines are presented in the *Guide for Geometric Design of Transit Facilities on Highways and Streets*, published in July 2014. They call for a minimum pullout width of 12 feet, with length dimensions as shown in Table 1.

TABLE 1: AASHTO Bus Bay Dimensions

	Lengths in Feet					
Thru Speed (MPH)	Entrance Taper	Decel. Lane	Stopping Area	Accel. Lane	Exit Taper	Total
30	5:1 Min	None	50	None	3:1 Max	130 Min
35	170	185	50	250	170	825
40	190	265	50	400	190	1095
45	210	360	50	700	210	1530

Source: *Guide for Geometric Design of Transit Facilities on Highways and Streets, AASHTO, July 2014*

The Caltrans *Highway Design Manual* (December 16, 2016 revision) Section 626.4 indicates that concrete bus pads shall be a minimum of 4 feet wider than the width of the bus, and a minimum of 20 feet longer than the length of the bus. If the bus pad extends into the travel way, it should extend to the full width of the travel lane. The Highway Design Manual also refers the

reader to the *Guide for Geometric Design of Transit Facilities on Highways and Streets* (American Association of State Highway and Transportation Officials, July 2014).

Other design specifications regarding the bus loading area are as follows:

- Curb heights should be no less than 4 inches and no more than 8 inches to minimize passenger falls when boarding or alighting from a bus.
- A minimum horizontal clearance of 2 feet should be provided between the curb and any obstruction (such as a bus stop sign).
- Trees should be trimmed at least 11.5 feet above the roadway pavement for the length of the bus stop.

3.4 Bus Stop Design Parameters

Minimum ADA Requirements for Bus Stops

Minimum ADA design implications for bus stop areas, bus landing pads, and accessible pedestrian access ways include the following[1]:

- The ADA and associated regulations require that wheelchair loading pads be a minimum of 5' (parallel to roadway) by 8' (perpendicular to roadway). The grade perpendicular to the roadway cannot be more than 2 percent, while the grade parallel to the roadway should match the roadway grade. The surface shall be "firm, stable and slip resistant".
- Bus shelters must provide a clear space within the shelter for wheelchair users, with minimum dimensions of 2.5 feet by 4.0 feet (separate from other passenger seating and circulation areas). The opening to a shelter must be a minimum of 3 feet in width, and the minimum vertical dimension within a bus shelter is 6 feet 8 inches. The wheelchair pad and shelter must be connected with an accessible path, with a minimum width of 4 feet.
- A minimum clear passage width of 48 inches is recommended by the Access Board's guidelines for the public right-of-way. This is especially important next to a curb drop-off.
- An accessible route from the public transportation stops to the route that is accessible for both people with disabilities as well as for the general public.
- The *running slope* of the accessible pathway shall not be steeper than 1:20 while the *cross slope* shall not be steeper than 1:48 (2 percent).
- Parallel to the roadway, the slope of boarding and alighting area shall be the same as the roadway (to the maximum extent practicable). The maximum slope perpendicular to the roadway shall not exceed 1:48 (2 percent).
- The bus landing pad, when installed alone on a shoulder in a rural area, must be elevated 6 inches above road grade for safety and accessibility purposes.
- Stable, firm, and slip-resistant ground and floor surfaces.
- Grating spaces, or drainage grates, which are necessary for water drainage, should be no greater than 9½ inches long in one direction. Spaces longer than this would impede the use of a wheelchair.

[1]ADA Accessibility Guidelines for Buildings and Facilities (ADAAG).

All paths from the bus stop to major destinations should be examined for obstacles that may interfere with access to or from the stop. Obstacles that protrude into the access path might restrict wheelchair movements. Obstacles that are higher than 27 inches may cause problems for a person with a vision impairment, who may not be able to detect an obstacle with a cane. Despite their training, it may be possible that a guide dog or other service animal may lead a person with vision impairment off of the path in order to get around the obstacle. Even though it may not be generally considered the responsibility of the transit agency to address accessibility problems along the entire access path, the agency staff should keep in mind that an obstacle may make a path inaccessible for potential patrons who have disabilities.

Local Standards

The City of Clearlake design standards are presented in the *Design and Construction Standards* (Revised June 2012) in Appendix C. In sum, these standards call for a concrete bus pad 10' in width by 50' in length with 60' of transition on either side of the bus stop location.

Lake County's adopted bus stop design standards are presented in Appendix D. They are consistent with the City of Clearlake's standard. In addition, Chapter 19, Article IV Section 19-34.1 of the County Code identifies specific bus stop locations in the unincorporated county, and indicates that "*The Road Commissioner is hereby authorized and directed to provide for the designation of said bus stops by painting the curbs or by clear markings or signs that areas are designated as bus stops as authorized herein*."

The City of Lakeport is currently developing a comprehensive set of design standards. In the interim, the City relies on the Caltrans *Standard Plans and Standard Specifications (May 2006)* in the design of most capital projects.

3.5 Lake Transit

Lake Transit does not currently have adopted design standards. The 2015 *Transit Development Plan and Marketing Plan For Lake County/City Area Planning Council* does not include specific standards or criteria for bus stops. However, it includes the results of a passenger survey, in which passengers gave the highest importance to "shelters at more bus stops", with 63 percent ranking this potential improvement as very important (5 out of a scale of 1 to 5). This was followed by 61 percent that ranked "Bus stop sign with information" as very important.

3.6 Recommended Lake Transit Design Parameters

Summarizing the discussion above, the following design parameters are recommended as standard for improvements to Lake Transit stops throughout Lake County. Note that all pertinent ADA and ADAAG requirements apply to all elements.

3.6.1 Bus Pullouts

Bus stops may be designed with a pullout, which is a specially constructed area off the normal roadway section provided for bus loading and unloading which allows the transit vehicle to board and alight passengers in an area outside the traveled way.

Pullouts are appropriate where traffic conditions prohibit conventional on-facility placement of bus stops. Pullouts are also recommended in locations where it is likely to be hazardous for a bus to stop in the travel lane and are provided primarily on high-volume and/or high-speed arterials. The decision to construct a bus turnout should include an evaluation of the impact on public transportation as well as private vehicle operations. Too many or poorly designed bus pullouts can actually impede the performance of the transit system (and other vehicles) as buses may have greater difficulty pulling out into traffic. As with most improvements, pullouts should be coordinated between transit staff and the local jurisdiction.

For stops located at low-speed, low-volume roadways without unusually high passenger activity, it is appropriate for transit buses to stop in the travel lane. This condition applies to many of the Lake Transit stops located off of the state highways or urban arterial roadways.

Based on design guidelines in various rural areas throughout the country, roadways adjacent to bus stops with a speed limit of 35 miles per hour (MPH) or higher and a peak-hour volume of 250 or higher in the lane of travel warrant a bus turnout[2]. Assuming a typical traffic pattern in which 10 percent of daily traffic occurs in the peak hour and daily volumes are balanced between the two directions, this corresponds to an average daily traffic volume of 5,000 for a two-lane roadway and 10,000 for a four-lane roadway.

Pullouts are also appropriate in the following circumstances:

- When the potential for conflicts between transit and passenger vehicles warrants separation of the two. For example, a bus stop located in a travel lane of a signalized intersection often requires a turnout to prevent the stopped bus from causing traffic to queue through the intersection.
- Under conditions with high or increasing bus or passenger volumes or on high speed roads.

Recommended bus pullout standards are as follows:

- 10’ minimum width (can include gutter pan)
- Minimum of 60’ of transition prior to bus stop
- 50’ bus stop
- Minimum of 60’ of transition beyond bus stop
- Red curb zone through all dimensions cited.
- 50’ to 100’ radius on curb horizontal curves, except the curb radius immediately in front of the bus stop should be 25’ to 50’
- Concrete pavement

[2]The Oregon Department of Transportation, *Design Guidelines for Public Transportation*, Chapter 12, 12-6.

3.6.2 Bus Loading Area

At a minimum, all new construction should include a concrete wheelchair pad 5' (parallel to curb) by 8' (perpendicular to curb) located to align with the lift/ramp location of all transit vehicles serving the stop. Slope parallel to the roadway shall match that of the roadway, while cross-slope shall not exceed a maximum of 2 percent.

3.6.3 Passenger Amenities

Passenger amenities are significant elements in attracting public transportation users. Shelters provide protection from the elements and benches add comfort; trash receptacles, lighting, bicycle parking facilities, and other amenities add convenience and safety. The recommended standards with respect to the need for furniture at a bus stop are as follows:

1. Less than 5 passengers boarding per day – No furniture recommended
2. Between 5 and 9 passenger boardings per day – Bench
3. 10 or more passenger boardings per day – Shelter with Bench

Note that these standards consider only boarding activity, as passengers alighting from a bus usually do not use the street furniture. Other considerations may include the potential of a bench or shelter to attract additional riders based on surrounding activities.

A minimum horizontal clearance of 2 feet should be provided between the curb (if provided) or edge of pavement (if curb not provided) and any obstruction (such as a bus stop sign). Trees should be trimmed at least 11.5 feet above the roadway pavement for the length of the bus stop.

3.6.4 Shelter

A bus shelter provides protection from the elements as well as seating. Typically, a shelter is constructed of clear side-panels for visibility and safety. Standardized shelters are available that accommodate various site demands and passenger volumes. Existing Lake Transit shelters are typically 9 feet by 5 feet. In a few locations, such as transfer points, larger shelters or multiple shelters may be warranted. A typical transit standard is to provide a minimum of 10 square feet per person waiting at the stop at peak times.

Minimum ADA design implications apply to the installation of new or replacement bus shelters and include the following:

- A minimum clear floor area of 30 inches by 48 inches, entirely within the perimeter of the shelter.
- Maintain shelter openings to be a minimum of 36 inches to allow a wheelchair to pass through.
- Bus stop shelters should be connected by an accessible route to the bus stop landing pad.
- Bus stop shelters should be connected by an accessible route to the bus stop landing pad
- Bus stop shelters should not be placed on the wheelchair landing pad.

- General ADA mobility clearance guidelines should be followed around the shelter and between the shelter and other street furniture.
- In addition to the number of boardings per day, other factors that Lake Transit may wish to consider when evaluating the installation of a shelter include:
    - Climate (wind, rain, heat, etc.), which may lead to recommendations regarding whether or not to have side panels or the need for air circulation, heating, or cooling systems.
    - Vandalism (broken or scribed glazings).
    - The number of transfers at a stop.
    - The availability of space to construct a shelter and waiting area.
    - The number of elderly individuals or people with disabilities in the area.
    - The proximity to major activity centers.
    - The frequency of service.
    - Adjacent land uses.

A shelter pad at least 16’ (parallel to the travel lane) by 6’ (perpendicular to the travel lane) should be provided. This pad is in addition to the wheelchair pad, and in addition to any required sidewalk. A minimum distance between the front edge of the bench and the edge of the curb or traveled way of 5’ should be provided, which can include any required sidewalk. An accessible path of travel (with a minimum width of 36 inches and adequate slope and surface) shall be provided connecting the wheelchair pad and shelter pad.

3.6.5 Bench

Current Lake Transit benches are either 6 feet or 8 feet in length. Minimum ADA design considerations apply to the installation of new or replacement benches and include the following:

- Clear floor or ground space for wheelchairs.
- 20 inches minimum to 24 inches maximum in “overall” depth for benches with backrests.
- Seat height: 17 inches minimum to 19 inches maximum above the floor or ground.
- Back support: Extends from a point 2 inches maximum above the seat to a point 18 inches minimum above the seat.
- Structure supporting vertical or horizontal forces of 250 pounds applied at any point on the seat, fastener, mounting device, or supporting structure.
- Exposed benches should be slip-resistant and designed to shed water.

A pad at least 8’ (parallel to the travel lane) by 3’ (perpendicular to the travel lane) should be provided. This pad is in addition to the wheelchair pad, and in addition to any required sidewalk. A minimum distance between the front edge of the bench and the edge of the curb or traveled way of 5’ should be provided, which can include any required sidewalk. An accessible path of travel (with a minimum width of 36 inches and adequate slope and surface) shall be provided connecting the wheelchair pad and bench pad.

3.6.6 Accessible Pad Location

A key design parameter for bus stops is to ensure that the ADA wheelchair loading areas align with the location of ramps or lifts on the vehicles. The current Lake Transit fleet includes a total of 32 vehicles, comprised of 10 individual vehicle types. Most vehicles have a wheelchair loading location immediately behind the front ambulatory passenger door. However, as fleet replacement and new air emission rules will require new vehicles in the fleet in the future, bus stops should be designed to allow the flexibility of obtaining buses with wheelchair loading in the middle or rear of the bus.

3.6.7 Curb and Sidewalk

Curb or curb and sidewalk shall be constructed as part of the bus stop improvements along roadways with existing or planned curb/sidewalk. Curb heights should be no less than 4 inches and no more than 8 inches. Sidewalk width shall be determined by the individual jurisdiction. Local or Caltrans standards should be applied with regards to the design of sidewalks and bicycle facilities. ADA and ADAAG requirements discussed above also apply.

3.6.8 Signs

It is recommended that signs be posted at all bus stops. Signed stops are a key element in informing passengers where service is available. In addition, bus stop signs provide a permanent “presence” on the street that substantially increases public awareness of the transit program, among riders and non-riders alike.

The bus stop sign should, wherever possible, be placed even with where the operator is trained to stop the front door of the bus, to let patrons know where to stand. Signs closer to the curb should be positioned to face toward the sidewalk to prevent bus mirrors from hitting the signs. Placement within an existing sidewalk of four feet or less width should be avoided wherever possible. Signs can be located on existing poles, such as streetlights or other traffic information signs. Unprotected sign posts should be of the break-away type to minimize injuries and damage resulting from motor vehicle accidents.

Minimum ADA design implications apply to the installation of new or replacement signs. The bottom of the sign should be at least 7 feet from the ground, and the sign should not be closer to the curb than 3 feet. In the areas where there are sidewalks, allow at least 36 inches of clear path on the sidewalk.

3.6.9 Trash Receptacles

Litter at a bus stop is a negative image for the transit agency as well as the community. The installation of trash receptacles at bus stops can alleviate this problem. Not all bus stops require trash receptacles; the decision to include a receptacle at a stop is typically based on boarding counts. If litter is a problem at a particular stop (due, perhaps, to the presence of a fast-food outlet or a convenience store near the stop), a trash receptacle should be installed regardless of boarding counts. Trash receptacles should only be placed at those stops that the transit agency can reliably schedule for trash pickup.

In some instances, communities require maintenance of transit receptacles as a condition of nearby development. There is a mutually beneficial relationship between businesses and transit, and the need to work together with the community, particularly fast-food restaurants, to service trash receptacles.

3.6.10 Lighting

The lighting at a bus stop affects the safety of patrons and the use of the stop by patrons and non-patrons in the hours after sunset. A well-lit bus stop enhances the waiting passengers' comfort and security, while a dimly lit or unlit stop encourages non-patrons to loiter at the stop. It is recommended that from 2- to 5-foot-candles of illumination be provided at all bus stops that will be in use after daylight hours. Lighting fixtures should be vandal-proof and easily maintained; the use of exposed bulbs and other elements that can be easily tampered with or destroyed should be avoided. When possible, bus stops should be located near existing streetlights as this is a cost-effective method of providing adequate lighting. Another option is the use of solar power to illuminate bus shelters. Typically, the power system mounts to a pole which makes it compatible with any shelter and maximizes the solar energy harvest.

3.6.11 Bicycle Parking

It is appropriate to provide bicycle parking at some bus stops. The provision of bike parking facilities discourages bicycle riders from locking their bikes to the bus stop structures or to structures on adjacent properties, and reduces visual clutter by locating bikes together in one area. Bicycle parking facilities should be located away from other activities, to reduce congestion and improve safety. At lighted stops, the bike parking should be located near the lighting to offer protection from theft. The bike parking should not restrict views into the bus stop area. It is recommended that racks for bike parks be provided at bus stops where there is the potential for a high level of patron access by bike, such as near educational facilities.

3.7 Bus Stop Spacing

Bus stop spacing should depend on passenger convenience, ridership levels and operational considerations. It is recommended that the range of spacing between each stop of Lake County be between 660 and 880 feet on all routes in developed areas. This measurement is a guideline only, and other factors should be considered when planning the actual location of bus stops, including the availability of pedestrian access and the location of major trip generators. Bus stops shall be placed close to subdivision access points and within one block of activity centers such as shopping centers, schools, health care facilities, social service offices, apartment complexes, and mobile home parks. In rural areas, stops should be placed to serve specific transit trip generators and cross-streets, but are typically not closer than a quarter-mile apart.

Studies have shown that transit use begins to drop off when potential users must walk more than 1,000 feet. A survey from the *Lake County Transit Development Plan (2004)* found that a majority (55 percent) of users who walked to the bus walked 0-2 blocks while 76 percent walked 0-4 blocks. It has also been found that too many stops can impede performance of the transit system by making it unnecessarily slow.

3.8 Bus Stop Placement

Bus stops can be located far-side of an intersection, near-side of an intersection or mid-block.

Far-Side Bus Stops are located immediately after an intersection and are recommended at intersections where sight distance or signal capacity problems exist, where parking conditions are critical, where right or left turns by general traffic are heavy, and where buses make left turns. In general, transit agencies and traffic engineers prefer to standardize on far-side stops unless conditions indicate that near-side or mid-block is required because standardization benefits the visually impaired.

Near-Side Bus Stops are located immediately before an intersection and are typically the preferred alternative where buses make right turns, and shall also be an alternative at intersections where transit flows are heavy, but traffic and parking conditions are not critical.

Mid-Block Bus Stops are located between intersections and are typically an alternative in strip commercial areas where the block faces are longer, with multiple destinations served within the block, in downtown areas where multiple routes require long loading areas that might extend an entire block, or where traffic, physical, or environmental conditions prohibit near or far-side stops.

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Chapter 4 | Capital Improvement Plan

4.1 Introduction

The purpose of this chapter is to detail the capital and maintenance needs of Lake Transit Authority (LTA) bus stops within the Lake County project area, provide detailed conceptual bus stop designs for key stop locations, and identify available funding sources to implement and maintain the proposed capital improvements.[1] The Transit Facilities Capital Improvement Plan (CIP) builds upon previous analysis of the project area to identify and prioritize facility and access improvements for bus stops systemwide. The 2006 Lake County Transit Passenger Facilities Development Plan (2006 Plan) provided general design guidelines aimed at incorporating various safety and accessibility elements into all bus stop designs, to ensure all stop locations are appropriately usable for all riders.[2] These elements focused on providing an unimpeded pathway to all transit stops and transit vehicles, including the positioning of street furniture, landscaping, and other obstacles; avoid or reduce grade- level changes in sidewalks and platforms; providing a simple and consistent layout; ensuring each stop has an unbroken path of travel from the sidewalk to the bus boarding platform; and ensuring adequate illumination where necessary. In addition to focusing on these elements, this CIP further includes high-level conceptual designs and cost estimates at three primary bus stops within the LTA service area, focusing on more comprehensive modifications to improve the overall bus passenger experience.

4.2 Transit Facilities Capital Improvement Plan

The purpose of the Transit Facilities Capital Improvement Plan (CIP) is to identify and prioritize improvements for bus stops systemwide within Lake County as part of the Lake Transit Authority (LTA) Bus Passenger Facility Plan. The prioritization approach includes identifying the timeframes for each improvement, either near-term (within 1 to 3 years) or long-term (within 3 to 10 years), as well as agencies responsible for implementation.

The LTA Bus Passenger Facility Plan project team has identified bus stop improvements than can be generally categorized as systemwide incremental stop improvements and redesigned bus stops. Systemwide improvements would upgrade bus stop features including replacing bus stop signs, sign posts, benches, and shelters; adding lighting; and constructing bus pull-outs

[1] Lake Transit Authority provides service to Lake County and portions of Napa and Mendocino Counties. Stops within Napa and Mendocino Counties are excluded from the scope of this study.

[2] Transit Passenger Facilities Plan for Lake County, California, September 2006.

and ADA-compliant curb ramps. In addition, one bus stop in each of the three LTA jurisdictions (Clearlake, Lakeport, and unincorporated Lake County) has been identified for a more comprehensive redesign with accompanying conceptual-level designs and cost estimates to a detail suitable to pursue grant funding. Both recommended systemwide and bus stop-specific capital improvements are detailed below.

4.2.1 Systemwide Improvements

The project team completed a study field inventory of bus stops throughout the project area in 2018. This inventory identified locations for installing or replacing individual bus stop elements. These measures could be implemented in the near term to benefit system riders. **Table 1** below quantifies the near-term improvements by type. Overall, the LTA Bus Passenger Facility Plan recommends installation of 141 new bus stop sign panels and replacement of 8 existing sign panels; installation of 149 new sign poles, replacement of 5 existing poles, and repair of 58 poles; installation of 17 new benches and replacement of 5 benches; and 13 locations to trim vegetation to enhance bus stop visibility and accessibility for riders and operators. Each of these items is considered a low-cost enhancement that can be implemented in the near-term, defined as within the next one to three years. Based on workshops conducted with LTA and the three LTA-member jurisdictions staff, it is anticipated that local Public Works sign shops would be able to furnish sign panels and posts, as well as employ local maintenance staff for tree trimming. Additionally, LTA can procure benches for installation at bus stops.

Table 1: Near-Term Systemwide Bus Stop Improvements by Type and Total

Improvement Type	New	Replace	Repair	Total
Sign Plates	141	8	-	**149**
Sign Poles	149	5	58	**212**
Trim Vegetation	13	-	0	**13**
Benches	17	5	-	**22**

Source: CHS Consulting Group (2019).

Table 2 presents systemwide improvements that can be implemented over a long-term time horizon, defined as between three and ten years. These improvements would require local staff to conduct additional planning and engineering and pursue funding sources for design and construction. These improvements include the replacement of 12 bus shelters, new lighting fixtures at 17 locations, 34 new bus pullouts, and ADA-accessibility improvements at 146 locations. ADA accessibility improvements include constructing concrete level landings with curb ramps and yellow-truncated domes. LAPC is currently working with LTA member jurisdictions on a plan to identify and phase more specific ADA improvements at these locations.

Table 2: Long-Term Systemwide Bus Stop Improvements

Improvement Type	New	Replace
Shelters	-	12
Lighting	17	-
Bus Pullouts	34	-
ADA Improvements	146	-

Source: CHS Consulting Group (2019).

4.2.2 Bus Stop Conceptual Designs and Estimates

Based upon the evaluation of bus stop inventory locations throughout the project area, the LTA Bus Passenger Facility Plan project team identified a few bus stops with high ridership and access to key destinations as "example" candidates for more detailed conceptual design and cost estimation. The goal was to identify for LTA and its member jurisdictions a range of possible improvements that could be implemented to enhance the bus rider experience and improve rider access. Subsequently, LTA and member agencies could either apply for grants to implement these stop-specific improvements or could be incarnated into upcoming local Public Works roadway projects. The candidate locations developed by the LTA Bus Passenger Facility Plan project team were further vetted with local Public Works departments in interactive workshops that the project team conducted in 2019 with LTA and Public Works staff from Clearlake, Lakeport, and Lake County. The primary outcome was selection of three bus stop locations, with one in each of the three jurisdictions, to be advanced to conceptual design. This section details those designs and provides preliminary costs for implementation.

Lakeport – South Main Street at Lakeport Boulevard

City of Lakeport staff identified the bus stops on both sides of South Main Street in front of Grocery Outlet, as they serve multiple LTA routes including Route 4, Route 4A, and Route 8. The stops facilitate transfers between these routes at least four times per day. The existing southbound bus stop consists of a shelter, bench, and trash can surrounded by eight concrete bollards. The existing southbound design requires buses to stop within the wide southbound travel lane on South Main Street, resulting in blocked traffic. The northbound bus stop similarly requires buses to stop within the travel lane, thereby blocking traffic. Furthermore, the northbound bus stop does not have available right-of-way to accommodate a bus pull-out. Lakeport staff expressed a desire to reconfigure and relocate the existing northbound and southbound bus stops with a goal of avoiding blocked travel lanes on South Main Street. Based on this staff input, two conceptual design options were created.

Option 1 would construct a new bus boarding island within the Grocery Outlet parking lot that would accommodate both northbound and southbound buses and remove them from the South Main Street curbside. The conceptual design includes concrete bus pads in both directions, new bollards to provide rider protection between the South Main sidewalk and proposed southbound bus pad, new bus shelter, new sign plates and poles, Class 2 bicycle parking, trash can, and lighting. This option would require the removal of some parking lot trees, relocation of existing

parking lot signage, and modification to the existing parking lot striping that would remove 10 parking spaces.

