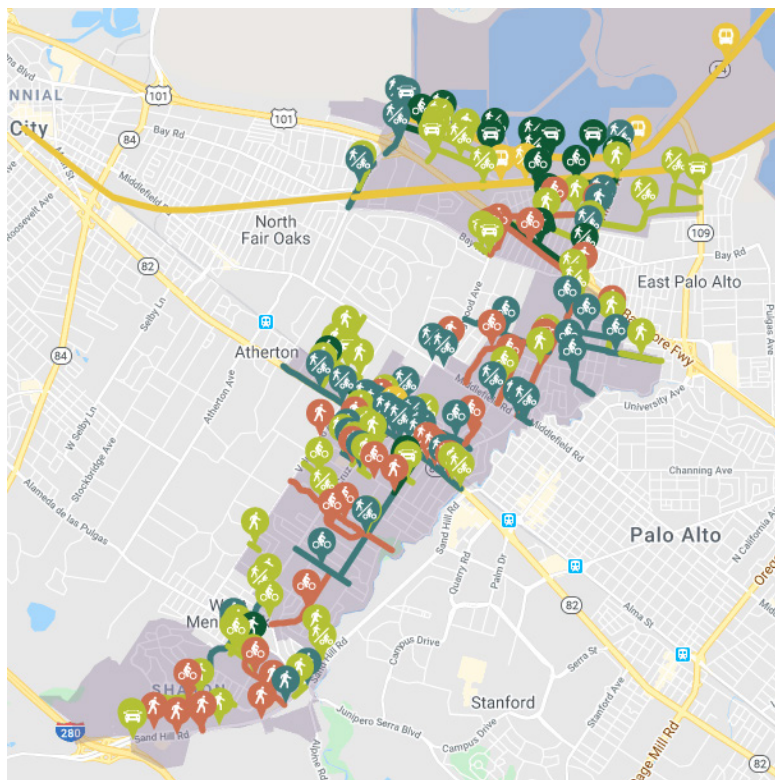




City of Menlo Park Transportation Impact Fee Nexus Study



Prepared for the City of Menlo Park

Submitted by

W-Trans

in association with Iteris and Kittelson & Associates

January 30, 2020



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Executive Summary

The City of Menlo Park intends to adopt an updated Transportation Impact Fee (TIF) Program as required within City's 2016 General Plan Update and the City's Municipal Code. The General Plan Update included mitigation measures requiring the City of Menlo Park to update the existing TIF program to guarantee funding for roadway and infrastructure improvements, and provide funding for bicycle and pedestrian facilities, that are necessary to mitigate impacts from future projects based on current City standards.

The current fee structure consists of two impact fees, including a citywide fee and a location-based fee for the El Camino Real/Downtown Specific Plan Area. This Nexus Study summarizes several roadway and intersection improvements aimed at reducing transportation impacts associated with the adoption of the General Plan in 2016. Some projects are required as outlined within the General Plan, and some are recommended based on the subsequent Transportation Master Plan (TMP) process, but all are recommended with the intent of enhancing the existing transportation network under future conditions.

Several of the transportation improvement projects listed in this study were developed a result of the City's ongoing TMP process. Projects included under the TMP are a result of feedback from the general public, City Council, Complete Streets Commission, as well as the TMP Oversight and Outreach Committee. The collaborative feedback process has been paramount in identifying the community's priorities, goals, and vision regarding citywide transportation improvements. Additionally, throughout the TMP process each project was evaluated in order to prioritize the large number of projects. As a result, the prioritization categories include Tier 1, Tier 2, Regional, Straightforward, and Citywide projects.

This Nexus Study also provides conceptual level construction cost estimates for each project. In conjunction with the number of net new trips expected to be generated as a result of buildout of the General Plan, a recommended fee per p.m. peak hour trip was calculated to guarantee funding for roadway and infrastructure improvements deemed necessary to mitigate impacts from future development projects. This document serves as a nexus for requiring transportation impact fees consistent with the Mitigation Fee Act (Assembly Bill 1600 Government Code 66000 et seq.). Procedural requirements such as this Nexus Study are necessary as a reasonable relationship must be established between the recommended improvements and the impacts fees. The recommended TIF update, once adopted, would replace the two existing transportation-related development fees imposed by the City of Menlo Park.

The total estimated cost for all projects is approximately \$164 Million. Tier 1 projects represent \$77 Million and Tier 2 projects are \$48 Million of the total estimated costs. Design costs for Regional projects are included in this total, accounting for approximately \$11 Million. The Regional projects evaluated in the in the cost estimation include the Ravenswood Caltrain Crossing, managed lanes and grade separation along Bayfront Expressway, Transit Signal Priority along Bayfront Expressway, as well as Class I Multiuse Path along the Dumbarton Rail Corridor.

Based on the Menlo Park City Transportation Demand Model and the 2040 land use mix outlined in the General Plan, a total of 5,060 net new p.m. peak hour trips are expected to be generated by future development. The cost of transportation improvement projects which can be funded through the TIF is equivalent to about \$ 77.5 Million. When dividing the total costs by the number of net new trips, the maximum allowable TIF per p.m. peak hour trip is \$15,308.32. In comparison, the existing citywide TIF is \$3,359.56 and the El Camino Real/Downtown Specific Plan Area TIF is \$404.06 per p.m. peak hour trip, respectively.

The City Council has further discretion to adopt lower fees to incentivize certain land uses. In May 2019, City Council provided direction to continue the 2009-adopted incentives to lower trip rates for restaurant and retail land uses (to match that of an office land use). The subsequent transportation impact fees for retail and restaurant land uses are therefore lower than they would be without this incentive. Further, the City Council directed a waiver

be provided for specific land uses such as affordable housing, accessory dwelling units, and childcare centers to incentivize those uses.

On November 19, 2019, the Menlo Park City Council adopted an updated Transportation Impact Fee Rates schedule as listed in Ordinance #1061, amending *Chapter 13.26 Transportation Impact Fee of Title 13 Street, Sidewalks and Utilities* of the Menlo Park Municipal Code. As noted in the Ordinance, the updated fees include waivers and fee reductions below the maximum allowable fees. The reduced fees and waivers align with California State legislation that streamlines cities' review of housing and developments that are at least two-thirds housing.

Introduction

This report presents a list of improvement projects recommended through the City's General Plan Update, and the Transportation Master Plan process to alleviate impacts to pedestrian, bicycle, transit, and vehicle facilities throughout Menlo Park associated with the development of the future land use mix adopted under the General Plan Update. Several of the transportation improvement projects listed in this study were developed a result of the City's ongoing TMP process. Projects included under the TMP are a result of feedback from the general public, City Council, Complete Streets Commission, as well as the TMP Oversight and Outreach Committee. The collaborative feedback process has been paramount in identifying the community's priorities, goals, and vision regarding citywide transportation improvements. Further, throughout the TMP process each project was evaluated in order to prioritize the large number of projects. As a result, the prioritization categories include Tier 1, Tier 2, Regional, Straightforward, and Citywide projects.

Additionally, this report provides an estimate of construction costs for roadway and intersection improvement projects to be funded by the updated City of Menlo Park Transportation Impact Fee. The capital costs included within this study, in conjunction with the estimated number of net new trips derived via the Menlo Park City Travel Demand Model, have been used to calculate the cost per net new p.m. peak hour trip that would be applied to new developments in the City of Menlo Park.