The estimated construction cost subtotal for Option 1 improvements is $147,570. Adding a 25 percent contingency of $36,892.50, the total estimated cost would be $184,462.50. Detailed conceptual design plans and cost estimates for Lakeport Option 1 are provided in Appendix E.

Option 2 would construct a new bus pull-out for southbound buses along South Main Street, allowing southbound buses to pull out of the travel lane to pick up and drop off passengers. The northbound bus stop would be moved from South Main Street to the Grocery Outlet parking lot. Operationally, northbound buses would reroute into the parking lot via a new curb cut directly south of the new bus pull-out and reenter South Main Street north of the new pull-out. This design would similarly include a bus pad for both directions, new bus shelter, new sign plates and poles, Class 2 bicycle parking, trash can, and lighting.

The Option 2 design would require a partial restriping of the Grocery Outlet parking lot to accommodate onsite circulation and a new concrete pad for northbound buses, which would remove three parking spaces. To enhance pedestrian and ADA access, Option 2 would also restripe the three existing crosswalks at the intersection of South Main Street and Lakeport Boulevard and install an ADA-compliant curb ramp at the southwest corner. Pullout construction would require land acquisition from the Grocery Outlet property. This option would include new bollards between the sidewalk and parking lot, along with new bus shelters, trash cans, Class 2 bicycle parking rack, and lighting.

The estimated construction cost subtotal for Option 2 improvements is $236,280. Adding a 25 percent contingency of $59,070, the total estimated cost would be $295,350. Detailed conceptual design plans and cost estimates for Lakeport Option 2 are provided in Appendix E.

It is important to note that both option cost estimates exclude land acquisition costs that which Lakeport staff would need to negotiate with the Grocery Outlet property owner, as well potential costs for LTA to acquire a permanent easement that enables buses to operate daily on Grocery Outlet property.

Lake County – Kit’s Corner

Lake County staff identified the existing Kit’s Corner store and gas station located at the northwest corner of State Routes (SR) 29 and 281 in the Kelseyville community as their primary bus stop location for improvement. The property owner has permitted LTA buses to pick up and drop off passengers within the parking lot on the west side of the property. Bus passenger amenities are minimal, consisting of a wooden bus shelter with few other basic rider amenities. However, the Kit’s Corner stop supports informal park-in-ride activities and is a key transfer point for riders throughout the County being served by Route 2, Route 4, and Route 4A. In the future, it is anticipated that this stop may need to accommodate up to three buses at any one time.

The Kit’s Corner bus facilities conceptual design would remove the existing wooden bus shelter and adjacent curb within the parking lot and construct a new multi-bus boarding island with a sawtooth design that would accommodate up to three buses simultaneously, along with three

new bus shelters, trash can enclosures, Class 2 bicycle parking racks, new sign plates and poles, and lighting. The multi-bus design would better facilitate passenger transfers between bus routes and provide better amenities for waiting passengers.

The construction cost subtotal for all Kit's Corner bus stop improvements is $182,410. Adding a 25 percent contingency of $45,602.50, the total estimated cost would be $228,012.50. Detailed conceptual design plans and cost estimates for the Kit's Corner stop are provided in Appendix E. It should be noted that the estimated costs do not include possible land acquisition costs that LTA staff would need to negotiate with the Kit's Corner property owner, nor LTA easement costs to operate on Kit's Corner Property.

Clearlake – Austin Park

Clearlake staff identified the bus stop on northbound Lakeshore Drive just north of Austin Road as their primary bus stop location improvement and proposed to move the existing bus stop approximately 50-60 feet north of the existing location, across from the play structure.

The current bus stop location on northbound Lakeshore Drive is just north of Austin Road and at the southwest corner of Austin Park. The stop serves riders on LTA Routes 11 and 12. The existing stop consists of basic passenger amenities, including a wooden bench and bus stop sign plate and pole. This stop is located approximately 30 feet north of a crosswalk across Lakeshore Drive. Due to the stop location, northbound buses can periodically block the crosswalk when picking up and discharging passengers. Buses currently stop within the 10-foot wide northbound shoulder, which is shared with bicyclists and requires bicyclists to use the 11-foot wide northbound travel lane to bypass stopped buses.

In response to Clearlake staff input, the project team prepared a conceptual design for the proposed Clearlake bus stop that would construct a 145-foot long bus pullout that includes a 75-foot long, full-width concrete bus pad and two 35-foot tapers transitioning back to existing curb. The design would avoid an existing drainage curb inlet on northbound Lakeshore Drive. At full width, the pullout would be 10 feet wide. The design would move the existing northbound sidewalk back 5 feet to accommodate the pullout, meaning the full width from curb line to the existing white stripe would be 15 feet. Subtracting 10 feet for the full-width bus pad, this would leave a 5-foot shoulder width available to bicyclists. The new sidewalk would retain an ADA-accessible transit stop waiting pad design with a clear minimum of 8 feet deep by 5 feet wide to accommodate wheelchair loading activities.

Additionally, sections of the Austin Park perimeter fence would be removed, replaced, and relocated adjacent to the new back of sidewalk resulting from bus pullout construction. Existing pedestrian openings in the fence would be retained, as would the existing midblock crosswalk across Lakeshore Drive to the south. Primary amenities for the new bus stop would include a new shelter with bench, reconstructed sidewalk, and new street lighting.

The total estimated construction cost of this relocated bus stop in Clearlake is $104,512.50. This estimate includes a subtotal of $83,610 for all stop improvements and a 25 percent contingency of $20,902.50. Key construction items included in this cost are the reconstructed sidewalk with curb and gutter ($24,390), concrete bus pad ($15,420), new street lighting ($13,000), new bus shelter with bench ($8,000), replacement and relocation of perimeter fence ($2,500), and

relocation of existing bus stop sign assemblies ($300). Estimated construction costs also include mobilization ($10,000), traffic control ($5,000), and storm water management and erosion control ($5,000). Appendix E includes both the bus stop conceptual design plan and cost estimate.

4.3 Capital Improvement Plan Financial Element

The purpose of the Transit Facilities CIP Financial Element is to identify potential costs to implement the recommended improvements in Section 2 (Transit Facilities CIP), available funding sources for implementation, and additional funding strategies and approaches for ongoing maintenance.

4.3.1 Potential Costs for Implementation of Near- and Long-Term Bus Stop Improvements

The LTA Bus Passenger Facility Plan project team developed conceptual-level cost estimates for the implementation of near-term and long-term recommended bus stop improvements identified in Section 2 (Transit Facilities CIP). Unit costs are based upon LTA Bus Passenger Facility Plan Team research and experience with typical engineering cost items from California Department of Transportation (Caltrans) and rural California Public Works agencies implementing similar improvements. These unit costs were further reviewed with LTA member agencies' Public Works staff in multiple study workshops to ensure consistency with their local experience. Recommended near-term bus stop improvements include new bus stop signs and poles, benches, shelters, bus pull-outs, landscaping, lighting, and ADA-accessible curb ramps. Appendix F lists these near-term improvements by individual bus stop location. Unit cost estimates for these improvements are provided below. Detailed near-term unit cost estimates are provided in Appendix G.

- The estimated cost to add or replace a bus stop sign can vary depending upon available materials, quantity, and whether the sign is installed new or replaced. New bus stop sign panels (without a pole) cost approximately $100 each, and replacing an existing bus stop sign panel costs approximately $200 (including $100 for removal of existing sign panel). In terms of sign poles, the cost to install a new pole is approximately $200, while replacement of an existing sign pole costs approximately $300, and repairing an existing sign pole is approximately $100. Based on these unit costs, the cost to install a new bus stop sign and pole together would be approximately $300 each ($100 + $200). New bus stop sign panels have been identified for installation at 141 bus stop locations within the project area, and the replacement of existing bus stop sign panels have been identified at an additional eight (8) locations. New sign poles have been identified for 149 locations, replacement of sign poles have been identified for five (5) locations, and 58 existing sign poles have been identified for repair within the project area. Based on these quantities, the total cost to install new sign panels ($14,100), new sign poles ($29,800), replace existing sign panels ($1,600), replace existing sign poles ($1,500), and repair existing sign poles ($5,800) is estimated to be $52,800 systemwide.

- The estimated cost to install a new bus transit bench is approximately $800, while the cost to replace an existing bench is $900 (includes $100 for removal of existing bench). New transit benches have been identified for 17 locations in the project area, with another five (5) locations identified for replacement. In total, the installation of new transit benches ($13,600) and replacement of existing transit benches ($4,500) are estimated to cost $18,100 systemwide.
- The cost of constructing a replacement bus stop shelter is estimated at $8,000 per location and typically includes installation of one transit bench.
  Replacement bus shelters have been identified for 12 locations within the project area, which is estimated to cost $96,000 systemwide.
- For transit agencies, vegetation and landscaping must meet basic requirements that allow for access to all bus stops, including minimum sidewalk clearance, minimum clearance between any bus stop shelter and utility object (e.g. power poles), proper clearance between bus shelter and edge of curb, and a minimum ADA-accessible landing area. This includes trimming of any trees and removal of any vegetation that might obscure a clear path to system bus stops. The estimated average cost of tree trimming and vegetation removal is approximately $300 per location, which assumes the work would be part of local Public Works staff routine maintenance activities.
  Tree trimming and other vegetation removal has been identified for 13 locations within the project area, which would cost approximately $3,900 systemwide.
- Bus pull-out requirements can vary depending on existing site conditions, including the presence of curb and gutter, power poles and other utilities, drainage concerns, and availability of an at-grade shoulder. Consequently, some sites may only require paving an existing shoulder, while other sites may require more extensive engineering work. Typical bus pull-out improvements would include removal of existing asphalt pavement ($6 per square-foot), new vertical curb or curb and gutter ($40 per linear-foot), new concrete sidewalks ($10 per square-foot), concrete bus pads ($10 per square-foot), and new storm drain inlets with connections to existing storm drains (approximately $10,000 each). Although each location would require site-specific designs, the LTA Bus Passenger Facility Plan project team has conservatively assumed all the above elements are included in the pull-out unit cost. As such, the average bus pull-out is estimated to cost approximately $56,180 each.
  New bus pull-outs have been identified for 34 locations within the project area, which is estimated to cost approximately $1.9 million systemwide.
- Lighting improvements would include furnishing and installing new luminaires and poles (approximately $4,500 each), new luminaire pole foundations (approximately $1,500 each), new pull boxes (approximately $1,000 each), and the installation of conduit and conductors to and from each new luminaire (estimate $6,000 each). Similar to bus pull-outs, the lighting improvements would vary based on site-specific designs. However, based on improvements identified in Section 2 (Transit Facilities CIP), the average lighting improvements are estimated to cost approximately $13,000 per location.
  New lighting improvements have been identified for 17 locations within the project area, which would cost approximately $221,000 systemwide.

- ADA accessibility needs can vary widely depending on the specific needs at each bus stop. For conservative estimating purposes, ADA unit cost estimates include constructing new passenger waiting areas, assuming none are currently provided due to lack of sidewalk, lack of wheelchair level landing area or related constraints. Typically, a minimum dimension for wheelchair level landing area is 8-foot by 5-foot. Consistent with practice in other California transit districts serving rural areas, the ADA unit cost estimate assumes constructing an 8-foot by 35-foot concrete sidewalk that provides passenger waiting areas in addition to wheelchair level landing area (approximately $6,563), two new curb ramps ($4,000), and mobilization and traffic control ($10,000), for a total estimated unit cost of $20,563 without contingencies. It should be noted that these costs exclude right-of-way and land acquisition, as well as construction of sidewalk extensions that would connect to the nearest existing sidewalk or adjacent property.
- ADA improvements have been identified for 146 locations within the project area, with a collective estimated cost of slightly more than $3 million ($20,563 * 146 locations). One potential approach to address these locations is for LTA and local Public Works agencies to collaboratively identify and implement these improvements in phases, setting a goal to complete an agreed upon number of locations each year. Completion would depend on availability of future funding sources that can be used toward ADA improvements. As a supplement to this approach, local City and County Public Works staff can additionally seek opportunities to integrate identified ADA improvements into ongoing and future local roadway and transportation projects that are under planning or design. As a next step for the LTA Bus Passenger Facility Plan, LAPC, LTA, and local agencies will finalize an approach to the ADA improvements, which subsequently will be detailed in the LTA Bus Passenger Facility Plan Administrative Draft Report.

Based on the average unit costs described in this section, the collective estimated cost to implement all identified near-term improvements systemwide would be approximately $5.3 million. It is important to note that this estimate excludes costs relative to potential land acquisition or right-of-way easements associated with these improvements.

4.3.2 Potential Capital and Operating Funding Sources

The LTA Bus Passenger Facility Plan project team researched current available public transportation funding sources, including the Federal Transit Administration (FTA) and Caltrans, which may be used to implement capital improvements or fund ongoing maintenance and services. Many FTA funding sources were first identified in the 2006 Plan. Since 2006, additional Federal legislation has been reauthorized and created, and FTA has consolidated some of its funding programs. Below is an overview of potential Federal funding sources applicable to the LTA Bus Passenger Facility Plan improvements, as well as similar State funding sources that may be used for the improvements identified in the LTA Bus Passenger Facility Plan.

FTA Section 5310 - Enhanced Mobility of Seniors and Individuals with Disabilities Program

FTA Section 5310 funds are available to states, local governments, or public transportation operators to help fulfill the transportation needs of elderly adults and people with disabilities when other public transportation services do not meet their needs. Funds are apportioned

based on each state's share of these two eligible service populations. Formula funds are then apportioned to direct recipients chosen by the state Department of Transportation (Caltrans), for rural and small urban areas, or the governor, for large urban areas. These funds are intended to improve access to transit facilities for these two service populations with investments beyond those typically allocated for Americans with Disabilities Act (ADA) paratransit services.

Eligible capital investments for Section 5310 projects include purchase of buses and vans; wheelchair lifts, ramps, and securement devices; transit-related information technology systems; mobility management programs; and acquisition of transportation services under a contract, lease, or other arrangement. At least 55 percent of Section 5310 program funds must be used on traditional capital projects. The remaining 45 percent of programs' funds can be used for non-traditional projects, as was covered by the recently discontinued 5317 New Freedom program.[3]

Other eligible operating and capital investments include training, volunteer driver programs, building an accessible path to a bus stop (including curb-cuts, sidewalks, accessible pedestrian signals, or other accessibility features), improved signage or way-finding, and mobility management programs. The federal share of eligible capital costs may not exceed 80 percent and operating assistance may not exceed 50 percent.[4]

FTA Section 5311 – Formula Grants for Rural Areas

FTA Section 5311 has been retained under the FAST Act and remains a core program for rural public transportation. Historically, Section 5311 has represented a significant share of funding for LTA operations. This program provides capital, planning, and operating assistance to states and federally recognized Indian tribes to support public transportation in rural areas with populations under 50,000 residents. Section 5311 funds are distributed to the regions on a non-urbanized area formula. Eligible activities for fund recipients include planning, capital improvements, operations, job access and reverse commute projects, and the acquisition of public transportation services.[5] The federal share of funding is limited to 80 percent for capital projects and Americans with Disabilities Act (ADA) non-fixed route paratransit service, and limited to 50 percent for operating assistance.

FTA Section 5339 – Grants for Buses and Bus Facilities

FTA Section 5339, created under MAP-21, provides federal funding available to states and local agencies to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. Funding is provided through formula allocations and competitive grants. State and local operators of fixed route bus service that have been eligible for Section 5307 and 5311 grants can now also apply for Section 5339 grants.[6] The federal share of eligible capital

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[3] *Fact Sheet: Enhanced Mobility of Seniors and Individuals with Disabilities*: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grants/37971/5310-enhanced-mobility-seniors-and-individuals-disabilities-fact-sheet.pdf, Accessed April 2019.

[4] Source: https://www.transit.dot.gov/funding/grants/enhanced-mobility-seniors-individuals-disabilities-section-5310, accessed April 2019.

[5] *Fact Sheet: Formula Grants for Rural Areas*: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/funding/grants/40621/5311-rural- program-fact-sheet-fast.pdf, accessed April 2019.

[6] *Fact Sheet: Grants for Bus and Bus* Facilities: https://www.transit.dot.gov/sites/fta.dot.gov/files/5339%20Bus%20and%20Bus%20Facilities%20Fact%20Sheet.pdf, accessed April 2019.

costs is 80 percent of the net capital project costs and may exceed 80 percent for certain projects related to ADA, the Clean Air Act (CAA), and certain bicycle projects.

US Department of Housing and Urban Development – Community Development Block Grant Program

The Community Development Block Grant (CDBG) is a program that provides communities with resources to address a wide range of unique community development needs, including local public transportation. In the LTA Bus Passenger Facility Plan workshops, LTA and member agency staff identified CDBGs as a funding source they have used historically and are open to continue doing so. The CDBG program is run by the U.S. Department of Housing and Urban Development. The CDBG program provides annual grants to local and state governments based on a formula comprised of serval measures of community need, such as the extent of poverty and population growth lag in relationship to other metropolitan areas.[7]

State of California Transportation Development Act

The Transportation Development Act provides funding for transit and non-transit related purposes that comply with regional transportation plans through two separate funding sources: the Local Transportation Fund (LTF) and the State Transit Assistance (STA) fund. For counties such as Lake County with a population under 500,000, LTF funds can be used for not only transit but also local street construction and maintenance. STA funds are allocated specifically for transportation planning and mass transportation purposes. The Road Repair and Accountability Act of 2017 increased overall funding for the STA program.[8]

State of California Road Repair and Accountability Act

Enacted in 2017, the Road Repair and Accountability Act (also known as Senate Bill 1) provides additional revenue sources for transit maintenance, rehabilitation, and capital projects through the STA fund originally developed from the Transportation Development Act. This increased investment in public transit is referred to as the State of Good Repair (SGR) Program and requires that participating agencies comply with various reporting requirements.[9] The California State Controller's Office (SCO) and Caltrans manage the SGR Program and administer funds under the State Transit Agency (STA) Program formula, with 50 percent allocated according to proportion of local to state population and the remaining 50 percent allocated according to the proportion of each transit operators' revenues relative to total statewide operator revenues. These funds may be used for transit capital projects or services to maintain or repair an operator's transit vehicle fleet or transit facilities.[10]

Low Carbon Transit Operations Program (LCTOP)

As one of several programs established in 2014 under Senate Bill 862, the Low Carbon Transit Operations Program (LCTOP) was created to provide operating and capital assistance for transit agencies to reduce greenhouse gas emissions while improving mobility. Agencies with

[7] *Community Development Block Grant Program – CDBG:* https://www.hud.gov/program_offices/comm_planning/communitydevelopment/programs, accessed April 2019.
[8] *Transportation Development Act*: http://dot.ca.gov/drmt/sptda.html, accessed April 2019.
[9] *Road Repair and Accountability Act of 2017*: http://dot.ca.gov/drmt/spstasgr.html, accessed April 2019.
[10] Source: http://dot.ca.gov/drmt/docs/spsgr/finalguidelines.pdf, accessed April 2019

program oversight include Caltrans, the California Air Resource Board (ARB), and the SCO. These funds are available for bus and rail services, expanding intermodal transit facilities, and may be used for equipment acquisition, fuel, maintenance, and other operating costs associated with reducing greenhouse gas emissions. The LTA has applied for LCTOP funds in the past, applying for approximately $68,000 in capital improvement funds in FY 2015-16 for bus stop signs and in FYs 2016-17 and 2017-18 to upgrade transit facilities at several stop locations.

For transit agencies with service areas including disadvantaged communities, at least 50 percent of funds requested through LCTOP must be apportioned to projects that will benefit the disadvantaged communities. Funds are allocated based on prior use of STA funds, with 50 percent allocated to regional entities based on the ratio of population served by a jurisdiction to the total state population. The remaining 50 percent is allocated to transit operators based on a ratio of each operator's total revenue to total revenue for all operators within the state.[11]

4.3.3 Additional Funding Strategies and Approaches

Advertising

As previously recommended in 2006, Lake Transit may continue to consider placing advertisements on transit vehicles and facilities as a source of ongoing operating revenue. Many public transportation systems nationwide generate a substantial level of transit funding through exterior bus advertising programs. Some systems lease space in fixed racks on the sides and rear of transit vehicles, while others allow full bus "wraps" made of a plastic film. A disadvantage of this option is that some may find the vehicles unattractive, and the "image" of the public transportation program may suffer. Prior issues have arisen in some jurisdictions over whether certain advertising is appropriate on public transit vehicles (such as alcohol or tobacco ads). There is also a nominal amount of staff time needed to administer the program. On the other hand, the amount of potential revenue could be significant, and LTA would have complete flexibility in how it is spent. Annual income from this source would vary according to the number of buses affixed with advertising.

Bus Stop Maintenance Items

Although there are several funding sources available to invest in capital improvements and ongoing maintenance, a number of low-cost maintenance tasks can be administered by local Public Works staff subject to available department maintenance resources, such as:

- Tree trimming and general maintenance of a clear path to all bus stops and shelters in the project area
- Removal or relocation of existing sign panels and poles
- Removal or installation of benches
- Removal or installation of trash can enclosures
- Removal or installation of Class 2 bike racks
- Basic cleaning and maintenance of bus stops and shelters, such as removal of graffiti

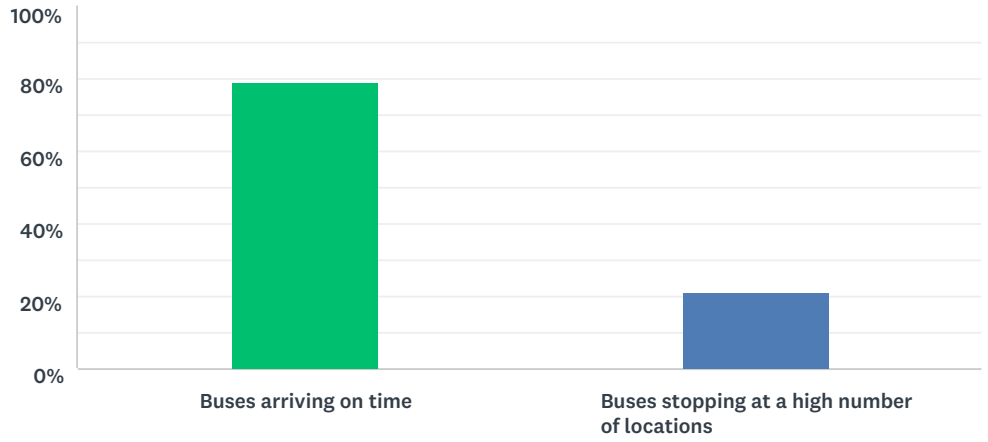
[11] Source: http://www.dot.ca.gov/drmt/docs/lctop/fy1819guidelines-revised.pdf, accessed April 2019.

Appendix A

Bus Passenger Facility Plan Public Survey Summary

Q1 As a bus rider, which of the following is more important to you?

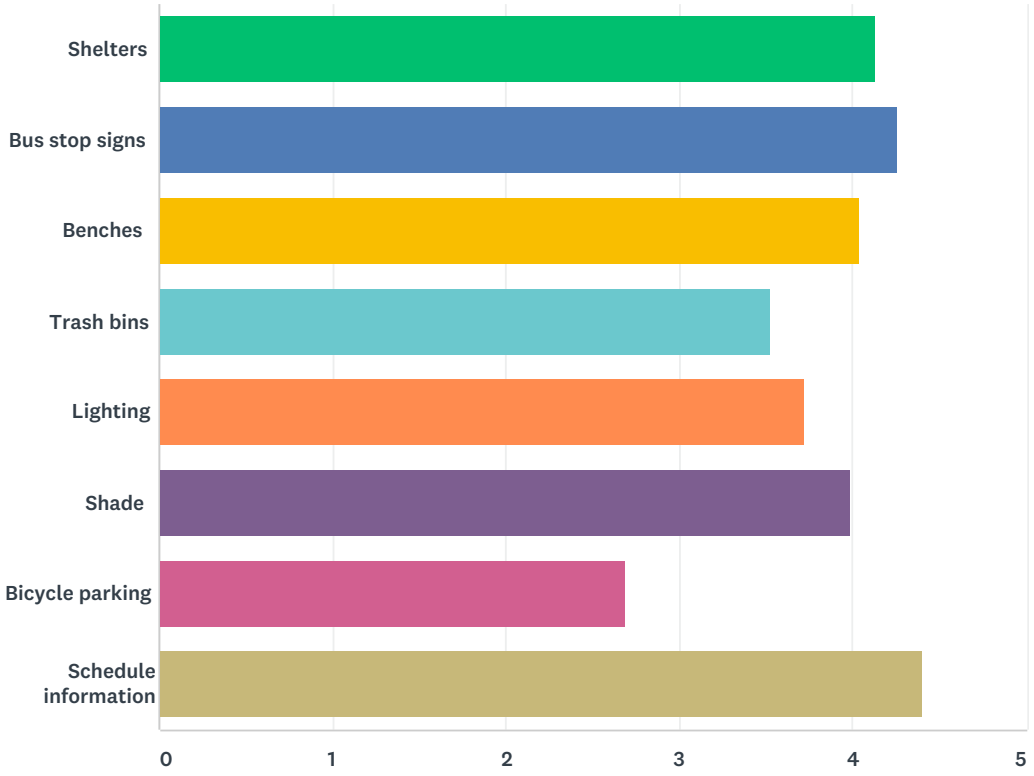
Answered: 153 Skipped: 16



ANSWER CHOICES	RESPONSES	
Buses arriving on time	79.08%	121
Buses stopping at a high number of locations	20.92%	32
TOTAL		153

Q2 Please rank the importance of the following bus stop amenities on a scale of 1 to 5 (1 being "not important" and 5 being "very important"):

Answered: 161 Skipped: 8



	1 - NOT IMPORTANT	2	3 - MODERATELY IMPORTANT	4	5 - VERY IMPORTANT	TOTAL	WEIGHTED AVERAGE
Shelters	5.81% 9	3.23% 5	18.71% 29	16.77% 26	55.48% 86	155	4.13
Bus stop signs	5.26% 8	3.29% 5	13.82% 21	15.79% 24	61.84% 94	152	4.26
Benches	3.18% 5	7.64% 12	21.02% 33	17.83% 28	50.32% 79	157	4.04
Trash bins	15.86% 23	11.03% 16	19.31% 28	11.72% 17	42.07% 61	145	3.53
Lighting	13.33% 20	5.33% 8	20.00% 30	18.67% 28	42.67% 64	150	3.72
Shade	5.19% 8	5.84% 9	23.38% 36	16.23% 25	49.35% 76	154	3.99
Bicycle parking	28.47% 39	21.90% 30	21.17% 29	8.76% 12	19.71% 27	137	2.69
Schedule information	2.01% 3	2.68% 4	12.75% 19	18.12% 27	64.43% 96	149	4.40

Q3 Are there are any locations you would like to see a bus stop? If so, please list in order of priority.

Answered: 105 Skipped: 64

#	RESPONSES	DATE
1	Safeway	10/18/2018 4:32 PM
2	I would like buses to run on Sundays & holiday	10/18/2018 4:30 PM
3	Everywhere you all make it to hard to locate a bus	10/18/2018 4:28 PM
4	You need to run on Sunday. If you can holidays.	10/18/2018 4:25 PM
5	no	10/18/2018 4:21 PM
6	Bus sign at Rotten Robbies The nursery	10/11/2018 3:51 PM
7	Point Lakeview in Kelseyville Riviera	10/11/2018 3:45 PM
8	The 36 Ave move back so bus is not blocking the driveway & a shelter	10/11/2018 3:34 PM
9	Buses arriving on time, not ahead of time. New locations that fit "pull-off parameters" so you can stop at "personal pull-offs." Trash bins at kiosks. Schedule behind glass so people can see when next bus comes through. Solar shelters are not working.	9/28/2018 12:48 PM
10	At Oak & Oakmont Drive	9/28/2018 12:43 PM
11	Sr. Centers; In terms of bus stop on and off safety, at the bus stop near the high school in Kelseyille, northbound is a 1 and southbound is a 10.	9/20/2018 3:05 PM
12	In front of project restoration in Lower Lake	9/20/2018 2:51 PM
13	I don't ride the bus.	9/20/2018 2:50 PM
14	Yes; M'Town by library	9/20/2018 2:47 PM
15	Maybe Sunday buses	9/20/2018 2:46 PM
16	End of Dam Rd. Olympic and 53.	9/20/2018 2:44 PM
17	Oglin Canyon, Strawberry Patch in Upper Lake	9/20/2018 2:42 PM
18	Old Robinson Rancheria. Also, if a bus driver sees a customer waving and walking/running towards bus please wait. Thank you.	9/20/2018 2:17 PM
19	Buses stopping at a high number of locations at night.	9/20/2018 2:07 PM
20	Watter Compane Oaks	9/20/2018 2:05 PM
21	Not that I can think of but it's nice when drivers on the 11 let us off at 32nd and Irving so we don't have to walk back one block. There used to be a stop here way long time ago.	9/20/2018 2:20 AM
22	I have never seen any unsafe bus stop in this county. People working transit city, county and state dont get to ride their buses. They get off work too late. Later buses for them.	9/19/2018 3:33 PM
23	Use transit to go places when I don't have a ride.	9/19/2018 3:19 PM
24	Need of express bus routes, especially for north shore.	9/19/2018 3:08 PM
25	Sayre Street, Nice. Not all drivers stop there.	9/19/2018 2:34 PM
26	I would like the bus service to run later, especially on Saturdays	9/19/2018 11:12 AM
27	Mendo Mill/Napa Auto - S. Main, Lakeport	9/19/2018 11:10 AM
28	Bus #3 Clearlake to Middletown @ 11 am and returning @ 11:45 am from Twin Pines to Clearlake so the kids @ the Charter School can get the bus on half days.	9/19/2018 10:56 AM
29	So far this is my first experience and so far it is good	9/19/2018 10:29 AM

30	Electronic schedule at bus stop showing updates	9/19/2018 10:14 AM
31	Olson on 20	9/19/2018 10:10 AM
32	Costco in Ukiah	9/19/2018 10:08 AM
33	I would like to see a bus on every corner even in front of my house.	9/19/2018 10:07 AM
34	Cypress to dark in the morning. Burns Valley Mall - seats. King Fisher Mobile Park - seats. Regarding posting schedule on website- no computer or cell phone.	9/19/2018 9:57 AM
35	Bench at Highland and Hwy 53. You already stop at the corner at ? apartments & need repair	9/18/2018 4:46 PM
36	Lakeview Collier Ave. in Nice Shelter & bench Bruno's in Lakeport	9/18/2018 1:54 PM
37	None that I know of	9/18/2018 1:49 PM
38	No, I think you have a good array of stops. I do not know the Hwy 20 Corridor but that might be a good area to add more stops.	9/17/2018 11:52 AM
39	Olympic Drive in Clearlake	9/15/2018 3:56 PM
40	Move the Austin Park sign to Austin Park #10 x- fer to the #12	9/14/2018 6:03 PM
41	No	9/14/2018 5:48 PM
42	The Keys Blvd. stop is perfect. Great system, great drivers. Steve and Jeff Thank you	9/14/2018 5:38 PM
43	No	9/14/2018 5:15 PM
44	None	9/14/2018 5:05 PM
45	n/a	9/12/2018 10:50 AM
46	N/a	9/11/2018 2:45 PM
47	Negative. P.S. The Greyhound connection at CDF Airport connection was stuck there for 2 nights. Not cool.	9/11/2018 1:43 PM
48	The bench at Rotten Robbie. The bench at the nursery.	9/11/2018 1:38 PM
49	Some people don't have internet (related to posting schedule on website) Homeless and drunk hang out at these two bus stops: VA Clinic and AH Clinic (related to stop safety rating)	9/11/2018 1:22 PM
50	Make more stops to Konocti	9/11/2018 1:14 PM
51	Make less stops 1/2 mile ratio. Bus drivers are not cops, tell them! (white/guy) drivers.	9/11/2018 1:13 PM
52	Corner of Lakeshore and Collier or Lakeshore and Hammond in Nice	9/11/2018 1:08 PM
53	I personally wish the 3 bus, which goes to Hidden Valley, would run more frequent in the day.	9/11/2018 1:00 PM
54	I don't know	9/11/2018 12:58 PM
55	None at this time	9/11/2018 12:40 PM
56	No complaints	9/11/2018 12:33 PM
57	Whaylen Way in Lakeport	9/11/2018 12:32 PM
58	Stop at Mendo Mills, Northbound 8 closer to turn off Main Street. Stop at Sears. Stop accross from WIC.	9/11/2018 12:21 PM
59	Need more stops on Olympic	9/11/2018 12:18 PM
60	Lake side of the Austin Park in Clearlake	9/11/2018 12:12 PM
61	Sunday bus service. One very late bus around the lake.	9/11/2018 11:53 AM
62	It's pretty good	9/11/2018 11:45 AM
63	Government St., Upper Lake, Country Club, Lucerne	9/11/2018 11:35 AM
64	Closer to Quail Run more often	9/11/2018 11:18 AM
65	Napa Auto/Mendo Mill	9/11/2018 11:14 AM
66	No	9/11/2018 10:41 AM

67	Closer to Botnum in Lower Lake, far walk to nearest stop.	9/11/2018 10:27 AM
68	No. It would be really helpful to have later service again.	9/11/2018 10:23 AM
69	Next to Safeway & across from Safeway on Old Hwy. 53	9/11/2018 10:21 AM
70	Spring Valley, Hwy 53 & Olympic	9/11/2018 10:19 AM
71	McDonalds	9/11/2018 10:13 AM
72	Woodland street in clearlake park and at at Napa auto parts in clearlake.	9/11/2018 7:37 AM
73	N/A	9/10/2018 6:01 PM
74	N/A	9/10/2018 5:48 PM
75	N/A	9/10/2018 5:46 PM
76	All good	9/10/2018 5:37 PM
77	Clearlake, Olympic and 53 on way to Walmart. More close to each other because I am 65 and have a hard time making it to some stops.	9/10/2018 5:25 PM
78	Not currently	9/10/2018 5:05 PM
79	Across from Dollar General, near Butler St.	9/10/2018 5:01 PM
80	Mendo Mill, Wasson Memorial	9/10/2018 2:52 PM
81	Put bus stop in across street from Power Mart going into Clearlake. There should be straight shot bus from Upper Lake to Clearlake. We need more signs that are clear where to stop on both sides of road. Streets more shelters covered. Need Lake Co. bus sign at the stop Ukiah at Pear Tree.	9/10/2018 2:42 PM
82	Bring back the 3 bus route to Twin Pines Casino. 10 a.m. at Walmart to Twin Pine for Senior Tournement Play	9/10/2018 2:20 PM
83	No	9/10/2018 2:16 PM
84	Unknown	9/10/2018 2:14 PM
85	None that I can think of at this time	9/10/2018 2:08 PM
86	At North Shore Villas Senior Apts. on Hwy 20 in Lucerne between 1st Street and Foothill Rd. There's plenty of room on the side of the road to pull off there heading both east and west.	9/10/2018 1:54 PM
87	When the bus stops at Senior Center after going through town it should stop back at the Tribal Health again before going to Bell Vista	9/10/2018 1:42 PM
88	Williams (Colusa)	9/10/2018 1:39 PM
89	I don't use the bus but am concerned for elderly and/or disabled folks who need bus shelters	9/10/2018 1:31 PM
90	Austin Rd.	9/10/2018 1:28 PM
91	By parks	9/10/2018 1:20 PM
92	Bus from Clearlake or Lakeport to Santa Rosa	9/10/2018 1:17 PM
93	More bus stops for elderly patients	9/10/2018 1:16 PM
94	Not at the moment	9/10/2018 1:15 PM
95	Hwy. 50, Foothill/Grove Lucerne, CA	9/10/2018 1:13 PM
96	West Road/ East Road in Middletown	9/6/2018 7:38 AM
97	Main St, & Martin A better one at Safeway (too much pushing and shoving)	8/31/2018 2:33 PM
98	More buses more often in Clearlake Oaks! Buses that literally go through the Oaks to Walmart and from Walmart to the Oaks more often. Library in Clearlake, CA Cheaper monthly passes for kids who have to ride the bus. More stops in Lakeport, CA.	8/30/2018 3:34 PM
99	N/A	8/30/2018 12:04 PM
100	Yes! Their should be More Bus Stops with agreements by the City of: Clearlake, to be put there, along with Benches and Signs as well!	8/30/2018 11:24 AM

101	1) Eastbound route 1 at Hudson St & Hwy 20. 2) Northbound route 8 at Bevins st & Bevins court. (farside) But, I would really like to see the bus stops that are NO longer in service be taken out.. (In Clearlake) Eastbound Olympic Dr at old Hwy 53 (CVS Pharmacy) and Olympic at Jefferson and Olympic and Garfield. Westbound Olympic at Amber. In Lucerne All along Country Club Dr. And also make 13th and Country Club at "request" only stop. In Nice Eastbound route 1 the stop across from Hwy 20 and Keeling (the bat house) should be taken out since you have a stop at Hwy 20 and Sayre st and one at Dollar General.	8/29/2018 7:07 PM
102	Hidden Valley Hardester's Market	8/29/2018 3:11 PM
103	Near 1111 Whalen Way, at Lake County Probation Dept DRC	8/29/2018 1:37 PM
104	Spring Valley!	8/29/2018 8:22 AM
105	Dam Road by Cache Creek Apartments Parallel Drive Lakeport next to DMV and Social Security and the Old Mendocino Collage	8/26/2018 11:47 AM

Q4 Which bus stop(s) do you use most frequently? Please list them (up to five).

Answered: 142 Skipped: 27

ANSWER CHOICES	RESPONSES	
Bus stop 1	99.30%	141
Bus stop 2	83.80%	119
Bus stop 3	65.49%	93
Bus stop 4	36.62%	52
Bus stop 5	29.58%	42

#	BUS STOP 1	DATE
1	Walmart	10/18/2018 4:34 PM
2	Walmart	10/18/2018 4:32 PM
3	Cache Creek	10/18/2018 4:30 PM
4	18th Ave./Boyel	10/18/2018 4:25 PM
5	18th boyles	10/18/2018 4:21 PM
6	Grocery Outlet	10/11/2018 3:51 PM
7	Kit's Corner	10/11/2018 3:45 PM
8	36 Ave	10/11/2018 3:34 PM
9	All of Upper Lake	9/28/2018 12:48 PM
10	Highlands Senior	9/28/2018 12:44 PM
11	Lakeport Main St.	9/20/2018 3:05 PM
12	Kingfisher	9/20/2018 2:58 PM
13	Main St. Lower Lake	9/20/2018 2:53 PM
14	Lower Lake	9/20/2018 2:51 PM
15	Walmart to Lucerne	9/20/2018 2:49 PM
16	Glenheaven	9/20/2018 2:46 PM
17	Walmart	9/20/2018 2:44 PM
18	Fifth in Lucerne	9/20/2018 2:42 PM
19	4A	9/20/2018 2:29 PM
20	3rd Main	9/20/2018 2:17 PM
21	1 Northshore	9/20/2018 2:07 PM
22	Red amd White	9/20/2018 2:05 PM
23	32nd Ave and Phillip's Ave both ways	9/20/2018 2:20 AM
24	Nice	9/19/2018 3:33 PM
25	Lakeview/Collier Ave.	9/19/2018 3:08 PM
26	Walmart	9/19/2018 3:01 PM
27	Henman Park, Nice	9/19/2018 2:34 PM

28	Sentry	9/19/2018 2:21 PM
29	4	9/19/2018 2:14 PM
30	Animal Hospital, Lakeshore Dr.	9/19/2018 2:13 PM
31	dial a ride	9/19/2018 11:45 AM
32	Bush and 2nd St.	9/19/2018 11:12 AM
33	Main St./20, Upper Lake	9/19/2018 11:10 AM
34	Corner of Frontage/Oak Crest, Lucerne	9/19/2018 11:08 AM
35	10-11-12	9/19/2018 11:05 AM
36	Senior Center	9/19/2018 11:03 AM
37	12	9/19/2018 10:56 AM
38	Just 4 to Kelseyville	9/19/2018 10:29 AM
39	Walmart	9/19/2018 10:19 AM
40	College stop Lakeport Parallel Dr.	9/19/2018 10:16 AM
41	Walmart	9/19/2018 10:14 AM
42	10	9/19/2018 10:10 AM
43	Walmart bus stop	9/19/2018 10:08 AM
44	8	9/19/2018 10:00 AM
45	Cypress	9/19/2018 9:57 AM
46	HWY 29 YOUNG MIDDLETOWN	9/18/2018 9:31 PM
47	Highland Ave.	9/18/2018 4:46 PM
48	Wal Mart	9/18/2018 2:00 PM
49	Grocery Outlet	9/18/2018 1:54 PM
50	Walmart parking lot	9/15/2018 3:59 PM
51	Walmart parking lot	9/15/2018 3:56 PM
52	Bus 11	9/14/2018 6:06 PM
53	Walmart	9/14/2018 6:03 PM
54	Bus 1 Lucerne	9/14/2018 5:48 PM
55	VA Building & Clinic	9/14/2018 5:46 PM
56	Clearlake Apts.	9/14/2018 5:40 PM
57	Walmart	9/14/2018 5:17 PM
58	Oaks Red & White	9/14/2018 5:15 PM
59	13th and Country Club	9/14/2018 5:07 PM
60	Lakeshore, Nice	9/14/2018 4:58 PM
61	VA clinic	9/13/2018 9:48 AM
62	Walmart/(Old Ray's) Hub	9/12/2018 11:33 AM
63	n/a	9/12/2018 10:50 AM
64	N/a	9/11/2018 2:45 PM
65	Kmart	9/11/2018 1:45 PM
66	Kelseyville Fire Station	9/11/2018 1:43 PM
67	Grocery Outlet	9/11/2018 1:38 PM
68	Lake St. at Main St., Lower Lake	9/11/2018 1:22 PM

69	Route 7 Pear Tree Center	9/11/2018 1:16 PM
70	Lakeport	9/11/2018 1:14 PM
71	Robinsons	9/11/2018 1:13 PM
72	Hwy 20 and Collier in Nice	9/11/2018 1:08 PM
73	Animal Clinic Lakeshore Dr.	9/11/2018 1:05 PM
74	Indian Beach	9/11/2018 1:03 PM
75	10 Austin Park	9/11/2018 1:00 PM
76	Lower Lake	9/11/2018 12:58 PM
77	Route 4	9/11/2018 12:40 PM
78	Clearlake Oaks Keys Club	9/11/2018 12:37 PM
79	Haverty Field	9/11/2018 12:33 PM
80	5th Ave. & Hwy. 20, Lucerne	9/11/2018 12:32 PM
81	1	9/11/2018 12:23 PM
82	Grocery Outlet	9/11/2018 12:21 PM
83	Walmart	9/11/2018 12:18 PM
84	#10	9/11/2018 12:12 PM
85	3rd & Main Street	9/11/2018 11:53 AM
86	Clearlake Oaks	9/11/2018 11:49 AM
87	Bella Vista	9/11/2018 11:45 AM
88	1st. Ave, Lucerne	9/11/2018 11:35 AM
89	Upper Lake	9/11/2018 11:32 AM
90	Bus 8 to McDonalds	9/11/2018 11:20 AM
91	Upper Lake Library	9/11/2018 11:18 AM
92	Main Street, Upper Lake	9/11/2018 11:14 AM
93	Lucerne Riviera	9/11/2018 11:05 AM
94	Lakeshore & Lange	9/11/2018 10:43 AM
95	Walmart	9/11/2018 10:41 AM
96	Twin Pine	9/11/2018 10:23 AM
97	Cypress/King Fisher	9/11/2018 10:21 AM
98	Hidden Valley	9/11/2018 10:19 AM
99	9th, Lucerne	9/11/2018 10:13 AM
100	Third and Main	9/11/2018 10:11 AM
101	Knotts Ligure	9/11/2018 7:37 AM
102	3rd and Main	9/10/2018 6:06 PM
103	Main and 4th, Kelseyville	9/10/2018 6:01 PM
104	Napa Auto, Kelseyville	9/10/2018 5:52 PM
105	3rd and Main	9/10/2018 5:48 PM
106	Kit's Corner	9/10/2018 5:46 PM
107	Knotts Liquor Route 10	9/10/2018 5:40 PM
108	13th and County Club	9/10/2018 5:37 PM
109	Mendocino College	9/10/2018 5:05 PM

110	Dollar General	9/10/2018 5:01 PM
111	The old Red Cross	9/10/2018 2:54 PM
112	Rainbow Mobile Home Park, Lakeport	9/10/2018 2:52 PM
113	Stops in Lucerne heading to Lakeport	9/10/2018 2:42 PM
114	3rd and Main Lakeport	9/10/2018 2:29 PM
115	Upper Lake High School	9/10/2018 2:26 PM
116	Store 24 Kelseyville	9/10/2018 2:20 PM
117	Lakeview Rd., Nice	9/10/2018 2:16 PM
118	Lucerne Market	9/10/2018 2:14 PM
119	Lakeside Health Clinic	9/10/2018 2:00 PM
120	Foothill Rd. in Lucerne	9/10/2018 1:54 PM
121	3rd and Main	9/10/2018 1:45 PM
122	Senior Center	9/10/2018 1:42 PM
123	USB Rentals (Rotten Robbie)	9/10/2018 1:39 PM
124	Walmart/Big 5	9/10/2018 1:28 PM
125	Beach Lane Lakeport	9/10/2018 1:24 PM
126	Kelseyville	9/10/2018 1:20 PM
127	Lakeshore & Large	9/10/2018 1:18 PM
128	3rd and Main Lakeport	9/10/2018 1:15 PM
129	Toyon at Arrowhead	9/6/2018 10:23 AM
130	Pomo elementary	9/6/2018 7:38 AM
131	Ray's food place	9/5/2018 3:32 AM
132	Main byMartin	8/31/2018 2:33 PM
133	1st Stop in Clearlake Oaks, CA coming from Lakeport, CA	8/30/2018 3:34 PM
134	Big 5 area stop	8/30/2018 12:04 PM
135	The Olympic Villa Apartments Bus Stop	8/30/2018 11:24 AM
136	Big 5	8/29/2018 7:07 PM
137	Main and 1st, Lucerne	8/29/2018 7:07 PM
138	Employment Services on Hwy 53	8/29/2018 3:11 PM
139	Near Lake County Jail	8/29/2018 1:37 PM
140	N/A	8/29/2018 8:22 AM
141	In Clearlake at the Wal-Mart Tractor Supply and Big 5 Sporting Goods	8/26/2018 11:47 AM

#	BUS STOP 2	DATE
1	College	10/18/2018 4:32 PM
2	Walmart	10/18/2018 4:25 PM
3	ICC Woodland	10/18/2018 4:21 PM
4	Third and Main	10/11/2018 3:51 PM
5	Lakeport Grocery Outlet	10/11/2018 3:45 PM
6	Clinet	10/11/2018 3:34 PM
7	3rd and Main	9/28/2018 12:48 PM
8	Kelseyville near high school	9/20/2018 3:05 PM

9	Rays	9/20/2018 2:58 PM
10	CPD	9/20/2018 2:53 PM
11	Walmart	9/20/2018 2:51 PM
12	Lower Lake/Walmart	9/20/2018 2:49 PM
13	Clearlake	9/20/2018 2:46 PM
14	Burns Valley	9/20/2018 2:44 PM
15	1st in Lucerne	9/20/2018 2:42 PM
16	4	9/20/2018 2:29 PM
17	Safeway	9/20/2018 2:17 PM
18	2	9/20/2018 2:07 PM
19	Running Creek	9/20/2018 2:05 PM
20	Walmart	9/20/2018 2:20 AM
21	Upper Lake	9/19/2018 3:33 PM
22	Lakeport Main St.	9/19/2018 3:08 PM
23	Third and Main	9/19/2018 3:01 PM
24	Safeway, Lakeport	9/19/2018 2:34 PM
25	Upper Lake Hight	9/19/2018 2:21 PM
26	Clearlake Clinic, Lakeshore Dr.	9/19/2018 2:13 PM
27	Burns Valley Mall	9/19/2018 11:12 AM
28	Grocery Outlet-Lakeport	9/19/2018 11:10 AM
29	Mendocino College	9/19/2018 11:08 AM
30	Safeway	9/19/2018 11:03 AM
31	11	9/19/2018 10:56 AM
32	Store 24 Kelseyville	9/19/2018 10:19 AM
33	11th and Bush	9/19/2018 10:14 AM
34	Mendocino College	9/19/2018 10:08 AM
35	1	9/19/2018 10:00 AM
36	Burns Valley Mall	9/19/2018 9:57 AM
37	Austin Apartments	9/18/2018 4:46 PM
38	Senior Citizen Center (Clealake).	9/18/2018 2:00 PM
39	Brunos	9/18/2018 1:54 PM
40	3rd and Main in Lakeport	9/15/2018 3:59 PM
41	Robinson Rancheria	9/15/2018 3:56 PM
42	Bus 10	9/14/2018 6:06 PM
43	Woodland & Lakeshore #10	9/14/2018 6:03 PM
44	Bus 10 Walmart	9/14/2018 5:48 PM
45	Walmart	9/14/2018 5:46 PM
46	Walmart	9/14/2018 5:40 PM
47	32nd	9/14/2018 5:17 PM
48	Power Mart, Lucerne	9/14/2018 5:15 PM
49	Sentry Market, Nice	9/14/2018 4:58 PM

50	40th & Philips	9/13/2018 9:48 AM
51	Kit's Corner	9/12/2018 11:33 AM
52	n/a	9/12/2018 10:50 AM
53	N/a	9/11/2018 2:45 PM
54	Walmart	9/11/2018 1:45 PM
55	Lakeport Nursery	9/11/2018 1:43 PM
56	Third and Main Street	9/11/2018 1:38 PM
57	VA Clinic, Clearlake	9/11/2018 1:22 PM
58	Lucerne	9/11/2018 1:14 PM
59	Tower Mart	9/11/2018 1:13 PM
60	Sutter Lakeside Hospital	9/11/2018 1:08 PM
61	Burns Valley Mall to Clearlake Park	9/11/2018 1:05 PM
62	Brun Valley Mall	9/11/2018 1:03 PM
63	3 Walmart	9/11/2018 1:00 PM
64	Route 11	9/11/2018 12:40 PM
65	Walmart	9/11/2018 12:37 PM
66	Walmart transfer	9/11/2018 12:33 PM
67	Sentry Market	9/11/2018 12:32 PM
68	8	9/11/2018 12:23 PM
69	Walmart	9/11/2018 12:21 PM
70	Burns Valley Mall	9/11/2018 12:18 PM
71	#4	9/11/2018 12:12 PM
72	Safeway, Clearlake	9/11/2018 11:49 AM
73	Main & D, Lakeport	9/11/2018 11:45 AM
74	Running Creek	9/11/2018 11:35 AM
75	Lucerne	9/11/2018 11:32 AM
76	McDonalds, Lakeport	9/11/2018 11:18 AM
77	3rd and Main Street, Lakeport	9/11/2018 11:14 AM
78	Sutter Hospital	9/11/2018 11:05 AM
79	Bruno's	9/11/2018 10:43 AM
80	Robinson Casino	9/11/2018 10:41 AM
81	After Clearlake Park Post Office	9/11/2018 10:23 AM
82	Safeway	9/11/2018 10:21 AM
83	Walmart	9/11/2018 10:19 AM
84	Safeway	9/11/2018 10:13 AM
85	Lake County Library	9/11/2018 10:11 AM
86	Walkmart	9/11/2018 7:37 AM
87	Lower Lake Fosters Freeze	9/10/2018 6:06 PM
88	Third and Main, Lakeport	9/10/2018 6:01 PM
89	Kelseyville Lumber, Kelseyville	9/10/2018 5:52 PM
90	Walmart	9/10/2018 5:48 PM

91	Downtown Lakeport	9/10/2018 5:46 PM
92	Walmart Route 4	9/10/2018 5:40 PM
93	Grocery Outlet, Lakeport	9/10/2018 5:37 PM
94	Lakeport Campus	9/10/2018 5:05 PM
95	Woodland/Lakeshore	9/10/2018 2:54 PM
96	ShopSmart, Lakeport	9/10/2018 2:52 PM
97	All stops in Nice and Lakeport	9/10/2018 2:42 PM
98	Alpine Park Lucerne	9/10/2018 2:29 PM
99	Mendocino College	9/10/2018 2:26 PM
100	Walmart	9/10/2018 2:20 PM
101	Walmart	9/10/2018 2:16 PM
102	Hinmin Park, Nice	9/10/2018 2:14 PM
103	Safeway	9/10/2018 2:00 PM
104	Robinson Casino	9/10/2018 1:54 PM
105	3rd and Main	9/10/2018 1:42 PM
106	Kanocti Casino	9/10/2018 1:39 PM
107	Post office	9/10/2018 1:28 PM
108	Bruno's	9/10/2018 1:24 PM
109	Clearlake Safeway	9/10/2018 1:20 PM
110	Sutter Lakeside Hospital	9/10/2018 1:18 PM
111	Burns Valley Mall	9/6/2018 10:23 AM
112	28th Ave	9/6/2018 7:38 AM
113	1St & Martin	8/31/2018 2:33 PM
114	Walmart	8/30/2018 3:34 PM
115	The Walmart Bus Stop	8/30/2018 11:24 AM
116	Keys Blvd (Clearlake Oaks)	8/29/2018 7:07 PM
117	Konocti Harbor	8/29/2018 7:07 PM
118	Walmart shopping center	8/29/2018 3:11 PM
119	Burns Valley Maul next to Safeway in Clearlake	8/26/2018 11:47 AM

#	BUS STOP 3	DATE
1	Olympic	10/18/2018 4:34 PM
2	18th	10/18/2018 4:32 PM
3	Safeway	10/18/2018 4:25 PM
4	Kmart	10/11/2018 3:51 PM
5	Riviera Market	10/11/2018 3:45 PM
6	Vetren	10/11/2018 3:34 PM
7	Grocery Outlet	9/28/2018 12:48 PM
8	clinic	9/20/2018 3:05 PM
9	Safeway	9/20/2018 2:51 PM
10	3rd and Main	9/20/2018 2:44 PM
11	Robinsons	9/20/2018 2:42 PM

12	Walmart	9/20/2018 2:17 PM
13	3	9/20/2018 2:07 PM
14	Twen	9/20/2018 2:05 PM
15	Twin Pines Casino	9/20/2018 2:20 AM
16	Lucerne	9/19/2018 3:33 PM
17	Tribal Health	9/19/2018 3:08 PM
18	3rd & Main, Lakeport	9/19/2018 2:34 PM
19	Lucerne 5th Street	9/19/2018 2:21 PM
20	Burns Valley Mall, Olympic Dr.	9/19/2018 2:13 PM
21	Walmart	9/19/2018 11:12 AM
22	Kmart	9/19/2018 11:10 AM
23	3rd & Main, Lakeport	9/19/2018 11:08 AM
24	Yuba College	9/19/2018 11:03 AM
25	10	9/19/2018 10:56 AM
26	Lakeport	9/19/2018 10:19 AM
27	2 Jacks (Kelseyville)	9/19/2018 10:14 AM
28	Costco	9/19/2018 10:08 AM
29	5	9/19/2018 10:07 AM
30	4	9/19/2018 10:00 AM
31	King Fisher Mobile Park	9/19/2018 9:57 AM
32	Clearlake Post Office	9/18/2018 4:46 PM
33	Austin Park	9/18/2018 2:00 PM
34	Safeway	9/18/2018 1:54 PM
35	Bus 4	9/14/2018 6:06 PM
36	Arrowhead & Toyon #10	9/14/2018 6:03 PM
37	Clearlake Mall	9/14/2018 5:48 PM
38	Burns Valley Mall	9/14/2018 5:46 PM
39	Main Street, Lower Lake	9/14/2018 5:40 PM
40	Foods	9/14/2018 5:17 PM
41	Power Mart, Oaks	9/14/2018 5:15 PM
42	3rd and Main, Lakeport	9/14/2018 4:58 PM
43	Old hwy 53 & austin	9/13/2018 9:48 AM
44	n/a	9/12/2018 10:50 AM
45	N/a	9/11/2018 2:45 PM
46	Kelseyville Bank	9/11/2018 1:45 PM
47	OCC, Ukiah to Lake County	9/11/2018 1:43 PM
48	Kmart	9/11/2018 1:38 PM
49	AH Clinic, Clearlake	9/11/2018 1:22 PM
50	Upper Lake	9/11/2018 1:14 PM
51	Park	9/11/2018 1:13 PM
52	Parallel Dr Lakeport	9/11/2018 1:08 PM

53	Walmart	9/11/2018 1:03 PM
54	Route 3	9/11/2018 12:40 PM
55	Nice Post Office	9/11/2018 12:33 PM
56	Whaylen Way, Lakeport	9/11/2018 12:32 PM
57	Lakeport Nursery	9/11/2018 12:21 PM
58	VA Hospital	9/11/2018 12:18 PM
59	#1	9/11/2018 12:12 PM
60	3rd and Main Street	9/11/2018 11:35 AM
61	Lakeport	9/11/2018 11:32 AM
62	Burger King, Lakeport	9/11/2018 11:18 AM
63	Sutter, Lakeport	9/11/2018 11:14 AM
64	Austin Park	9/11/2018 10:23 AM
65	Walmart	9/11/2018 10:21 AM
66	Calistoga	9/11/2018 10:19 AM
67	Power Mart, Lucerne	9/11/2018 10:13 AM
68	Running Creek Casino	9/11/2018 10:11 AM
69	Yuba college	9/11/2018 7:37 AM
70	Walmart	9/10/2018 6:06 PM
71	Safeway	9/10/2018 6:01 PM
72	3rd and Main, Lakeport	9/10/2018 5:52 PM
73	Mendocino College	9/10/2018 5:48 PM
74	Ukiah - Pear Tree	9/10/2018 5:46 PM
75	Safeway, Lakeport Route 4	9/10/2018 5:40 PM
76	Walmart	9/10/2018 5:37 PM
77	Pomo School	9/10/2018 2:54 PM
78	Clearlake Ave., Lakeport	9/10/2018 2:52 PM
79	Stops in Lucerne heading to Clearlake	9/10/2018 2:42 PM
80	Twin Pine	9/10/2018 2:20 PM
81	Castle Donuts	9/10/2018 2:16 PM
82	Power Mart (Lucerne)	9/10/2018 2:00 PM
83	Sentry Market	9/10/2018 1:54 PM
84	Safeway	9/10/2018 1:39 PM
85	Grocery Outlet	9/10/2018 1:24 PM
86	Walmart	9/6/2018 10:23 AM
87	Burns Valley Mall	9/6/2018 7:38 AM
88	by Clearlake Club	8/31/2018 2:33 PM
89	DJs Pizza in Lower Lake, CA	8/30/2018 3:34 PM
90	The Senior Center Bus Stop	8/30/2018 11:24 AM
91	Power Market (Lucerne)	8/29/2018 7:07 PM
92	Kmart, Lakeport	8/29/2018 7:07 PM
93	Dam Road by Cache Creek Apartments in Clearlake	8/26/2018 11:47 AM

#	BUS STOP 4	DATE
1	The Nursery	10/11/2018 3:51 PM
2	3rd/Main	10/11/2018 3:45 PM
3	Hospital	10/11/2018 3:34 PM
4	All of Lucerne	9/28/2018 12:48 PM
5	Safeway	9/20/2018 3:05 PM
6	Running Creek	9/20/2018 2:42 PM
7	5	9/20/2018 2:07 PM
8	Walmat	9/20/2018 2:05 PM
9	Burns Valley Mall Clearlake	9/20/2018 2:20 AM
10	Lakeport	9/19/2018 3:33 PM
11	Walmart	9/19/2018 3:08 PM
12	Kits Corner, Kelseyville	9/19/2018 2:34 PM
13	Lucerne between 8th and 9th	9/19/2018 2:21 PM
14	Walmart	9/19/2018 2:13 PM
15	Main St., Uppper Lake	9/19/2018 11:08 AM
16	3	9/19/2018 10:56 AM
17	Third and Main	9/18/2018 1:54 PM
18	Lakeshore & Park #10	9/14/2018 6:03 PM
19	Austin Park	9/14/2018 5:48 PM
20	VA	9/14/2018 5:40 PM
21	Wal-Mart	9/13/2018 9:48 AM
22	n/a	9/12/2018 10:50 AM
23	N/a	9/11/2018 2:45 PM
24	Kits Corner	9/11/2018 1:38 PM
25	Burns Valley Mall	9/11/2018 1:22 PM
26	Nice	9/11/2018 1:14 PM
27	Clearlake	9/11/2018 1:13 PM
28	Safeway, Lakeport	9/11/2018 12:32 PM
29	Sutter Hospital	9/11/2018 12:21 PM
30	Kits Corner	9/11/2018 12:18 PM
31	#4A	9/11/2018 12:12 PM
32	Walmart	9/11/2018 11:35 AM
33	Lincoln Bridge, Calistoga	9/11/2018 10:23 AM
34	Walmart	9/11/2018 10:11 AM
35	Lakeshore and Lang lakeport	9/11/2018 7:37 AM
36	Sentry	9/10/2018 6:06 PM
37	Kmart, Lakeport	9/10/2018 5:52 PM
38	Main St., Upper Lake	9/10/2018 5:37 PM
39	Safeway	9/10/2018 2:54 PM
40	Safeway	9/10/2018 2:52 PM

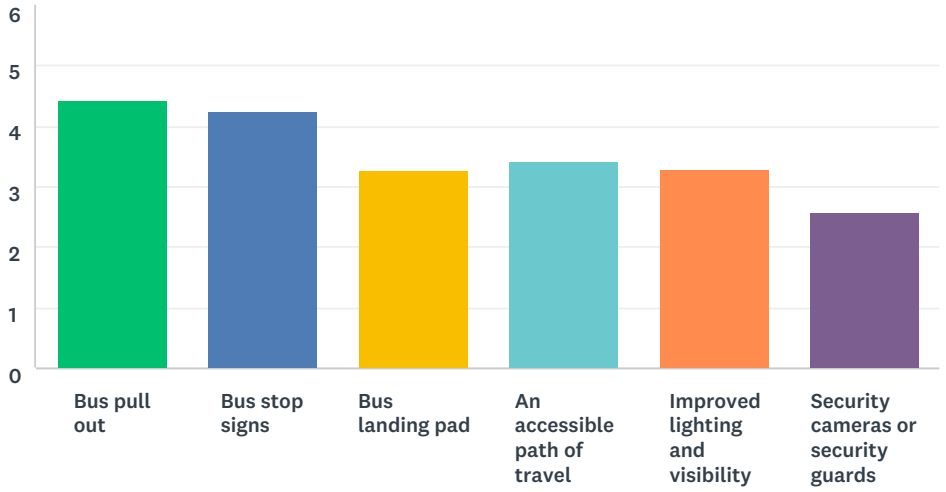
41	All stops between Lake Co. and Ukiah	9/10/2018 2:42 PM
42	Running Creek Casino	9/10/2018 1:54 PM
43	Main St., Lakeport	9/10/2018 1:39 PM
44	Safeway	9/10/2018 1:24 PM
45	Foods	9/6/2018 10:23 AM
46	Middletown Young and 29th	9/6/2018 7:38 AM
47	by Old Courthouse	8/31/2018 2:33 PM
48	Burns Valley Mall	8/30/2018 3:34 PM
49	The Nott's Liquor Bus Stop	8/30/2018 11:24 AM
50	Sutter Hospital (Lakeport)	8/29/2018 7:07 PM
51	Walmart	8/29/2018 7:07 PM
52	Ruuning Creek Casino In Upper Lake	8/26/2018 11:47 AM

#	BUS STOP 5	DATE
1	Boyles	10/18/2018 4:34 PM
2	Rotten Robbies	10/11/2018 3:51 PM
3	Walmart	10/11/2018 3:45 PM
4	Burns Vally	10/11/2018 3:34 PM
5	Nice near Dollar General	9/28/2018 12:48 PM
6	Dollar General Clearlake Oaks	9/20/2018 2:42 PM
7	4	9/20/2018 2:07 PM
8	Twer	9/20/2018 2:05 PM
9	Sutter Hospital Lakeport	9/20/2018 2:20 AM
10	Clearlake	9/19/2018 3:33 PM
11	Indian Beach, Glenhavin	9/19/2018 2:21 PM
12	Sewer-plant stop by park Rte #10	9/19/2018 2:13 PM
13	Corner of Bruster/Oak Crest, Lucerne	9/19/2018 11:08 AM
14	4	9/19/2018 10:56 AM
15	Senior Center	9/18/2018 1:54 PM
16	Park Post Office #10	9/14/2018 6:03 PM
17	Main Street	9/14/2018 5:48 PM
18	Safeway	9/14/2018 5:40 PM
19	n/a	9/12/2018 10:50 AM
20	N/a	9/11/2018 2:45 PM
21	Walmart	9/11/2018 1:38 PM
22	Grocery Outlet and Tribal Health	9/11/2018 12:32 PM
23	North Shore	9/11/2018 12:18 PM
24	#3	9/11/2018 12:12 PM
25	Robinsons	9/11/2018 11:35 AM
26	Foods, etc.	9/11/2018 10:23 AM
27	Clearlake VA Clinic	9/11/2018 10:11 AM
28	Burns Valley Mall	9/11/2018 7:37 AM

29	Mendocino Health	9/10/2018 6:06 PM
30	Pogo's Pizza, Kelseyville	9/10/2018 5:52 PM
31	Running Creek	9/10/2018 5:37 PM
32	Walmart	9/10/2018 2:54 PM
33	3rd and Main	9/10/2018 2:52 PM
34	Most stops in Clearlake	9/10/2018 2:42 PM
35	1st and Hwy. 20 in Lucerne	9/10/2018 1:54 PM
36	Kmart	9/10/2018 1:24 PM
37	Hospital	9/6/2018 10:23 AM
38	Hidden Valley	9/6/2018 7:38 AM
39	Safeway	8/31/2018 2:33 PM
40	The Clearlake City Hall Bus Stop	8/30/2018 11:24 AM
41	3rd & Main (Lakeport)	8/29/2018 7:07 PM
42	3rd and Main Lakeport	8/26/2018 11:47 AM

Q6 Please rank 1 through 6 the following improvements based on what you believe would most effectively improve safety at these bus stops, with 1 being the most effective:

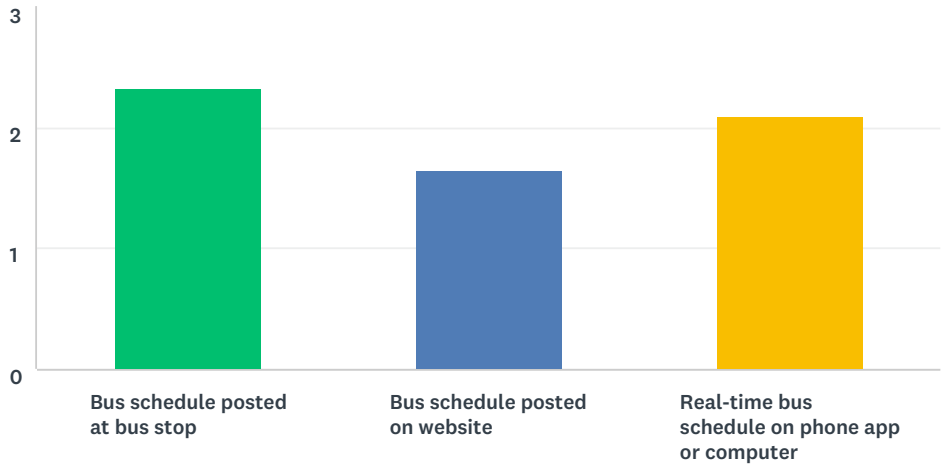
Answered: 58 Skipped: 111



	1	2	3	4	5	6	TOTAL	SCORE
Bus pull out	43.40% 23	11.32% 6	13.21% 7	16.98% 9	7.55% 4	7.55% 4	53	4.43
Bus stop signs	23.53% 12	33.33% 17	15.69% 8	5.88% 3	15.69% 8	5.88% 3	51	4.25
Bus landing pad	0.00% 0	23.53% 12	27.45% 14	17.65% 9	15.69% 8	15.69% 8	51	3.27
An accessible path of travel	16.67% 9	9.26% 5	11.11% 6	33.33% 18	20.37% 11	9.26% 5	54	3.41
Improved lighting and visibility	10.91% 6	10.91% 6	23.64% 13	14.55% 8	30.91% 17	9.09% 5	55	3.29
Security cameras or security guards	10.71% 6	12.50% 7	8.93% 5	8.93% 5	8.93% 5	50.00% 28	56	2.57

Q7 In order of preference, how would you most like to be informed about the time the bus will arrive at your bus stop?

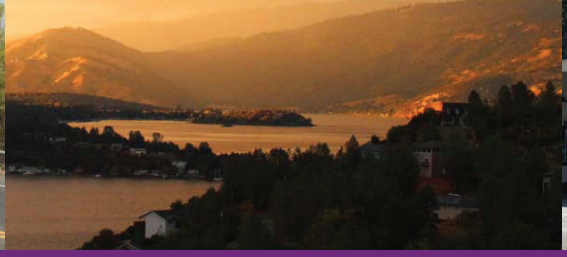
Answered: 82 Skipped: 87



	1	2	3	TOTAL	SCORE
Bus schedule posted at bus stop	56.00% 42	20.00% 15	24.00% 18	75	2.32
Bus schedule posted on website	12.16% 9	40.54% 30	47.30% 35	74	1.65
Real-time bus schedule on phone app or computer	36.71% 29	36.71% 29	26.58% 21	79	2.10

Appendix B

Public Meeting Display Boards




Welcome

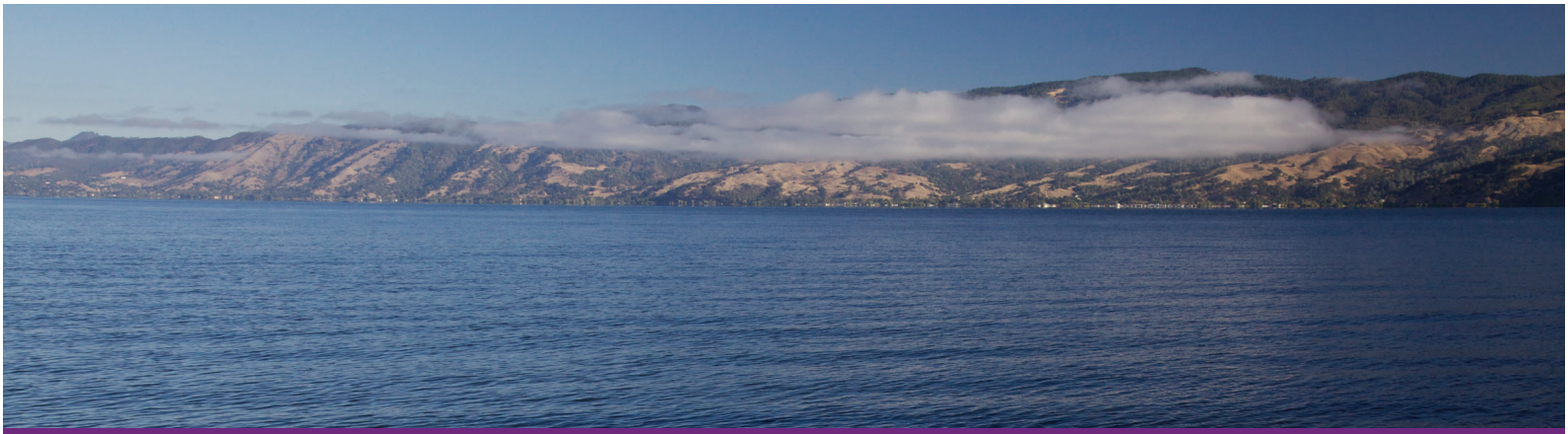
to the Open House for the Bus Passenger Facility Plan!

To get started, please do the following:

1. Sign in
2. Visit the display stations at your leisure
3. Fill out our Bus Passenger Facility Plan public survey by filling out a paper copy, or going online to:

www.surveymonkey.com/r/LTABusSurvey

Thank you for coming!



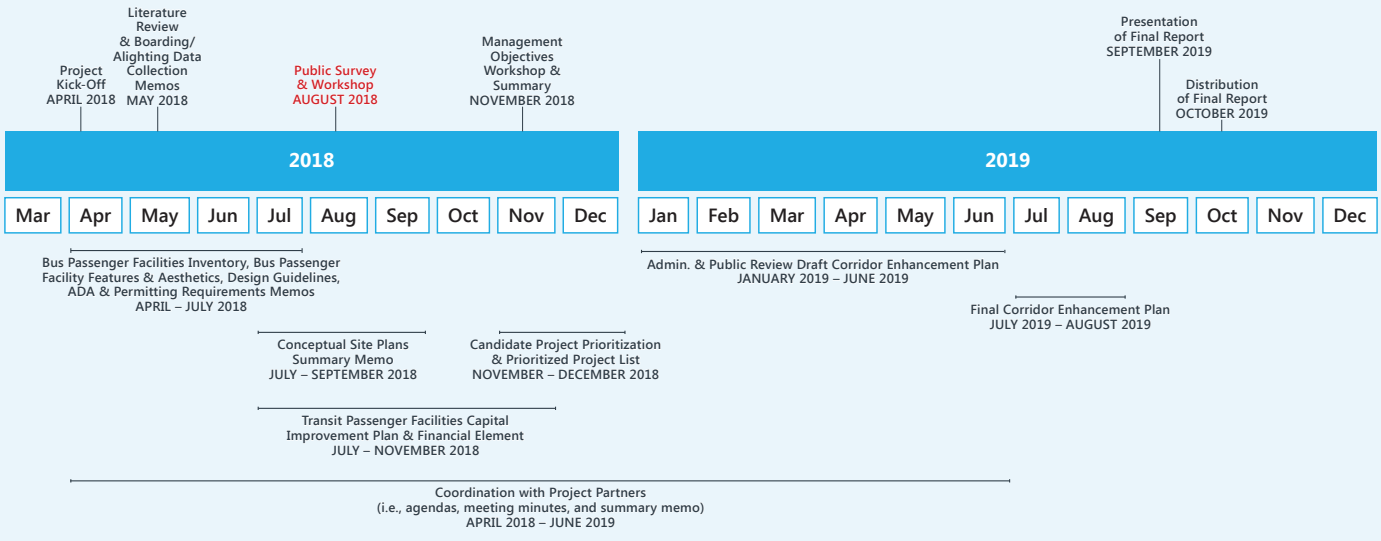
For more information, please visit
www.laketransit.org

What is the Bus Passenger Facility Plan?

Lake Transit Authority (LTA) is in the process of developing a Bus Passenger Facility Plan intended to provide an overall strategy for improving bus passenger facilities in the region.

Current Route Maps

Project Timeline

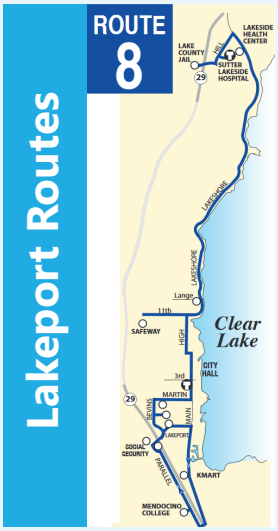


lake Transit

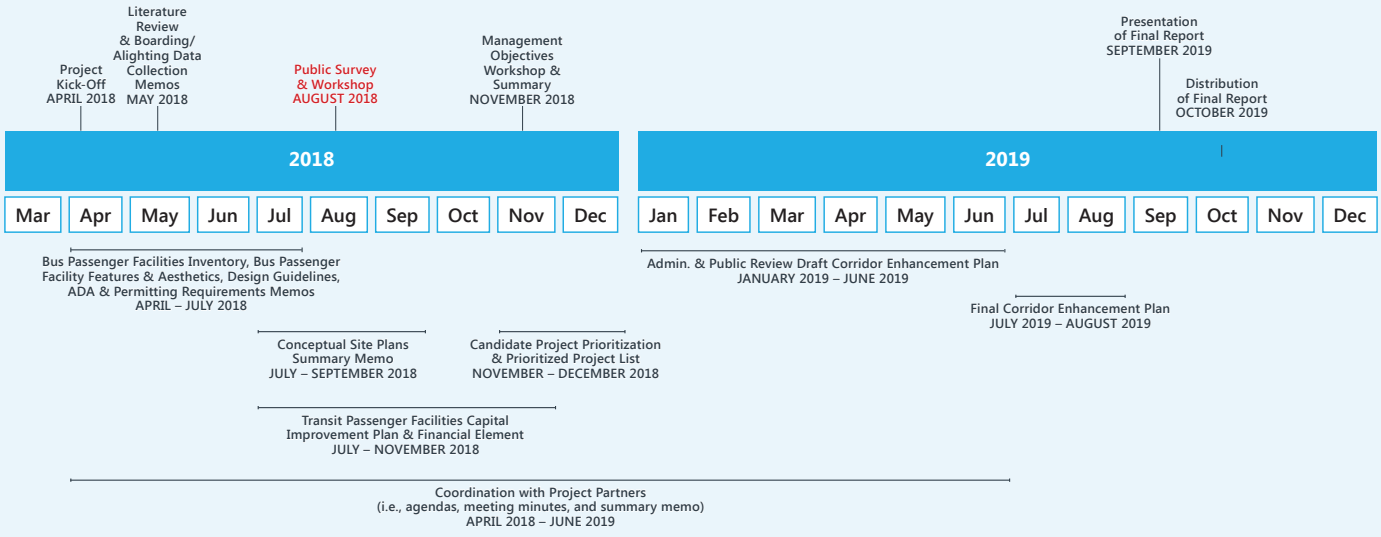
What is the Bus Passenger Facility Plan?

Lake Transit Authority (LTA) is in the process of developing a Bus Passenger Facility Plan intended to provide an overall strategy for improving bus passenger facilities in the region.

Current Route Maps



Project Timeline



lake Transit

Existing Conditions

Inventory conducted for the 306 bus stops located in Lake County

Amenity	Number of bus stops with amenity	Percent of total bus stops with amenity	Percent in poor condition, may require repair/ replacement
Bus Stop Location Signage	153	50%	6%
Sign Mounting Pole	147	48%	3%
Bench	65	21%	11%
Shelter	58	19%	12%
Light at Bus Stop	64	21%	N/A
Street Light	94	31%	N/A
Wheelchair Accessibility	144	47%	N/A

Appendix C

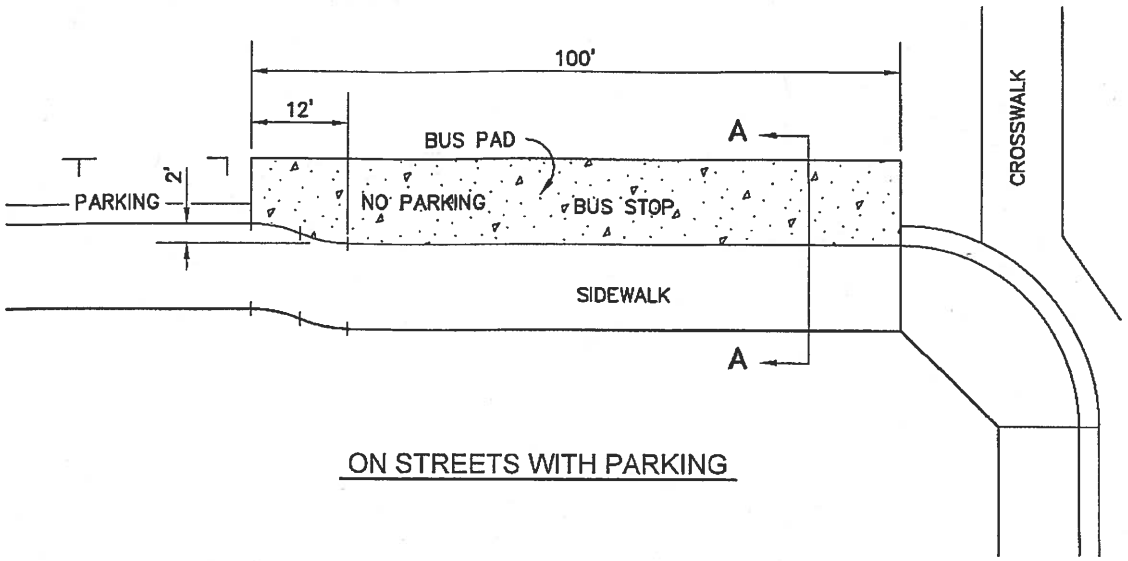
City of Clearlake Design and Construction Standards

ATTACHMENT A

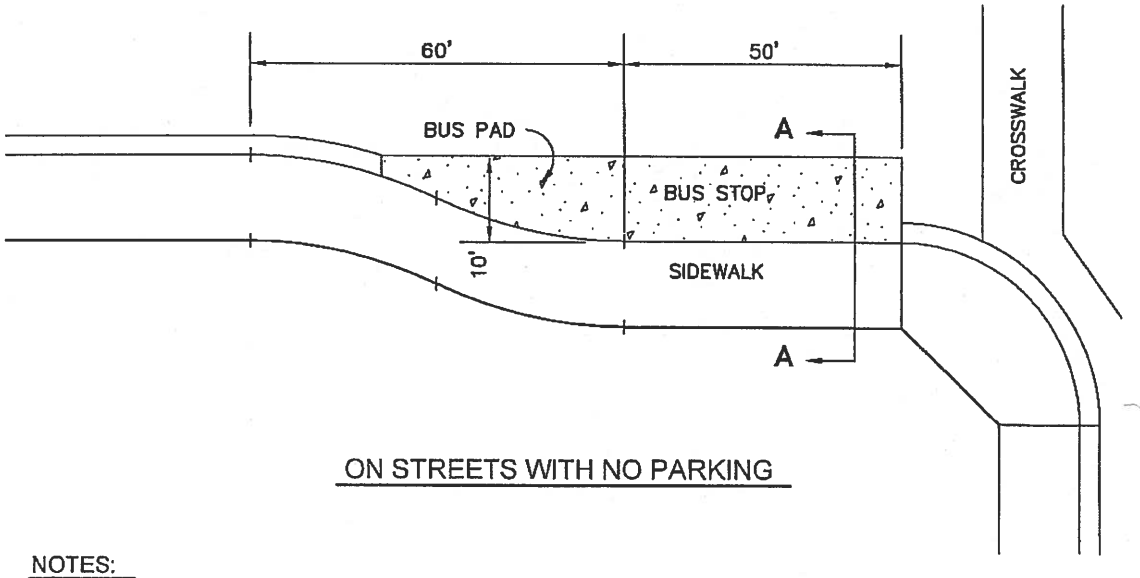
DESIGN AND CONSTRUCTION STANDARDS

September, 1994
Revised June, 2012

City of Clearlake
14050 Olympic Drive
Clearlake, CA 95422



ON STREETS WITH PARKING



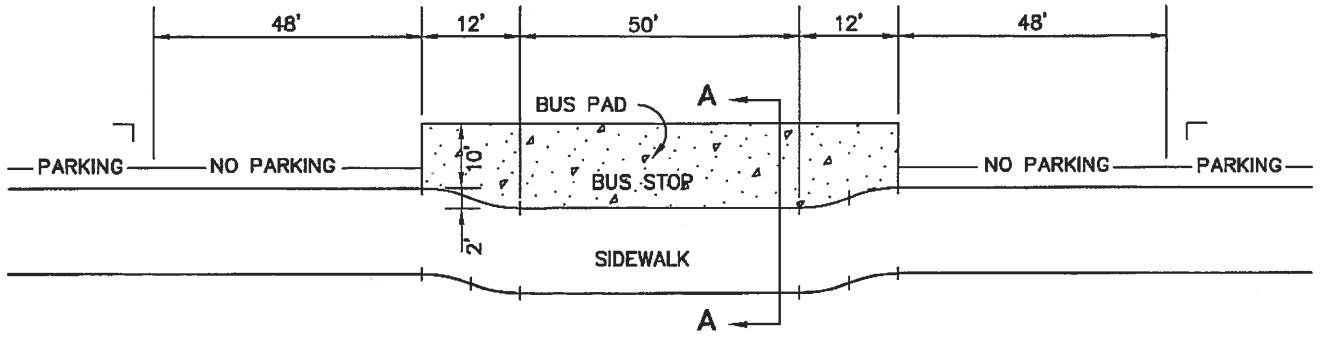
ON STREETS WITH NO PARKING

NOTES:

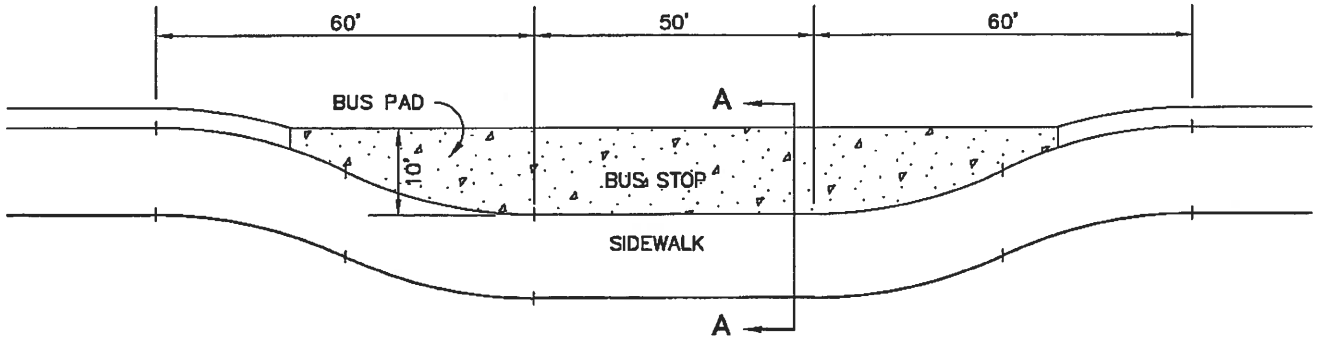
1. SEE SECTION A–A, SHEET 3.
2. BUS BENCHES AND SHELTER SHALL BE LOCATED BEHIND THE SIDEWALK OR IN SUCH A MANNER THAT A MINIMUM 5' CLEAR SIDEWALK IS PROVIDED.
3. DESIGN SHALL CONFORM TO THESE REQUIREMENTS, EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

THE CITY OF CLEARLAKE CALIFORNIA INCORPORATED 1980	BUS STOP AT INTERSECTION				STD. NO. 223
	SCALE: NONE	DRAWN: DRH	CHK: PWW	APPVD: JLW	DATE: JUN. 2012

Images: Clearlake logo.jpg; Xrefs:
Path: F:\BMAP-STD\CLRLAKE\Stds\DRAFT Stds Update 2012\ClrLk 221-223.DWG Layout Name: 223-2 Plot Date: Jun 18, 2012 at 11:53 am



ON STREETS WITH PARKING



ON STREETS WITH NO PARKING

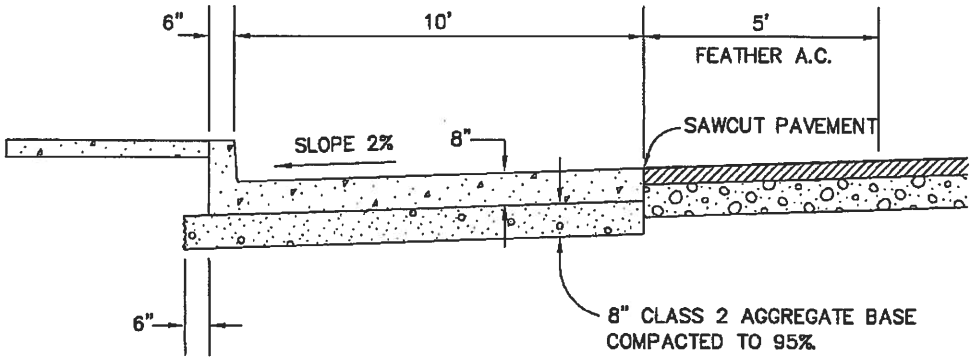
NOTES:

1. SEE SECTION A-A, SHEET 3.
2. BUS BENCHES AND SHELTER SHALL BE LOCATED BEHIND THE SIDEWALK OR IN SUCH A MANNER THAT A MINIMUM 5' CLEAR SIDEWALK IS PROVIDED.
3. DESIGN SHALL CONFORM TO THESE REQUIREMENTS, EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

SCALE: NONE
DRAWN: DRH
CHK: PWW
APPVD: JLW
DATE: JUN. 2012

MID BLOCK BUS STOP

STD. NO. 223



SECTION A-A

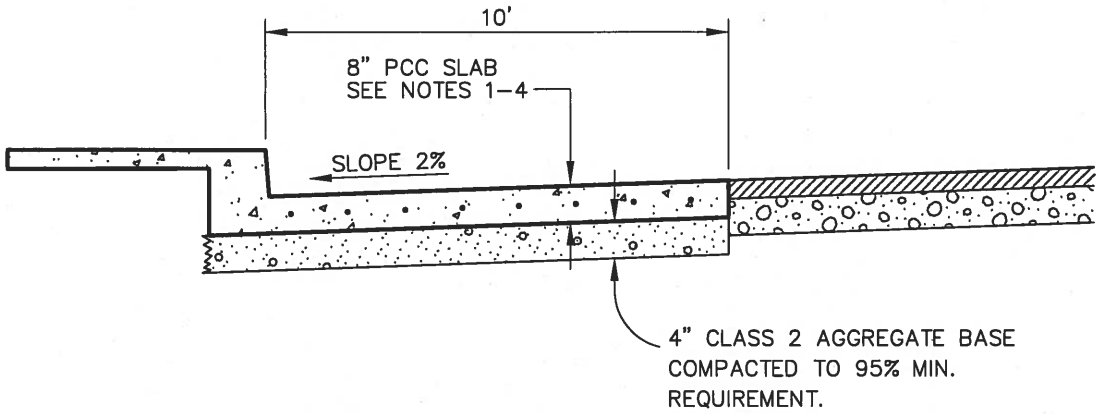
NOTES:

1. EXPANSION JOINTS & SCORE MARKS TO MATCH EXISTING CURB, GUTTER, & SIDEWALK.
2. USE CLASS "A" P.C.C.
3. CONSTRUCT SUBDRAINS WHEN REQUIRED BY CITY ENGINEER.
4. REINFORCING STEEL REQUIRED IN CONC. #4 @ 12" O.C. EACH WAY, OR #5 @ 16" O.C. EACH WAY.
5. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE CITY ENGINEER.

THE CITY OF CLEARLAKE CALIFORNIA INCORPORATED 1980	CONCRETE BUS PAD DETAIL				STD. NO. 223
	SCALE: NONE	DRAWN: DRH	CHK: PWW	APPVD: JLW	DATE: JUN. 2012

Appendix D

Lake County Bus Stop Design Standards

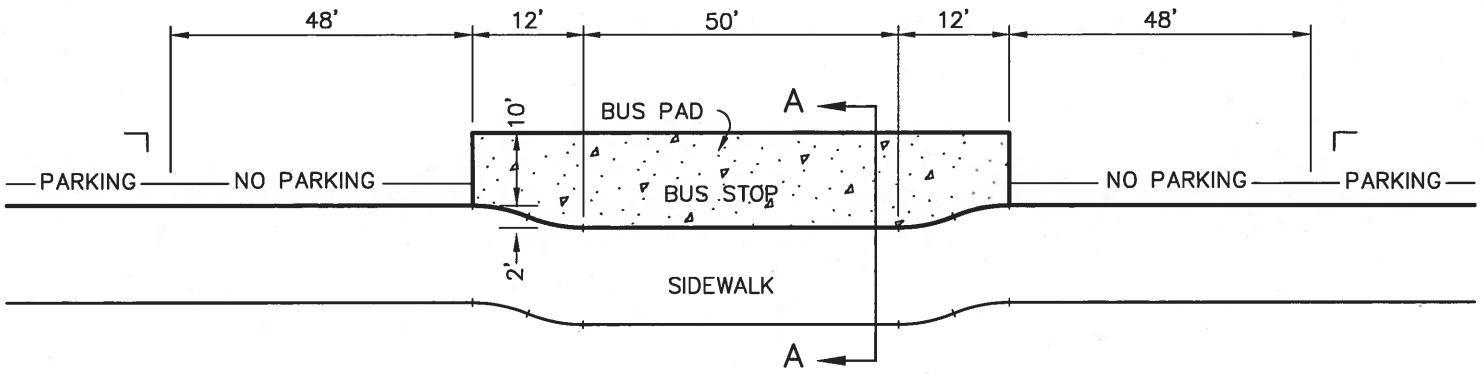


SECTION A-A

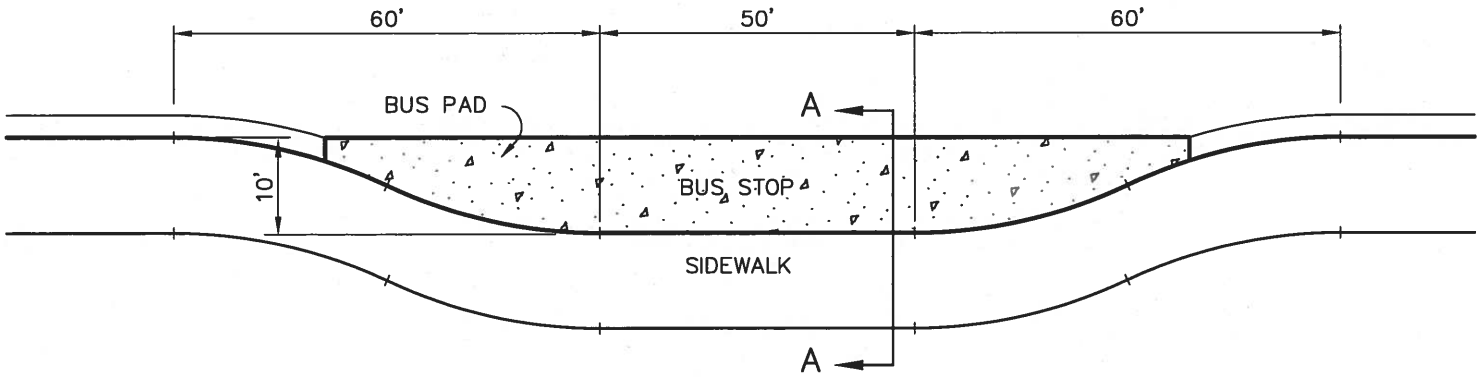
NOTES:

1. EXPANSION JOINTS SHALL MATCH EXISTING CURB, GUTTER, & SIDEWALK. SCORE MARKS SHALL BE AT 8' INTERVALS OR LESS.
2. USE CLASS "1" P.C.C. (6-SACK MIX) FOR BUS STOP SLAB.
3. CONSTRUCT SUB DRAINS WHEN REQUIRED BY D.P.W. DIRECTOR.
4. REINFORCING STEEL REQUIRED IN CONC. #4 @ 12" O.C. EACH WAY, OR #5 @ 16" O.C. EACH WAY.
5. DESIGN SHALL CONFORM TO THESE REQUIREMENTS EXCEPT AS OTHERWISE APPROVED BY THE D.P.W. DIRECTOR.

COUNTY OF LAKE STATE OF CALIFORNIA	BUS STOP - SLAB DETAIL				STD. NO. 216-A
	SCALE: NONE	DRAWN: CLG	CHK: JLW, TEM	APPVD: GRS	DATE: JUNE 2004



ON ROADS WITH PARKING



ON ROADS WITH NO PARKING

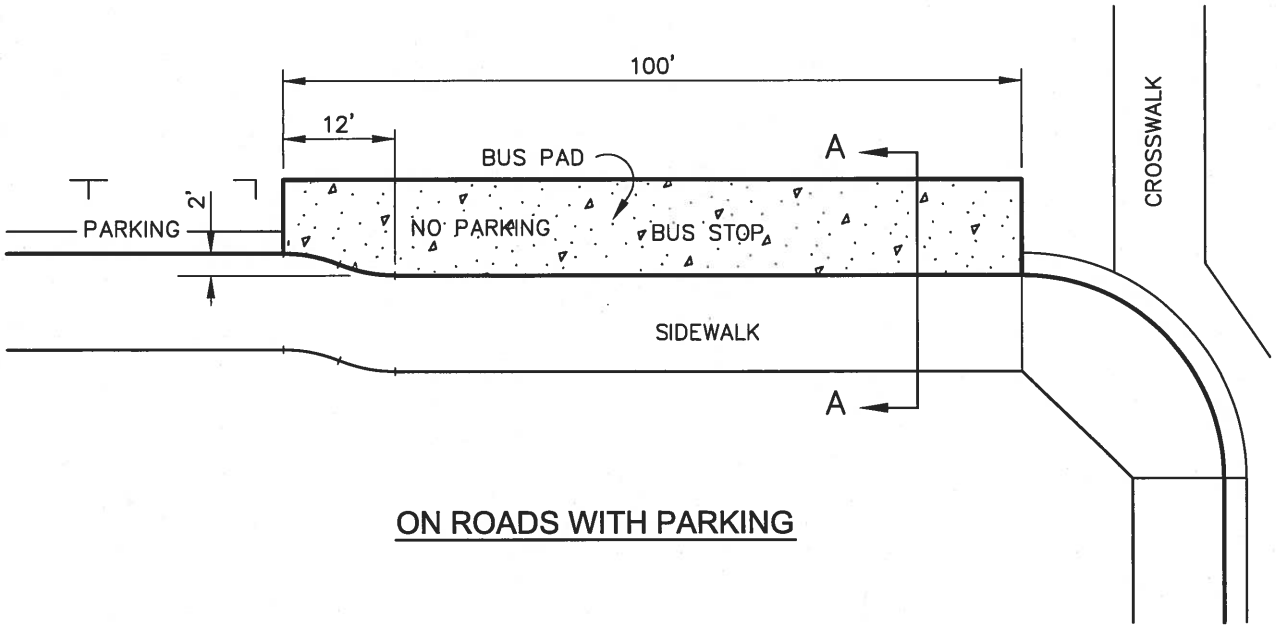
NOTES:

1. SEE SECTION A-A, LAKE CO. STD. NO. 216-A.
2. BUS BENCHES AND SHELTER SHALL BE LOCATED BEHIND THE SIDEWALK OR IN SUCH A MANNER THAT A MINIMUM 5' CLEAR SIDEWALK IS PROVIDED.
3. DESIGN SHALL CONFORM TO THESE REQUIREMENTS, EXCEPT AS OTHERWISE APPROVED BY THE D.P.W. DIRECTOR.

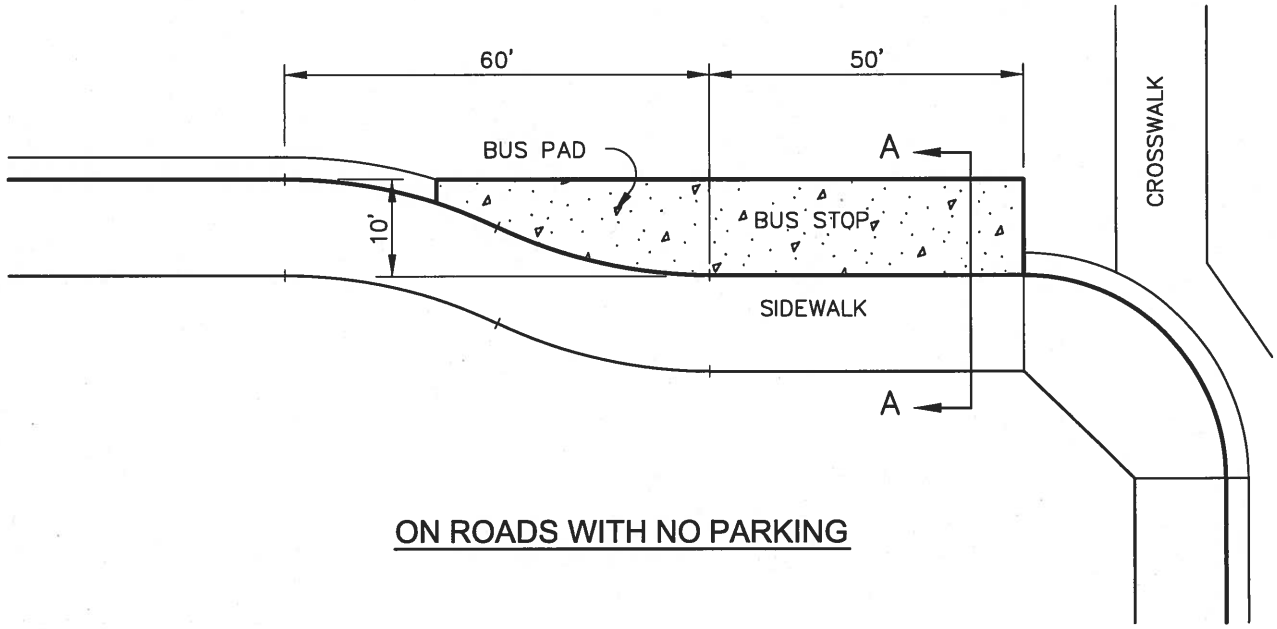
SCALE: NONE
DRAWN: CLG
CHK: JLW, TEM
APPVD: GRS
DATE: JUNE 2004

BUS STOP - MID BLOCK LOCATIONS

STD. NO. 216-C



ON ROADS WITH PARKING



ON ROADS WITH NO PARKING

NOTES:

1. SEE SECTION A–A, LAKE CO. STD NO. 216–A
2. BUS BENCHES AND/OR SHELTER SHALL BE LOCATED BEHIND THE SIDEWALK OR IN SUCH A MANNER THAT A MINIMUM 5' CLEAR SIDEWALK IS PROVIDED.
3. DESIGN SHALL CONFORM TO THESE REQUIREMENTS, EXCEPT AS OTHERWISE APPROVED BY THE D.P.W. DIRECTOR.

BUS STOP – INTERSECTION LOCATIONS

STD. NO. 216-B

SCALE: NONE	DRAWN: CLG	CHK: JLW, TEM	APPVD: GRS	DATE: JUNE 2004

Appendix E

Conceptual Design Plans and Cost Estimates for Three Primary Bus Stops

N

S MAIN ST

LAKEPORT BLVD

INSTALL BOLLARDS TO PROVIDE PROTECTION BETWEEN SIDEWALK AND BUS LANE

TRAVEL DIRECTION OF NORTHBOUND BUS TO ACCESS BUS STOP VIA DRIVEWAY

REMOVE TREE

RELOCATE EX SIGN

MODIFY PARKING ISLANDS (LOSE 10 SPACES)

LEGEND

- STREET LIGHT
- BUS SHELTER WITH BENCH
- BIKE RACK
- BUS STOP SIGN
- TRASH CAN

Consulting Group

220 MONTGOMERY STREET, SUITE 346
SAN FRANCISCO, CA 94104
PHONE (415) 392-9688

LAKE TRANSIT AUTHORITY

BUS PASSENGER FACILITY PLAN CONCEPTUAL DESIGN

LAKEPORT BUS STATION

OPTION 1 - BUS ISLAND

\\Chs-files2\CHS-Files\Projects\2018\Lake Transit Bus Passenger Facility Study_AECOM - 18-1018\CAD\18-1018 Exhibit 1A.dwg 02 01, 2019 3:05pm BY: ffeng

Consulting Group

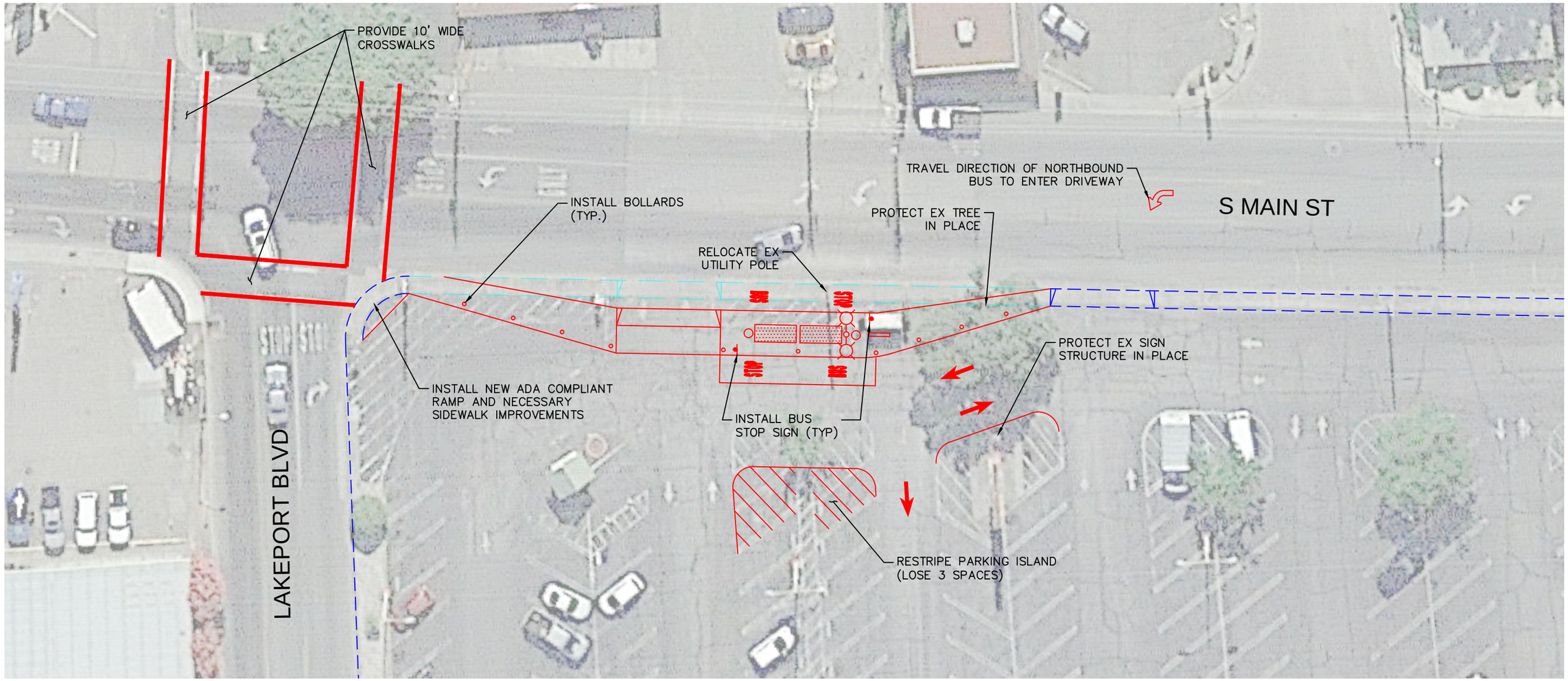
Project: Lake Transit Bus Passenger Facility Study

Intersection: Lakeport Blvd/S Main St (Bus Island)

Date: 2/1/2019
Author/Reviewer: CL/SK

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 10,000.00	1	$ 10,000.00
2	Traffic Control	EA	$ 10,000.00	1	$ 10,000.00
3	Storm Water Management and Erosion Control	EA	$ 10,000.00	1	$ 10,000.00
4	Clearing and Grubbing	LS	$ 10,000.00		$ -
5	Remove Asphalt Concrete	SF	$ 6.00	4715	$ 28,290.00
6	Remove Existing Curb	LF	$ 10.00		$ -
7	Remove Existing Curb and Gutter	LF	$ 12.00		$ -
8	Remove Concrete - Sidewalk	SF	$ 10.00		$ -
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		$ -
10	Remove and Salvage Existing Bus Shelter	EA	$ 500.00	1	$ 500.00
11	Remove Existing Wooden Shelter	EA	$ 300.00		$ -
12	Remove Bollard	EA	$ 100.00	7	$ 700.00
13	Remove Striping and Pavement Markings	LS	$ 1,000.00	1	$ 1,000.00
14	Remove Sign and Post	EA	$ 100.00	2	$ 200.00
15	Remove Tree	EA	$ 1,000.00	2	$ 2,000.00
16	Relocate Existing Sign and Posts	EA	$ 500.00	1	$ 500.00
17	Relocate Existing Utility Pole and Guy Wire	EA	$ 50,000.00		$ -
18	Vertical Curb	LF	$ 40.00		$ -
19	Curb and Gutter	LF	$ 40.00		$ -
20	New Median	SF	$ 20.00	570	$ 11,400.00
21	Asphalt Concrete Type A	TON	$ 400.00		$ -
22	Aggregate Base Class 2	TON	$ 250.00		$ -
23	Concrete Sidewalk	SF	$ 10.00		$ -
24	New Curb Ramp	EA	$ 2,000.00	2	$ 4,000.00
25	Concrete Bus Pad	SF	$ 10.00	4000	$ 40,000.00
26	Concrete Driveway	SF	$ 40.00		$ -
27	Thermoplastic Pavement Striping	LS	$ 2,000.00	1	$ 2,000.00
28	Thermoplastic Pavement Markings	SF	$ 10.00	238	$ 2,380.00
29	Furnish & Install New Storm Drain inlet	EA	$ 10,000.00		$ -
30	Furnish & Install Luminaire and Pole	EA	$ 4,500.00	1	$ 4,500.00
31	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00	1	$ 1,500.00
32	Furnish & Install Pull Box	EA	$ 1,000.00	1	$ 1,000.00
33	Install Conduit and Conductors	LS	$ 5,000.00	1	$ 5,000.00
34	Furnish & Install Bollard	EA	$ 200.00	15	$ 3,000.00
35	New Sign and Post	EA	$ 300.00	2	$ 600.00
36	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00	1	$ 8,000.00
37	Furnish & Install Bike Rack	EA	$ 500.00	1	$ 500.00
38	Furnish & Install Trash Can Enclosure	EA	$ 500.00	1	$ 500.00
39					
40					
				Subtotal	$ 147,570.00
		Contingency	25%		$ 36,892.50
				TOTAL	$ 184,462.50

Note: This estimate reflects probable construction costs based on the project location. Where possible, the estimate is based upon actual measurements of certain items. Unit costs were obtained from projects of similar nature.



N

LEGEND

- STREET LIGHT
- BUS SHELTER WITH BENCH
- BIKE RACK
- BUS STOP SIGN
- TRASH CAN

chs Consulting Group
220 MONTGOMERY STREET, SUITE 346
SAN FRANCISCO, CA 94104
PHONE (415) 392-9688

LAKE TRANSIT AUTHORITY

BUS PASSENGER FACILITY PLAN CONCEPTUAL DESIGN

LAKEPORT BUS STATION

OPTION 2 - SB BUS PULL-OUT

Consulting Group

Project: Lake Transit Bus Passenger Facility Study

Intersection: Lakeport Blvd/S Main St (SB Pull-out)

Date: 2/1/2019
Author/Reviewer: CL/SK

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 10,000.00	1	$ 10,000.00
2	Traffic Control	EA	$ 10,000.00	1	$ 10,000.00
3	Storm Water Management and Erosion Control	EA	$ 10,000.00	1	$ 10,000.00
4	Clearing and Grubbing	LS	$ 10,000.00		$ -
5	Remove Asphalt Concrete	SF	$ 6.00	2350	$ 14,100.00
6	Remove Existing Curb	LF	$ 10.00		$ -
7	Remove Existing Curb and Gutter	LF	$ 12.00	215	$ 2,580.00
8	Remove Concrete - Sidewalk	SF	$ 10.00	1050	$ 10,500.00
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		$ -
10	Remove and Salvage Existing Bus Shelter	EA	$ 500.00	1	$ 500.00
11	Remove Existing Wooden Shelter	EA	$ 300.00		$ -
12	Remove Bollard	EA	$ 100.00	10	$ 1,000.00
13	Remove Striping and Pavement Markings	LS	$ 500.00	1	$ 500.00
14	Remove Sign and Post	EA	$ 100.00	1	$ 100.00
15	Remove Tree	EA	$ 1,000.00		$ -
16	Relocate Existing Sign and Post	EA	$ 200.00	2	$ 400.00
17	Relocate Existing Utility Pole and Guy Wire	EA	$ 50,000.00	1	$ 50,000.00
18	Vertical Curb	LF	$ 40.00		$ -
19	Curb and Gutter	LF	$ 40.00	220	$ 8,800.00
20	New Median	SF	$ 20.00		$ -
21	Asphalt Concrete Type A	TON	$ 400.00		$ -
22	Aggregate Base Class 2	TON	$ 250.00	140	$ 35,000.00
23	Concrete Sidewalk	SF	$ 10.00	2190	$ 21,900.00
24	New Curb Ramp	EA	$ 2,500.00	1	$ 2,500.00
25	Concrete Bus Pad	SF	$ 10.00	2440	$ 24,400.00
26	Concrete Driveway	SF	$ 40.00	1	$ 40.00
27	Thermoplastic Pavement Striping	LS	$ 600.00	1	$ 600.00
28	Thermoplastic Pavement Markings	SF	$ 10.00	126	$ 1,260.00
29	Furnish & Install New Storm Drain inlet	EA	$ 10,000.00		$ -
30	Furnish & Install Luminaire and Pole	EA	$ 4,500.00	1	$ 4,500.00
31	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00	1	$ 1,500.00
32	Furnish & Install Pull Box	EA	$ 1,000.00	1	$ 1,000.00
33	Install Conduit and Conductors	LS	$ 5,000.00	1	$ 5,000.00
34	Furnish & Install Bollard	EA	$ 200.00	10	$ 2,000.00
35	New Sign and Post	EA	$ 300.00	2	$ 600.00
36	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00	2	$ 16,000.00
37	Furnish & Install Bike Rack	EA	$ 500.00	1	$ 500.00
38	Furnish & Install Trash Can Enclosure	EA	$ 500.00	2	$ 1,000.00
39					
40					
				Subtotal	$ 236,280.00
		Contingency	25%		$ 59,070.00
				TOTAL	$ 295,350.00

Note: This estimate reflects probable construction costs based on the project location. Where possible, the estimate is based upon actual measurements of certain items. Unit costs were obtained from projects of similar nature.

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LEGEND

- STREET LIGHT
- BUS SHELTER WITH BENCH
- BIKE RACK
- BUS STOP SIGN
- TRASH CAN

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LAKE TRANSIT AUTHORITY

BUS PASSENGER FACILITY PLAN CONCEPTUAL DESIGN

KIT'S CORNER BUS FACILITY

LAYOUT

Consulting Group

Project: Lake Transit Bus Passenger Facility Study

Location: Kit's Corner Bus Stop

Date: 2/1/2019

Author/Reviewer: CL/SK

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 10,000.00	1	$ 10,000.00
2	Traffic Control	EA	$ 5,000.00	1	$ 5,000.00
3	Storm Water Management and Erosion Control	EA	$ 10,000.00	1	$ 10,000.00
4	Clearing and Grubbing	LS	$ 15,000.00	1	$ 15,000.00
5	Remove Asphalt Concrete	SF	$ 6.00	1635	$ 9,810.00
6	Remove Existing Curb	LF	$ 10.00		$ -
7	Remove Existing Curb and Gutter	LF	$ 12.00		$ -
8	Remove Concrete - Sidewalk	SF	$ 10.00		$ -
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		$ -
10	Remove and Salvage Existing Bus Shelter	EA	$ 500.00		$ -
11	Remove Existing Wooden Shelter	EA	$ 300.00	1	$ 300.00
12	Remove Bollard	EA	$ 100.00		$ -
13	Remove Striping and Pavement Markings	LS	$ 1,000.00		$ -
14	Remove Sign and Post	EA	$ 100.00		$ -
15	Remove Tree	EA	$ 1,000.00		$ -
16	Relocate Existing Sign and Posts	EA	$ 500.00		$ -
17	Relocate Existing Utility Pole and Guy Wire	EA	$ 50,000.00		$ -
18	Vertical Curb	LF	$ 40.00		$ -
19	Curb and Gutter	LF	$ 40.00		$ -
20	New Median	SF	$ 20.00	3335	$ 66,700.00
21	Asphalt Concrete Type A	TON	$ 400.00		$ -
22	Aggregate Base Class 2	TON	$ 250.00		$ -
23	Concrete Sidewalk	SF	$ 10.00		$ -
24	New Curb Ramp	EA	$ 2,000.00	1	$ 2,000.00
25	Concrete Bus Pad	SF	$ 10.00	960	$ 9,600.00
26	Concrete Driveway	SF	$ 40.00		$ -
27	Thermoplastic Pavement Striping	LS	$ 1,500.00		$ -
28	Thermoplastic Pavement Markings	SF	$ 10.00		$ -
29	Furnish & Install New Storm Drain inlet	EA	$ 10,000.00		$ -
30	Furnish & Install Luminaire and Pole	EA	$ 4,500.00	3	$ 13,500.00
31	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00	3	$ 4,500.00
32	Furnish & Install Pull Box	EA	$ 1,000.00	3	$ 3,000.00
33	Install Conduit and Conductors	LS	$ 6,000.00	1	$ 6,000.00
34	Furnish & Install Bollard	EA	$ 200.00		$ -
35	New Sign and Post	EA	$ 300.00		$ -
36	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00	3	$ 24,000.00
37	Furnish & Install Bike Rack	EA	$ 500.00	3	$ 1,500.00
38	Furnish & Install Trash Can Enclosure	EA	$ 500.00	3	$ 1,500.00
39					
40					
				Subtotal	$ 182,410.00
		Contingency	25%		$ 45,602.50
				TOTAL	$ 228,012.50

Note: This estimate reflects probable construction costs based on the project location. Where possible, the estimate is based upon actual measurements of certain items. Unit costs were obtained from projects of similar nature.

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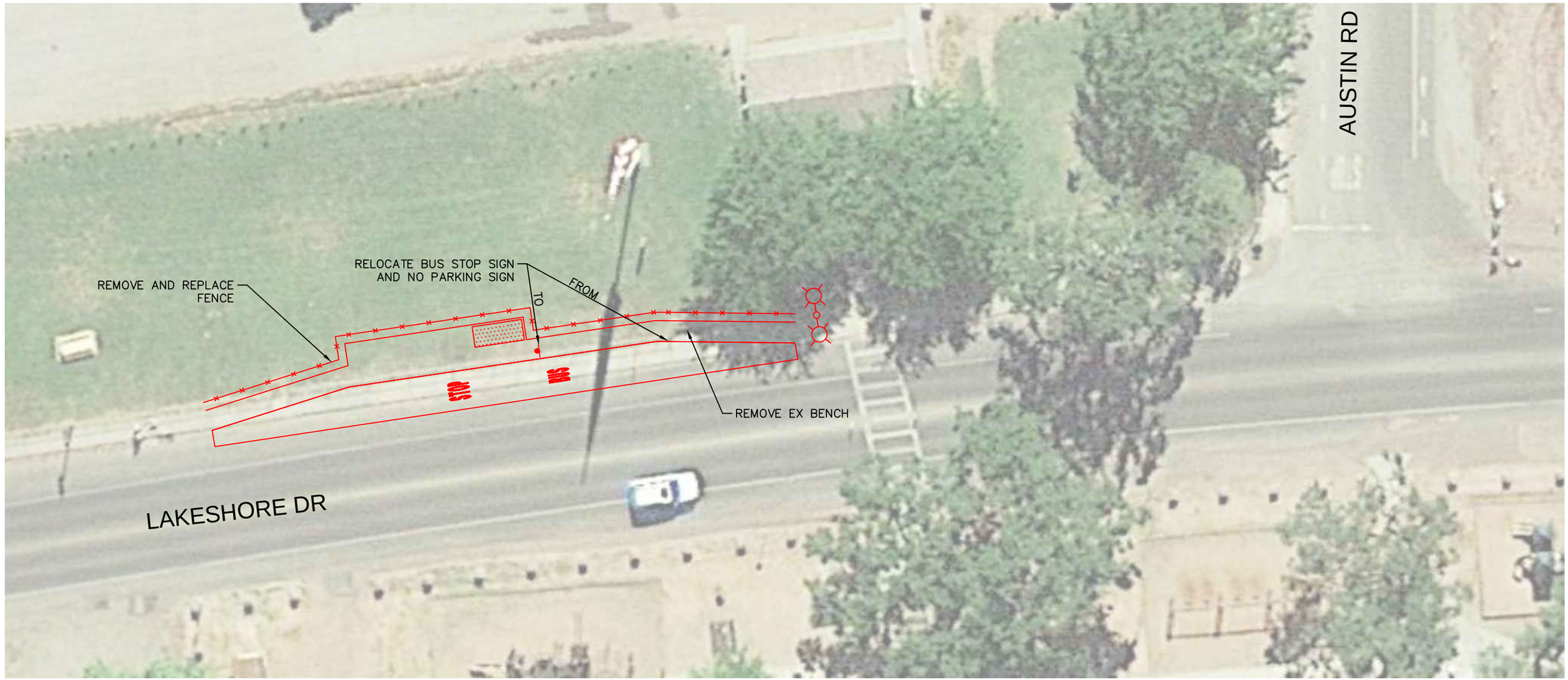

LEGEND

- STREET LIGHT
- BUS SHELTER WITH BENCH
- BIKE RACK
- BUS STOP SIGN
- TRASH CAN

chs Consulting Group
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SAN FRANCISCO, CA 94104
PHONE (415) 392-9688

LAKE TRANSIT AUTHORITY

BUS PASSENGER FACILITY PLAN CONCEPTUAL DESIGN

AUSTIN PARK BUS STOP

BUS PULLOUT

Consulting Group

Project: Lake Transit Bus Passenger Facility Study

Location: Lakeshore Drive Bus Pull-out

Date: 10/8/2019

Author/Reviewer: CL/AK

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 10,000.00	1	$ 10,000.00
2	Traffic Control	EA	$ 5,000.00	1	$ 5,000.00
3	Storm Water Management and Erosion Control	EA	$ 5,000.00	1	$ 5,000.00
4	Clearing and Grubbing	LS	$ 10,000.00		$ -
5	Remove Asphalt Concrete	SF	$ 6.00	570	$ 3,420.00
6	Remove Existing Curb	LF	$ 10.00		$ -
7	Remove Existing Curb and Gutter	LF	$ 12.00	145	$ 1,740.00
8	Remove Concrete - Sidewalk	SF	$ 10.00	725	$ 7,250.00
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		$ -
10	Remove Fence	LS	$ 500.00	1	$ 500.00
11	Remove Striping and Pavement Markings	LS	$ 300.00		$ -
12	Remove Sign Panel	EA	$ 100.00		$ -
13	Remove Bench	EA	$ 100.00	1	$ 100.00
14	Relocate Existing Sign and Post	EA	$ 200.00	1	$ 200.00
15	Adjust Existing Utility to Finished Grade	EA	$ 5,000.00		$ -
16	Adjust Existing Manhole to Finished Grade	LF	$ 15,000.00		$ -
17	Vertical Curb	LF	$ 40.00		$ -
18	Curb and Gutter	LF	$ 40.00	145	$ 5,800.00
19	Asphalt Concrete Type A	TON	$ 400.00		$ -
20	Aggregate Base Class 2	TON	$ 250.00		$ -
21	Concrete Sidewalk	SF	$ 10.00	960	$ 9,600.00
22	New Curb Ramp	EA	$ 2,000.00		$ -
23	Concrete Bus Pad	SF	$ 10.00	1150	$ 11,500.00
24	Furnish & Install New Fence	LS	$ 2,000.00	1	$ 2,000.00
25	Thermoplastic Pavement Striping	LS	$ 700.00		$ -
26	Thermoplastic Pavement Markings	SF	$ 10.00	50	$ 500.00
27	Connect Existing SD to New SD Inlet Location	LS	$ 10,000.00		$ -
28	Furnish & Install New Storm Drain Inlet	EA	$ 10,000.00		$ -
29	Furnish & Install Luminaire and Pole	EA	$ 4,500.00	1	$ 4,500.00
30	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00	1	$ 1,500.00
31	Furnish & Install Pull Box	EA	$ 1,000.00	1	$ 1,000.00
32	Install Conduit and Conductors	LS	$ 6,000.00	1	$ 6,000.00
33	Furnish & Install Bollard	EA	$ 200.00		$ -
34	New Sign and Post	EA	$ 300.00		$ -
35	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00	1	$ 8,000.00
36	Furnish & Install Bike Rack	EA	$ 500.00		$ -
37	Furnish & Install Trash Can Enclosure	EA	$ 500.00		$ -
38	ROW Acquisition	SF	$ 500.00		$ -
39					
40					
				Subtotal	$ 83,610.00
		Contingency	25%		$ 20,902.50
				TOTAL	$ 104,512.50

Note: This estimate reflects probable construction costs based on the project location. Where possible, the estimate is based upon actual measurements of certain items. Unit costs were obtained from projects of similar nature.

Appendix F

Systemwide Recommended Improvements at Individual Bus Stops

TABLE 1: Summary of Recommended Improvements (6 Sheets)

ID#	Bus Stop	Routes Served 1	2	3	4	4A	7	8	10	11	12	Stop Shared With	Relative Ridership Over All Routes	Recommended Improvements: Sign New	Sign Replace	Pole New	Pole Replace	Pole Fix	Bench New	Bench Replace	Shelter New	Shelter Replace	Trim Vege-tation	Improve Lighting	Bus Pullout	ADA Improve-ments
10.01	WALMART FOOD PLACE	X		X	X	X			X	X	X	11.38, 30.01, 31.13, 40.01, 41.21, 100.01, 100.45, 110.01, 110.42, 120.01, 120.12, 120.42	High	*Replace With New Transit Center*												
10.02	KEYS BLVD	X											Med	X		X			X					X		
10.03	HWY 20 & POST OFFICE	X											Low	X		X										
10.04	EAST LAKE SCHOOL	X											Low		X	X										
10.05	LAKE ST	X											Low													
10.06	RED & WHITE MARKET	X											Low	X		X										
10.07	MATTRESS STORE	X											Low	X		X										
10.08	LAKEVIEW DR	X											Low	X		X									X	X
10.09	BLUE FISH COVE	X											Low					X								
10.10	INDIAN BEACH RESORT	X											Low					X								
10.11	GLENHAVEN DR	X											Low					X								X
10.12	BRUNER DR	X											Low	X		X									X	X
10.13	DRIFTWOOD LOUNGE -- ELIMINATE	X										11.24	Low													
10.14	LAUREL DELL AT RIVERA MOTEL	X										11.23	Low													X
10.15	BELL RAY	X											Low	X		X									X	X
10.16	LAKESHORE & HWY 20	X											Low	X		X										X
10.17	LUCERNE ELEMENTARY SCHOOL	X											Low													
10.18	HWY 20 & 14TH	X											Low					X								X
10.19	TOWER MART	X											Low													
10.20	AT MARYMOUNT COLLEGE AT 13TH	X											Low	X		X										X
10.21	HWY 20 & 9TH	X											Med	X		X								X		
10.22	HWY 20 & 5TH	X											Med													
10.23	HWY 20 & 1ST ST	X											Med		X	X					X					
10.24	THE HARBOR	X											Low	X		X										
10.25	NICE POST OFFICE	X											Med	X		X								X		
10.26	NICE MARKET	X											Med	X		X			X					X		
10.27	HINMAN PARK	X											Low					X		X		X				
10.28	LAKEVIEW AVE	X											Low	X		X										X
10.29	SENTRY MARKET	X					X					11.07, 70.03, 71.08	Med											X		
10.30	ROBINSONS CASINO	X					X					71.02, 70.04, 11.06	Med			X										
10.31	RUNNING CREEK CASINO	X										11.05	Low	X		X										
10.32	UPPER LAKE HIGH SCHOOL	X											Low	X		X										X
10.33	MAIN ST & HWY 20	X											Low										X			
10.34	TURNOUT ACROSS FROM CHEVRON	X											Low	X		X										
10.35	LAKE COUNTY JAIL	X						X				11.02, 80.01, 81.21	Low													
10.36	SUTTER LAKESIDE	X						X				11.01, 80.02, 81.20	High	X		X										
11.03	MAIN ST & HWY 20	X											Med										X			
11.04	UPPER LAKE HIGH SCHOOL	X											Low	X		X										
11.08	COLLIER	X											Low													X
11.09	BAT HOUSE ACROSS FROM HINMAN PARK	X											Low					X								X
11.10	MARINA GRILL	X											Low	X		X										
11.11	WORLD MARK-NICE POST OFFICE	X											Med	X		X			X					X		X
11.12	THE HARBOR	X											Low	X		X										X
11.13	1ST ST & HWY 20	X											Med	X		X			X					X		X
11.14	2ND & HWY 20 BETWEEN XWALK & ALPINE PARK SIGN	X											Low	X		X									X	
11.15	5TH AND HWY 20 NEAR FIRE HYDRANT IN	X											Low	X		X										
11.16	FRONT OF THE WATER SERVICE COMPANY	X											Low	X		X										
11.17	9TH & HWY 20 LUCERNE HARBOR PARK	X											Low				X									
11.18	13TH & COUNTRY CLUB MARYMONT COLLEGE	X											Low	X		X										
11.19	13TH & HWY 20 COMMUNITY GARDEN PARK	X											Low					X								X
11.20	16TH & HWY 20 OLD MONUMENT SIGN	X											Low	X		X										X
11.21	LAKESHORE & HWY 20	X											Low													

TABLE 1: Summary of Recommended Improvements (6 Sheets)

ID#	Bus Stop	Routes Served										Stop Shared With	Relative Ridership Over All Routes	Recommended Improvements											
														Sign		Pole			Bench		Shelter		Trim Vege-tation	Improve Lighting	Bus Pullout	ADA Improve-ments
		1	2	3	4	4A	7	8	10	11	12			New	Replace	New	Replace	Fix	New	Replace	New	Replace				
11.22	JUST BEFORE BELL RAY	X											Low					X								
11.25	BRUNER DR-GRAVEL PULL OUT-KONA TAYHEE	X											Low	X		X										X
11.26	GLENHAVEN	X											Low			X										
11.27	INDIAN BEACH RESORT	X											Low	X		X										
11.28	BLUE FISH COVE	X											Low					X								
11.29	LAKEVIEW	X											Low	X		X										
11.30	TOWER MART	X											Low													
11.31	THE BARN	X											Low	X		X										
11.32	LAKE ST	X											Low	X		X										X
11.33	EAST LAKE SCHOOL	X											Low			X										
11.34	HWY 20 BURGERS	X											Low	X		X										
11.35	KEYS BLVD	X											Low			X				X						
11.36	ORCHARD SHORES	X								X	X		Low					X								
11.37	WOODLAND COLLEGE	X	X		X	X						110.41, 120.02	Med										X			
20.01	KITS CORNER		X									21.24, 40.05, 41.18, 50.01, 51.19	Med	X		X				X		X		X		
20.02	DIAMOND DUST		X										Low	X		X						X				
20.03	WILD CAT CANYON		X										Low	X		X										X
20.04	SALMINA		X										Low	X		X										X
20.05	ADMIRAL RD		X										Low	X		X										X
20.06	MARIAH MEADOWS		X										Low	X		X										X
20.07	LOCH LOMOND		X										Low	X		X										X
20.08	HARRINGTON FLATS		X										Low	X		X										X
20.09	HOBERGS RESORT		X										Low	X		X										X
20.10	SUMMIT		X										Low	X		X										X
20.11	HARDESTERS		X									21.12	Low					X								
20.12	TURNOUT ACROSS FROM GIFFORD SPRINGS		X										Low	X		X										X
20.13	THE OLD TAVERN-MAPLE SHADOWS		X										Low	X		X										X
20.14	TURNOUT PASSED THE LAST TURN OF WHISPERING PINES		X										Low	X		X										
20.15	ANDERSON SPRINGS RD		X										Low	X		X										X
20.16	TURNOUT JUST PAST DRY CREEK		X										Low	X		X										X
20.17	TURNOUT BY SANTA CLARA RD		X										Low	X		X										X
20.18	MINI MALL-T&J AUTO PARTS		X										Low	X		X										
20.19	FIVE STAR TOWING		X										Low	X		X										
20.20	LAKESIDE APPLIANCE		X										Low										X			X
20.21	TWIN PINE CASINO		X										Low	X		X										
20.22	PERRYS DELI		X	X									Low												X	X
20.23	CHARTER SCHOOL		X									30.09, 31.06	Low	X		X										X
20.24	ARMSTRONG RD		X										Low													
20.25	TRI COUNTIES BANK		X										Low													
21.01	HWY 29 & YOUNG ST		X										Low	X		X										X
21.02	HWY 175 & MCKINLEY DR		X										Low	X		X										X
21.03	MONTE VISTA COURT DR		X										Low	X		X										X
21.04	U-TURN TO BUS STOP AT ROCK		X										Low	X		X										X
21.05	JUST NORTH OF CASA GRANDE DR		X										Low					X								X
21.06	AUSTIN DR & SR 175		X										Low		X			X								
21.07	WHISPERING PINES		X										Low	X		X										
21.08	WATER CO SIGN		X										Low	X		X										
21.09	GIFFORD SPRINGS		X										Low	X		X										
21.10	GOLF RD		X										Low	X		X										X
21.11	TURNOUT ACROSS FROM FIRE DEPT		X										Low	X		X										
21.13	SUMMIT		X										Low	X		X										X
21.14	SR 175 & ENTRANCE RD		X										Low	X		X										X
21.15	HOBERGS RESORT		X										Low	X		X										X
21.16	SR 175 & HARRINGTON FLATS		X										Low	X		X										X
21.17	LOCH LOMOND		X										Low	X		X										

TABLE 1: Summary of Recommended Improvements (6 Sheets)

ID#	Bus Stop	Routes Served									Stop Shared With	Relative Ridership Over All Routes	Recommended Improvements											
													Sign		Pole			Bench		Shelter		Trim Vege-tation	Improve Lighting	Bus Pullout	ADA Improve-ments
		1	2	3	4	4A	7	8	10	11	12		New	Replace	New	Replace	Fix	New	Replace	New	Replace				
21.18	MARIAH MEADOWS		X										Low	X		X									X
21.19	ADMIRAL RD		X										Low	X		X									X
21.20	SALMINA		X										Low	X		X									X
21.21	WILD CAT CANYON		X										Low	X		X									X
21.22	DIAMOND DUST		X										Low	X		X					X				X
21.23	RED HILLS RD		X										Low	X		X									X
30.02	JOB ZONE			X	X				X		X	40.02, 100.37, 120.04	Low	X		X								X	X
30.03	ACROSS FROM LAKE TRANSIT			X	X				X		X	40.03, 100.38, 120.05	Low	X		X									X
30.04	TOWER MART- 53/29			X									Low	X		X									
30.05	TWIN LAKES			X								31.1	Low	X		X									X
30.06	HIDDEN VALLEY WATER COMPANY			X								31.08	Low	X		X									
30.07	MUG SHOTS- COYOTE VALLEY PHARM			X								31.09	Low	X		X									X
30.08	HWY 29 & YOUNG ST-TRI COUNTIES BANK			X									Low												
30.10	FIVE STAR TOWING			X									Low	X		X									
30.11	LAKE COUNTY APPLIANCE			X									Low									X			X
30.12	TWIN PINES CASINO			X									Low	X		X									
30.13	*LINCOLN AVENUE BRIDGE*			*X*									*Low*			X									
30.14	*ST HELENA HOSPITAL*			*X*								*31.01*	*Low*	X		X									
31.02	*LINCOLN AVENUE BRIDGE*			*X*									*Med*			X									
31.03	TWIN PINES CASINO			X									Low	X		X									
31.04	PERRYS DELI			X									Low											X	X
31.05	ARMSTRONG RD			X									Low												
31.07	HARDESTERS			X									Low	X		X									X
31.11	HWY 53 & HWY 29 (FOSTER FREEZE)			X									Low	X		X									X
31.12	LAKE TRANSIT YARD			X	X							41.2	Low					X							
40.04	TOWER MART				X								Low	X		X									
40.06	KELSEYVILLE AUTO WRECKERS				X								Low	X		X									X
40.07	STORE 24				X							41.16	Low	X		X									X
40.08	GAS HILL				X								Low								X				X
40.09	4TH & MAIN				X								Low	X		X									X
40.10	PHARMACY				X								Low												
40.11	ACROSS FROM KELSEYVILLE LUMBER				X								Low	X		X									
40.12	MENDO COLLEGE				X	X		X				50.16, 51.07, 80.27, 81.01	Low												
40.13	ACROSS FROM ROTTEN ROBBIES				X								Low											X	
40.14	STATE FARM (ACROSS FROM KMART)				X								Low											X	
40.15	NURSERY & GROCERY OUTLET				X	X						50.12	Low											X	
40.16	BOWLING ALLEY				X	X						41.04, 50.13, 51.04	Low												
40.17	SAFEWAY				X	X	X	X				50.17, 50.18, 71.09, 81.07	Med												
40.18	9TH & MAIN				X	X		X				50.19, 80.17	Low												
40.19	3RD & MAIN				X	X		X				50.08, 50.20, 80.18	Low												
41.01	3RD & MAIN				X	X	X	X				51.01, 70.01, 71.06, 81.05,	High												
41.02	MAIN & MARTIN				X			X				80.19	Low												
41.03	MAIN & D ST				X								Low											X	
41.05	SOCIAL SECURITY				X	X						50.14, 51.05	Low	X		X				X					
41.06	TACO BELL BEFORE DRIVEWAY				X	X						50.15, 51.06	Low	X		X									X
41.07	BRUNOS				X	X		X				51.08, 80.23	Med	X		X			X						X
41.08	GROCERY OUTLET				X	X		X				51.09, 80.24	Med							X		X		X	
41.09	HOSPICE				X				X		X	51.10, 110.18, 120.23	Low												
41.10	KMART				X								Med						X			X			
41.11	ROTTEN ROBBIES				X								Low	X		X								X	X
41.12	KELSEYVILLE LUMBER				X								Low												
41.13	ACROSS FROM PHARMACY				X								Med												
41.14	4TH & MAIN (WEST AMERICA BANK)				X								Low												
41.15	BEFORE LIVE OAK				X								Low												
41.17	ACROSS FROM KELSEYVILLE WRECKERS				X								Low												

TABLE 1: Summary of Recommended Improvements (6 Sheets)

ID#	Bus Stop	Routes Served										Stop Shared With	Relative Ridership Over All Routes	Recommended Improvements											
														Sign		Pole			Bench		Shelter		Trim Vege-tation	Improve Lighting	Bus Pullout	ADA Improve-ments
		1	2	3	4	4A	7	8	10	11	12			New	Replace	New	Replace	Fix	New	Replace	New	Replace				
41.19	HWY 29 & HWY 53- FOSTERS				X								Low													
50.02	RIVIERA SHOPPING CENTER					X							Low	X		X										X
50.03	BAYVIEW ESTATES					X							Low					X								X
50.04	MONTEZUMA WAY					X							Low					X								X
50.05	RIVIERA WEST					X							Low					X								X
50.06	BUCKINGHAM					X							Low													
50.07	SODA BAY STORE					X							Low					X								X
50.09	FINLEY POST OFFICE					X							Low	X		X										X
50.10	KONOCTI VISTA CASINO					X						51.13	Low					X								
50.11	KMART					X							Low													
51.02	MAIN & D ST					X							Low													
51.03	D STREET					X							Low													
51.11	KMART					X		X				80.25	Low													
51.12	ROTTEN ROBBIES					X		X				80.26	Low													
51.14	FINLEY POST OFFICE					X							Low													
51.15	SODA BAY STORE					X							Low													
51.16	RIVERA WEST					X							Low													
51.17	MONTEZUMA WAY					X							Low													
51.18	RIVERA SHOPPING CENTER					X							Low													
70.02	9TH & MAIN (NATURAL HIGH)						X					71.10, 81.06	Low					X								
70.05	1ST & MAIN UPPER LAKE						X					71.06	Low	X		X										
70.06	BLUE LAKES						X						Low	X		X										
70.07	*MENDOCINO COLLEGE UKIAH*						X					*71.04*	*Low*	X		X										
70.08	*PEAR TREE*						X					*71.03*	*Low*			X										
70.09	*VETERANS CLINIC*						X					*71.02*	*Low*	X		X										
70.10	*AIRPORT*						X					*71.01*	*Low*													
71.05	BLUE LAKES						X						Low	X		X										X
80.03	LAKESIDE HEALTH CLINIC							X				81.19	Low	X		X										X
80.04	NORTHPORT MOBILE HOME PARK							X				81.18	Low					X								X
80.05	EL DORADO MOTEL							X					Low		X											X
80.06	PEOPLE SERVICES-WALNUT DR							X					Low													
80.07	ELKS LODGE							X					Low													X
80.08	RAINBOW MOBILE HOME PARK							X					Low													X
80.09	PARK WAY							X					Low	X		X										X
80.10	TOWER MART							X					Low	X		X										X
80.11	CRYSTAL LAKE DR							X					Low													X
80.12	BEACH LN-RAINBOW LODGE							X					Low					X								X
80.13	LAKESHORE & LANGE							X					Low					X								X
80.14	HIGH ST VILLAGE							X					Low												X	
80.15	LIBRARY							X					Low												X	
80.16	N.FORBES ST							X					Low				X									
80.20	STARR & MARTIN (BELLA VISTA)							X					Low													
80.21	TRIBAL HEALTH							X					Low	X		X										
80.22	BEVINS ACROSS FROM WIC							X					Low													
81.02	AAA							X					Low	X		X										
81.03	SENIOR CENTER							X	X		X	110.24, 120.30	Med	X		X			X					X		
81.04	MARTIN ST (BELLA VISTA)							X					Low	X		X										
81.08	VIA DEL LAGO							X					Low					X							X	X
81.09	LAKESHORE & LANGE							X					Low					X								X
81.10	BEACH LN-RAINBOW LODGE							X					Low	X		X										X
81.11	THE CHATEAU							X					Low					X					X			X
81.12	TOWER MART							X					Low	X		X										
81.13	PARK WAY							X					Low													X
81.14	ACROSS FROM RAINBOW MOBILE HOME							X					Low													X
81.15	ROCKY POINT							X					Low					X								X

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ID#	Bus Stop	Routes Served										Stop Shared With	Relative Ridership Over All Routes	Recommended Improvements											
														Sign		Pole			Bench		Shelter		Trim Vege-tation	Improve Lighting	Bus Pullout	ADA Improve-ments
		1	2	3	4	4A	7	8	10	11	12			New	Replace	New	Replace	Fix	New	Replace	New	Replace				
81.16	ACROSS FROM PEOPLE SERVICES							X					Low													
81.17	ACROSS FROM PERKS MOBILE HOME							X	X				Low					X								X
100.02	CLEARLAKE APTS								X		X	120.13	Med						X					X	X	
100.03	J&L MARKET								X		X	120.14	Low												X	X
100.04	CROSSROADS CHURCH								X		X	120.15	Low	X											X	
100.05	CYPRESS								X		X	120.16	Low	X		X									X	X
100.06	MENDO MILL								X				Low	X		X										X
100.07	OLD HWY 53 & LAKESHORE								X				Med						X					X	X	X
100.08	OLD RED CROSS								X				Low					X								X
100.09	HILL AVE								X				Low					X								X
100.10	RIDGE LAKE APTS-COMMONS								X				Med					X				X				
100.11	BURNS VALLEY MALL								X				Low				X								X	X
100.12	CLEARLAKE POST OFFICE								X				Med		X			X	X							
100.13	BABY STORE (ACROSS FROM LOCUST)								X				Low	X		X										X
100.14	CITY HALL								X				Low					X								
100.15	OLD BOWLING ALLEY								X				Low					X								
100.16	POMO & WOODLAND								X				Low	X		X									X	X
100.17	BOXWOOD & ARROWHEAD								X				Med						X					X		X
100.18	TOYON								X				Low		X											X
100.19	MODOC								X				Low					X								
100.20	2ND ST (HALFWAY DOWN BLOCK)								X				Low					X					X			X
100.21	2ND & BUSH								X				Med					X						X		X
100.22	8TH & BUSH								X				Low													X
100.23	11TH & BUSH								X				Low	X		X										X
100.24	13TH & COUNTRY CLUB								X				Low	X		X										X
100.25	COUNTRY CLUB & ARROWHEAD								X				Low													X
100.26	CLEARLAKE PARK POST OFFICE								X				Low										X			
100.27	AMERICAS BEST VALUE INN								X				Med	X		X			X							X
100.28	LAKESHORE & POMO								X				Low					X								X
100.29	CITY HALL								X				Low					X								
100.30	AUSTIN PARK								X				Low													
100.31	BAYLIS & LAKEHORE								X				Med						X					X		X
100.32	HIGHLANDS PARK (CASTLE DONUTS)								X				Low													
100.33	CATFISH COFFEE								X				Med	X		X			X						X	X
100.34	NOTT'S LIQUOR								X				Low													X
100.35	VETERANS CLINIC								X	X		110.3	Med	X		X										
100.36	VALERO								X	X		110.31	Low	X		X										X
100.39	SOCIAL SERVICES								X				Low	X		X										X
100.40	HWY 53 & MAIN (DL'S PIZZA)								X		X	120.06	Low	X		X										X
100.41	BETWEEN LAKE & 2ND ST								X				Med					X								
100.42	LOWER LAKE HIGH SCHOOL								X		X	120.08	High													
100.43	CEMETERY								X		X	120.09	Low	X		X										
100.44	BRYANT RD								X		X	120.1	Low	X		X										
100.45	CACHE CREEK APTS								X		X	120.11	Low													
110.02	ST.HELENA CLEARLAKE									X			Low	X		X										
110.03	IRVING & 18TH									X			Low					X								X
110.04	BOYLES & 18TH									X			Low					X								X
110.05	BOYLES & 25TH									X			Low													X
110.06	BOYLES BETWEEN 30TH & 31ST									X			Low													X
110.07	33RD & PHILLIPS									X			Low					X								X
110.08	36TH & PHILLIPS									X			Low					X								X
110.09	PHILLIPS & 40TH (40TH STORE)									X			Low					X								X
110.10	45TH -THE DUMP DAVIS ST									X			Low					X								X
110.11	MOSS (FIRST DRIVE WAY)									X			Low					X								X
110.12	WEST AMERICA BANK									X			Med					X	X							X

TABLE 1: Summary of Recommended Improvements (6 Sheets)

ID#	Bus Stop	Routes Served										Stop Shared With	Relative Ridership Over All Routes	Recommended Improvements											
														Sign		Pole			Bench		Shelter		Trim Vege-tation	Improve Lighting	Bus Pullout	ADA Improve-ments
		1	2	3	4	4A	7	8	10	11	12			New	Replace	New	Replace	Fix	New	Replace	New	Replace				
110.13	CLEARLAKE FAMILY CLINIC									X			Med	X		X			X					X	X	X
110.14	NAPA AUTO PARTS									X	X	120.19	Low													
110.15	NOTT'S LIQUOR									X			Low	X		X								X		
110.16	CATFISH COFFEE									X	X	120.21	Med						X						X	X
110.17	BURGER TIME									X	X	120.22	Low													X
110.19	OLD FIREHOUSE									X	X	120.24	Low													X
110.20	AUSTIN PARK									X	X	120.25	Low												X	X
110.21	HAVERTY FIELD									X	X	120.26	Low		X											X
110.22	CLEARLAKE POST OFFICE									X	X	120.27	Low	X		X									X	X
110.23	BURNS VALLEY MALL									X			Low				X								X	X
110.25	SHELTER AT WALNUT GROVE APTS									X	X	120.31	Low	X		X						X				
110.26	SAFEWAY									X	X	120.32	Low	X		X									X	
110.27	OLD HWY 53 PAST RITE AID									X	X	120.33	Low										X			X
110.28	HIGHLANDS WAY									X	X	120.34	Low					X								X
110.29	HILLCREST									X	X	120.35	Low	X		X										X
110.32	MOSS & DAVIS (BEFORE 35MPS SIGN)									X			Low	X		X										X
110.33	PHILLIPS & 44TH									X			Low					X								
110.34	PHILLIPS & 39TH									X			Low	X		X										
110.35	32ND & PHILLIPS									X			Low					X								X
110.36	BOYLES & 29TH									X			Low	X		X										
110.37	BETWEEN 26TH & 25TH									X			Low	X		X										
110.38	BOYLES AND 21ST									X			Low		X			X					X			X
110.39	IRVING & 18TH									X			Low					X					X			X
110.40	ST.HELENA CLEARLAKE									X			Low	X		X										
120.03	SOCIAL SERVICES										X		Low	X		X										X
120.07	BETWEEN LAKE ST & SECOND ST										X		Low					X								
120.17	MENDO MILL (ACROSS THE STREET)										X		Low					X				X	X		X	
120.18	OLD HWY 53 & LAKESHORE										X		Low													X
120.20	NOTT'S LIQOUR										X		Low												X	
120.28	BURNS VALLEY MALL										X		Low				X									X
120.29	B&G TIRES										X		Low	X		X										X
120.36	BALLPARK-OLD HWY 53-LAKESHORE										X		Low					X							X	X
120.37	MENDO MILL										X		Low					X				X	X		X	
120.38	KING FISHER										X		Low	X		X										
120.39	CEDAR VILLAGE APTS										X		Low					X								
120.40	HIGHLANDS APTS										X		Low													
120.41	CLEARLAKE APTS										X		Low													
	Total # of Improvements													141	8	149	5	58	17	5	0	12	13	17	34	146

Table 2: Recommended Pullout Locations and Priority

Stop ID	Stop	Street	Side	Routes										Ridership	Width Adequate to Allow Passing Without Impinging on Oncoming Lane	ADT	Weighted Score	Priority
				1	2	3	4	4a	7	8	10	11	12					
10.08	LAKEVIEW DR	SR-20	North	X										Low	Y	5,135	4	Low
10.12	BRUNER DR	SR-20	East	X										Low	N	7,409	8	Medium
10.15	BELL RAY	SR-20	East	X										Low	N	7,063	8	Medium
11.14	2ND & HWY 20 BTN XWALK & ALPINE PARK SIGN	SR-20	West	X										Low	Y	9,598	8	Medium
20.22	PERRYS DELI	SR-29	West		X									Low	N	10,518	10	High
30.02	JOB ZONE	SR-53	West			X	X				X		X	Low	N	10,500	11	High
31.04	PERRYS DELI	SR-29	East			X								Low	N	10,518	10	High
40.13	ACROSS FROM ROTTEN ROBBIES	S Main St	East				X							Low	Y	5,740	4	Low
40.14	STATE FARM (ACROSS FROM KMART)	S Main St	East				X							Low	Y	5,740	4	Low
40.15	NURSERY & GROCERY OUTLET	S Main St	East				X	X						Low	Y	9,300	9	High
41.03	MAIN & D ST	S Main St	West				X							Low	Y	12,100	8	Medium
41.08	GROCERY OUTLET	S Main St	West				X	X		X				Med	Y	9,300	11	High
41.11	ROTTEN ROBBIES	S Main St	West				X	X		X				Low	Y	5,740	5	Low
80.14	HIGH ST VILLAGE	N High St	West							X				Low	Y	8,200	6	Low
80.15	LIBRARY	N High St	West							X				Low	Y	6,600	6	Low
81.08	VIA DEL LAGO	N High St	East							X				Low	Y	8,200	6	Low
100.02	CLEARLAKE APTS	Old Hwy 53	East								X		X	Med	N	5,240	9	High
100.03	J&L MARKET	Old Hwy 53	East								X		X	Low	N	5,240	7	Medium
100.04	CROSSROADS CHURCH	Old Hwy 53	East								X		X	Low	N	5,240	7	Medium
100.05	CYPRESS	Old Hwy 53	East								X		X	Low	N	5,265	7	Medium
100.07	OLD HWY 53 & LAKESHORE	Old Hwy 53	East								X			Med	N	5,265	8	Medium
100.11	BURNS VALLEY MALL	Olympic Dr	North								X			Low	Y	5,870	6	Low
100.16	POMO & WOODLAND	Lakeshore Dr	East								X			Low	N	5,950	8	Medium
100.33	CATFISH COFFEE	Lakeshore Dr	Southwest								X			Med	N	7,258	10	High
110.13	CLEARLAKE FAMILY CLINIC	Lakeshore Dr	North									X		Med	Y	8,130	8	Medium
110.16	CATFISH COFFEE	Lakeshore Dr	Northeast									X	X	Med	N	7,694	11	High
110.20	AUSTIN PARK	Lakeshore Dr	East									X	X	Med	N	7,694	11	High
110.22	CLEARLAKE POST OFFICE	Olympic Dr	South									X	X	Low	Y	5,200	5	Low
110.23	BURNS VALLEY MALL	Olympic Dr	South									X		Low	Y	5,870	6	Low
110.26	SAFEWAY	Burns Valley Rd	West									X	X	Low	N	5,010	7	Medium
120.17	MENDO MILL (ACROSS THE STREET)	Old Hwy 53	East										X	Low	Y	5,265	4	Low
120.20	NOTT'S LIQUOR	Lakeshore Dr	North										X	Low	N	8,130	8	Medium
120.36	BALLPARK-OLD HWY 53-LAKESHORE	Old Hwy 53	West										X	Low	N	5,265	6	Low
120.37	MENDO MILL	Old Hwy 53	West										X	Low	Y	5,265	4	Low

Source: LSC Transportation Consultants, Inc.

Table 3: Review of Bus Stop Locations on Major Roadways in Clearlake

	Stop ID	Stop Location	Routes 10	11	12	Ridership	Existing Amenities Pullout	Shelter	Bench	Distance From Previous Stop (Ft.)[1]	Meets Spacing Standard?
Lakeshore Drive											
Northbound	110.12	West America Bank		x		Med				790	Yes
	110.13	Foods Etc., Clearlake Family Clinics		x		Med	x		x	1,260	Too Far
	110.14	Napa Auto Parts		x	x	Low				1,245	Too Far
	110.15	Notts Liquor		x	x	Low				880	Yes
	110.16	Catfish Coffee		x	x	Med	x			970	Too Far
	110.17	Burger Time		x	x	Low				800	Yes
	110.18	Hospice		x	x	Med			x	1,540	Too Far
	110.19	Old Firehouse		x	x	Low				1,100	Too Far
	110.20	Lakeshore Drive and Austin Road		x	x	Low		x		1,300	Too Far
	100.15	Old Bowling Alley	x			Low				920	Too Far
	100.16	Lakeshore Drive and Woodland Drive	x			Low	x			1,200	Too Far
Southbound	100.26	Clearlake Post Office	x			Low				1,950	Too Far
	100.27	Best Value Inn	x			Med				3,150	Too Far
	100.28	Lakeshore Drive and Pomo Road	x			Low	x			620	Too Close
	100.29	City Hall Lakeshore and Olympic	x			Low	x			1,750	Too Far
	100.30	Austin Park West	x			Low		x		870	Yes
	100.31	Bayliss/Lakeshore Old Firehouse	x			Med				1,100	Too Far
	100.32	Highlands Park (Castle Donuts)	x			Low				1,600	Too Far
	100.33	Catfish Coffee	x			Med	x			2,000	Too Far
	100.34	Knott's Liquor	x			Med				910	Too Far
	100.35	Veteran's Clinic Lakeshore	x	x		Low		x	x	1,110	Too Far
	100.36	Valero (across from Verizon)	x	x		Low			x	1,180	Too Far
Olympic Drive											
EB	110.21	Haverty Field		x	x	Low	x			1,400	Too Far
	110.22	Clearlake Post Office		x	x	Low	x			1,780	Too Far
	110.23	Burns Valley Mall		x	x	Low	x			1,700	Too Far
WB	100.11	Burns Valley Mall	x			Low	x			2,000	Too Far
	100.12	Post Office	x			Med				1,600	Too Far
	100.13	Olympic Drive and Locust Street	x			Low	x			1,150	Too Far
	100.14	City Hall Olympic and Lakeshore	x			Low	x			1,560	Too Far
Old Highway 53											
Northbound	100.02	Clearlake Apartments	x		x	Med	x		x	2,150	Too Far
	100.03	J&L Market	x		x	Low	x			1,930	Too Far
	100.04	Crossroads Church/Crawford Street	x		x	Low	x			1,280	Too Far
	100.05	Cypress	x		x	Low	x			1,720	Too Far
	100.06	Mendo Mill	x		x	Low				1,050	Too Far
	100.07	Old 53 and Lakeshore	x			Med	x			1,750	Too Far
	100.08	Old Red Cross (Opposite Hillcrest)	x			Low				1,190	Too Far
	100.09	Hill Ave	x			Low				520	Too Close
	100.10	Clearlake Commons	x			Med		x	x	1,650	Too Far
	100.11	B&G Tire		x	x	Low	x			1,720	Too Far
Southbound	110.26	Safeway		x	x	Low	x			1,470	Too Far
	110.27	Old 53 past Rite Aid		x	x	Low				860	Yes
	110.28	Highlands Way		x	x	Low				1,790	Too Far
	110.29	Hillcrest		x	x	Low				1,280	Too Far
	120.36	Old 53 and Lakeshore			x	Low	x			1,550	Too Far
	120.37	Mendo Mill			x	Low	x	x	x	1,215	Too Far
	120.38	Kingfisher			x	Low	x			1,700	Too Far
	120.39	Cedar Village Apartments			x	Low				1,020	Too Far
	120.40	Highlands Village Apartments			x	Low	x	x		680	Yes
	120.41	Clearlake Apartments			x	Low	x	x		2,800	Too Far

Note 1: Standard is to provide stops in urbanized areas between 660 and 880 apart.

Source: LSC Transportation Consultants, Inc.

Appendix G

Estimated Unit Costs for Systemwide Recommended Improvements at Individual Bus Stops

Project: Lake Transit Bus Passenger Facility Study

Item: Bus Stop Improvement Recommendation Cost Estimate

Date: 4/16/2019

Author/Reviewer: FF/AK

Bid Item No.	Description	Unit	Unit Cost	Quantity	Total	Assumptions
	Bus Stop signs					
1	New Sign Panel	EA	$ 100.00	141	$ 14,100.00	$300 total for sign and pole
2	Replace Sign Panel	EA	$ 200.00	8	$ 1,600.00	$100 for removing sign panel
	Sign Poles					
3	New Sign Pole	EA	$ 200.00	149	$ 29,800.00	$300 for sign and pole together
4	Replace Sign Pole	EA	$ 300.00	5	$ 1,500.00	$100 for removing sign pole; $200 for installing
5	Repair Sign Pole	EA	$ 100.00	58	$ 5,800.00	Repair costs half as a new pole
	Benches					
6	New Bench	EA	$ 800.00	17	$ 13,600.00	10% cost of a bus shelter
7	Replace Bench	EA	$ 900.00	5	$ 4,500.00	$100 for removing existing bench
	Shelters					
8	Replace Shelter	EA	$ 8,000.00	12	$ 96,000.00	$8000 total for each shelter with bench
	Bus Pullouts					
9	New Bus Pullouts	EA	$ 56,180.00	34	$ 1,910,120.00	See Bus Pullout tab
	Vegetation					
10	Tree Trimming	EA	$ 300.00	13	$ 3,900.00	See Reference tab
	Lighting					
11	Install Lighting	EA	$ 13,000.00	17	$ 221,000.00	See Lighting tab
	ADA Accessibility					
12	New Passenger Waiting	EA	$ 20,562.50	146	$ 3,002,125.00	See Reference tab
				TOTAL	$ 5,304,045.00	

Note: This estimate reflects probable construction costs based on a typical project location. Where possible, the estimate is based upon actual measurements of certain items. Unit costs were obtained from projects of similar nature.

Project: Lake Transit Bus Passenger Facility Study

Item: Bus Pull-out

Date: 4/16/2019

Author/Reviewer: FF/AK

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 10,000.00		
2	Traffic Control	EA	$ 10,000.00		
3	Storm Water Management and Erosion Control	EA	$ 10,000.00		
4	Clearing and Grubbing	LS	$ 10,000.00		
5	Remove Asphalt Concrete	SF	$ 6.00	280	$ 1,680.00
6	Remove Existing Curb	LF	$ 10.00		
7	Remove Existing Curb and Gutter	LF	$ 12.00		
8	Remove Concrete - Sidewalk	SF	$ 10.00		
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		
10	Remove Bollard	EA	$ 100.00		
11	Remove Striping and Pavement Markings	LS	$ 300.00		
12	Remove Sign Panel	EA	$ 100.00		
13	Remove Bench	EA	$ 100.00		
14	Relocate Existing Sign and Post	EA	$ 200.00		
15	Adjust Existing Utility to Finished Grade	EA	$ 5,000.00		
16	Adjust Existing Manhole to Finished Grade	LF	$ 15,000.00		
17	Vertical Curb	LF	$ 40.00	140	$ 5,600.00
18	Curb and Gutter	LF	$ 40.00	160	$ 6,400.00
19	Asphalt Concrete Type A	TON	$ 400.00		
20	Aggregate Base Class 2	TON	$ 250.00	30	$ 7,500.00
21	Concrete Sidewalk	SF	$ 10.00	1050	$ 10,500.00
22	New Curb Ramp	EA	$ 2,000.00		
23	Concrete Bus Pad	SF	$ 10.00	450	$ 4,500.00
24	Concrete Driveway	SF	$ 40.00		
25	Thermoplastic Pavement Striping	LS	$ 700.00		
26	Thermoplastic Pavement Markings	SF	$ 10.00		
27	Connect Existing SD to New SD Inlet Location	LS	$ 10,000.00	1	$ 10,000.00
28	Furnish & Install New Storm Drain Inlet	EA	$ 10,000.00	1	$ 10,000.00
29	Furnish & Install Luminaire and Pole	EA	$ 4,500.00		
30	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00		
31	Furnish & Install Pull Box	EA	$ 1,000.00		
32	Install Conduit and Conductors	LS	$ 6,000.00		
33	Furnish & Install Bollard	EA	$ 200.00		
34	New Sign and Post	EA	$ 300.00		
35	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00		
36	Furnish & Install Bike Rack	EA	$ 500.00		
37	Furnish & Install Trash Can Enclosure	EA	$ 500.00		
38	ROW Acquisition	SF	$ 100.00		
39					
40					
				Total	$ 56,180.00

Project: Lake Transit Bus Passenger Facility Study

Item: Lighting

Date: 4/16/2019

Author/Reviewer: FF/AK

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 10,000.00		
2	Traffic Control	EA	$ 10,000.00		
3	Storm Water Management and Erosion Control	EA	$ 10,000.00		
4	Clearing and Grubbing	LS	$ 10,000.00		
5	Remove Asphalt Concrete	SF	$ 6.00		
6	Remove Existing Curb	LF	$ 10.00		
7	Remove Existing Curb and Gutter	LF	$ 12.00		
8	Remove Concrete - Sidewalk	SF	$ 10.00		
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		
10	Remove Bollard	EA	$ 100.00		
11	Remove Striping and Pavement Markings	LS	$ 300.00		
12	Remove Sign Panel	EA	$ 100.00		
13	Remove Bench	EA	$ 100.00		
14	Relocate Existing Sign and Post	EA	$ 200.00		
15	Adjust Existing Utility to Finished Grade	EA	$ 5,000.00		
16	Adjust Existing Manhole to Finished Grade	LF	$ 15,000.00		
17	Vertical Curb	LF	$ 40.00		
18	Curb and Gutter	LF	$ 40.00		
19	Asphalt Concrete Type A	TON	$ 400.00		
20	Aggregate Base Class 2	TON	$ 250.00		
21	Concrete Sidewalk	SF	$ 10.00		
22	New Curb Ramp	EA	$ 2,000.00		
23	Concrete Bus Pad	SF	$ 10.00		
24	Concrete Driveway	SF	$ 40.00		
25	Thermoplastic Pavement Striping	LS	$ 700.00		
26	Thermoplastic Pavement Markings	SF	$ 10.00		
27	Connect Existing SD to New SD Inlet Location	LS	$ 10,000.00		
28	Furnish & Install New Storm Drain Inlet	EA	$ 10,000.00		
29	Furnish & Install Luminaire and Pole	EA	$ 4,500.00	1	$ 4,500.00
30	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00	1	$ 1,500.00
31	Furnish & Install Pull Box	EA	$ 1,000.00	1	$ 1,000.00
32	Install Conduit and Conductors	LS	$ 6,000.00	1	$ 6,000.00
33	Furnish & Install Bollard	EA	$ 200.00		
34	New Sign and Post	EA	$ 300.00		
35	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00		
36	Furnish & Install Bike Rack	EA	$ 500.00		
37	Furnish & Install Trash Can Enclosure	EA	$ 500.00		
38	ROW Acquisition	SF	$ 100.00		
39					
40					
				Total	$ 13,000.00

Project: Lake Transit Bus Passenger Facility Study

Item: Sidewalk/Bus Passenger Waiting Area

Date: 6/25/2019

Author/Reviewer: FF/CL

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 5,000.00	1	$ 5,000.00
2	Traffic Control	EA	$ 5,000.00	1	$ 5,000.00
3	Storm Water Management and Erosion Control	EA	$ 10,000.00		$ -
4	Clearing and Grubbing	LS	$ 10,000.00		$ -
5	Remove Asphalt Concrete	SF	$ 6.00		$ -
6	Remove Existing Curb	LF	$ 10.00		$ -
7	Remove Existing Curb and Gutter	LF	$ 12.00		$ -
8	Remove Concrete - Sidewalk	SF	$ 10.00		$ -
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		$ -
10	Remove and Salvage Existing Bus Shelter	EA	$ 500.00		$ -
11	Remove Existing Wooden Shelter	EA	$ 300.00		$ -
12	Remove Bollard	EA	$ 100.00		$ -
13	Remove Striping and Pavement Markings	LS	$ 500.00		$ -
14	Remove Sign and Post	EA	$ 100.00		$ -
15	Tree Trimming	EA	$ 300.00		$ -
16	Relocate Existing Sign and Post	EA	$ 200.00		$ -
17	Relocate Existing Utility Pole and Guy Wire	EA	$ 50,000.00		$ -
18	Vertical Curb	LF	$ 40.00	35	$ 1,400.00
19	Curb and Gutter	LF	$ 40.00		$ -
20	New Median	SF	$ 20.00		$ -
21	Asphalt Concrete Type A	TON	$ 400.00		$ -
22	Aggregate Base Class 2 (6 inch high)	TON	$ 250.00	9.45	$ 2,362.50
23	Concrete Sidewalk	SF	$ 10.00	280	$ 2,800.00
24	New Curb Ramp	EA	$ 2,000.00	2	$ 4,000.00
25	Concrete Bus Pad	SF	$ 10.00		$ -
26	Concrete Driveway	SF	$ 40.00		$ -
27	Thermoplastic Pavement Striping	LS	$ 600.00		$ -
28	Thermoplastic Pavement Markings	SF	$ 10.00		$ -
29	Furnish & Install New Storm Drain inlet	EA	$ 10,000.00		$ -
30	Furnish & Install Luminaire and Pole	EA	$ 4,500.00		$ -
31	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00		$ -
32	Furnish & Install Pull Box	EA	$ 1,000.00		$ -
33	Install Conduit and Conductors	LS	$ 5,000.00		$ -
34	Furnish & Install Bollard	EA	$ 200.00		$ -
35	New Sign and Post	EA	$ 300.00		$ -
36	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00		$ -
37	Furnish & Install Bike Rack	EA	$ 500.00		$ -
38	Furnish & Install Trash Can Enclosure	EA	$ 500.00		$ -
39					
40					
				Total	$ 20,562.50

Project: Lake Transit Bus Passenger Facility Study

Item: Cost Reference

Date: 4/16/2019

Author/Reviewer: FF/AK

Bid Item No.	Bid Items	Unit	Unit Cost	Quantity	Total
1	Mobilization	EA	$ 10,000.00		$ -
2	Traffic Control	EA	$ 10,000.00		$ -
3	Storm Water Management and Erosion Control	EA	$ 10,000.00		$ -
4	Clearing and Grubbing	LS	$ 10,000.00		$ -
5	Remove Asphalt Concrete	SF	$ 6.00		$ -
6	Remove Existing Curb	LF	$ 10.00		$ -
7	Remove Existing Curb and Gutter	LF	$ 12.00		$ -
8	Remove Concrete - Sidewalk	SF	$ 10.00		$ -
9	Remove Existing Storm Drain Inlet	EA	$ 2,000.00		$ -
10	Remove and Salvage Existing Bus Shelter	EA	$ 500.00		$ -
11	Remove Existing Wooden Shelter	EA	$ 300.00		$ -
12	Remove Bollard	EA	$ 100.00		$ -
13	Remove Striping and Pavement Markings	LS	$ 500.00		$ -
14	Remove Sign and Post	EA	$ 100.00		$ -
15	Tree Trimming	EA	$ 300.00		$ -
16	Relocate Existing Sign and Post	EA	$ 200.00		$ -
17	Relocate Existing Utility Pole and Guy Wire	EA	$ 50,000.00		$ -
18	Vertical Curb	LF	$ 40.00		$ -
19	Curb and Gutter	LF	$ 40.00		$ -
20	New Median	SF	$ 20.00		$ -
21	Asphalt Concrete Type A	TON	$ 400.00		$ -
22	Aggregate Base Class 2	TON	$ 250.00		$ -
23	Concrete Sidewalk	SF	$ 10.00		$ -
24	New Curb Ramp	EA	$ 2,000.00		$ -
25	Concrete Bus Pad	SF	$ 10.00		$ -
26	Concrete Driveway	SF	$ 40.00		$ -
27	Thermoplastic Pavement Striping	LS	$ 600.00		$ -
28	Thermoplastic Pavement Markings	SF	$ 10.00		$ -
29	Furnish & Install New Storm Drain inlet	EA	$ 10,000.00		$ -
30	Furnish & Install Luminaire and Pole	EA	$ 4,500.00		$ -
31	Furnish & Install Luminaire Pole Foundation	EA	$ 1,500.00		$ -
32	Furnish & Install Pull Box	EA	$ 1,000.00		$ -
33	Install Conduit and Conductors	LS	$ 5,000.00		$ -
34	Furnish & Install Bollard	EA	$ 200.00		$ -
35	New Sign and Post	EA	$ 300.00		$ -
36	Furnish & Install Bus Shelter with Bench (5'x10')	EA	$ 8,000.00		$ -
37	Furnish & Install Bike Rack	EA	$ 500.00		$ -
38	Furnish & Install Trash Can Enclosure	EA	$ 500.00		$ -
39					
40					
				Total	$ -