Project Background

The City's General Plan Update Environmental Impact Report required new and expanded development to pay a transportation impact fee, and update the fee periodically to ensure that development is paying its fair share of circulation system improvement costs for all modes of transportation. The General Plan Update Mitigation Measure TRANS-1b states that the City of Menlo Park shall update the existing Transportation Impact Fee (TIF) program to guarantee funding for roadway and infrastructure improvements that are necessary to mitigate impacts from future projects based on then-current City standards. The fees shall be assessed when there is new construction, an increase in square footage in an existing building, or the conversion of existing square footage to a more intensive use. The fees collected shall be applied toward circulation improvements. The fees shall be calculated by multiplying the proposed square footage, dwelling unit, or hotel room by the appropriate rate. Transportation Impact Fees shall be included with any other applicable fees payable at the time the building permit is issued. The City shall use the Transportation Impact Fees to fund construction (or to recoup fees advanced to fund construction) of the transportation improvements identified below, among other things that at the time of potential future development may be warranted to mitigate traffic impacts. It should be noted that any project proposed prior to the adoption of an updated TIF will be required to conduct a project-specific Transportation Impact Assessment to determine the impacts and necessary transportation mitigations that are to be funded by that project.

In addition, the General Plan Update Mitigation Measure TRANS-6a states that the City of Menlo Park shall update the Transportation Impact Fee (TIF) program to provide funding for bicycle and pedestrian facilities that are necessary to mitigate impacts from future projects based on then-current City standards.

Purpose of Transportation Impact Fee

The purpose of a transportation impact fee (TIF) is to provide a source of funding for roadway and infrastructure improvements to mitigate impacts expected as a result of future development projects. The current TIF program was adopted in 2009, including an ordinance that added Chapter 13.26 to the Municipal Code. Further, the General Plan Update, which was adopted in 2016, established that the existing TIF needed to be updated to account for the increase in traffic expected as a result of buildout of the land use outlined in the City's General Plan. Funds collected from the imposed fee would be applied to circulation improvements and would be

determined by multiplying the square footage, number of dwelling units, or hotel rooms for each project by the appropriate rate.

Senate Bill 743

California Senate Bill 743 was certified in December of 2018 updating the California Environmental Quality Act Guidelines via a technical advisory from the Governor's Office of Planning and Research. The technical advisory states that by July 1, 2020 the standard of Level of Service (LOS) and delay shall be replaced by the metric Vehicle Miles Traveled (VMT) in CEQA documents, as it is a measure of the total amount of driving which is expected to occur within a designated area for a given project. As such, the implementation of VMT as the primary metric in transportation analysis is meant to promote the reduction in greenhouse gases, multimodal transportation networks, and a diverse set of land uses.

Connect Menlo, which was adopted in 2016, used intersection level of service (LOS) and vehicle delay to determine transportation impacts associated with new development and associated mitigation measures. As such, this nexus study also utilizes the City of Menlo Park's current traffic impact methodology, based on LOS and delay, to determine the maximum transportation impact fee that can be applied to new development.

Assembly Bill 1600

California State legislation sets legal and procedural parameters for the charging of development impact fees. This legislation was passed as Assembly Bill 1600 by the California Legislature and is now codified as California Government Code Sections 66000 through 66009. The law went into effect on January 1, 1987.

The law requires that a local agency establish a reasonable relationship between the fee and the purpose for which it is charged. The Code further requires that, to collect development impact fees, an agency must prepare a plan that indicates to the development community what it takes to accommodate their respective private sector proposals and show that there is a fair way of distributing those development-generated capital costs among the various types of development.

This document serves as the nexus required between transportation improvement projects and transportation impact fees, which is consistent with the Mitigation Fee Act (Assembly Bill 1600 Government Code 66000 et seq.). Procedural requirements such as this nexus study are necessary as a reasonable relationship must be established between the recommended improvements and the impacts fees.

Transportation Impact Fee Structure

Mitigation measures outlined in Transportation Impact Fee updates can be fully, or partially, funded by the fee structure. The level of funding for each project is dependent on if, and when, the location in question becomes deficient. Level of Service is generally applied for roadways and intersections to determine deficiency under various scenarios. If a location (intersection or roadway segment) within a network is deemed deficient under the Existing Conditions scenario, only a portion of the costs to build the associated mitigation measures can be funded through the TIF. The number of new trips expected to be generated by the Plus Project (with Connect Menlo) scenario is used as an indicator of new traffic on the network. The equation below shows the percentage of costs which can be funded through the TIF, when intersections and roadway segments are considered deficient under the Existing Conditions Scenario:

$$D = \frac{B-A-C}{B}$$

Where:

- A = 2014 Existing Trips
- B = 2040 Plus Project Trips
- C = Recently Approved Project Trips (2014 – 2019)
- D = Percent of costs eligible to be funded by updated fee schedule

Existing Transportation Impact Fees

Menlo Park currently imposes two Transportation Impact Fees depending on the location of a proposed development, including a citywide TIF as well as a supplemental area-specific (El Camino Real/Downtown Specific Plan Area) TIF. Thus, two TIFs may be applied to the same development project depending on the location of the property in question. Both TIFs are based on the net new p.m. peak hour vehicle trips in conjunction with a percentage of the estimated construction costs.

The existing Citywide TIF was adopted in 2009 and includes fees for common land use designations such as retail, office, manufacturing, and type of residential use, etc. The updated 2019 fee rates are largely based on the 2009 nexus study, but include increased rates as a result of the rise in construction costs throughout the San Francisco Bay Area. The current TIF is escalated annually by the Engineering News-Record Construction Cost Index (CCI) percent change for the San Francisco region, as adopted via City ordinance. As of June, 2019, the CCI percent change for the San Francisco region was 2.8 percent.

In 2014, the City of Menlo Park adopted a Supplemental Transportation Impact Fee, which specifically assessed a fee to fund 10 infrastructure mitigation measures identified within the *El Camino Real/Downtown Specific Plan Environmental Impact Report*, City of Menlo Park, 2012. In comparison to the citywide TIF structure, the Supplemental TIF only applies to the parcels within the El Camino Real/Downtown Specific Plan area in combination with the number of net new p.m. peak hour trips expected to be generated by the projects in that area. As a result, the Supplemental TIF can only be imposed on development projects within the El Camino Real/Downtown Specific Plan Area.

The existing fees for both the Citywide and Supplemental TIFs are listed below in Table 1 and Table 2.

Table 1 – Citywide TIF Rate Schedule

Land Use	Unit	2019 Fee Amount
Office	Sq. Ft.	\$5.01
Research and Development	Sq. Ft.	\$3.60
Manufacturing	Sq. Ft.	\$2.46
Warehousing	Sq. Ft.	\$1.08
Restaurant	Sq. Ft.	\$5.01
Retail	Sq. Ft.	\$5.01
Single Family	Units	\$3,393.74
Multi-family	Units	\$2,083.08
Hotel	Rooms	\$1,982.23
Medical Office	Sq. Ft.	\$11.62
Childcare	Sq. Ft.	\$5.01
Secondary Dwelling Unit	Units	\$772.43

Reference: *Sq. Ft. = Square Feet*

Table 2 – Supplemental TIF Rate Schedule

Land Use	Unit	2019 Fee Amount
All Parcels	P.M. peak hour trips	\$404.06

2014 Existing Conditions

The 2014 baseline conditions are appropriate to use for this Nexus Study as the General Plan Update Environmental Impact Report identified mitigations measures based on 2014 baseline conditions. As such, the impacts of future development can be identified beginning in 2014. This removes the potential for misrepresenting impacts associated with development that has been built and occupied since 2014. Under 2014 Existing Conditions, the Menlo Park City Travel Demand Model developed by TJKM Transportation Consultants accounted for a population of approximately 32,173 residents, 22,736 jobs, and 13,077 households. According to the Menlo Park City Travel Demand Model, the number of trips attributable to the 2014 existing conditions land use assumptions equals 185,828 daily trips, including 18,032 a.m. peak hour trips and 18,986 p.m. peak hour trips. The trip generation for existing conditions is indicated in Table 3.

Table 3 – Existing 2014 Trip Generation Summary

Scenario	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Existing Conditions	185,828	18,032	18,986

Reference: Menlo Park City Travel Demand Model, accessed by Kittleson & Associates, Inc. 2019, developed 2014

To capture the existing traffic conditions in 2014 for General Plan Update, intersection turning movement counts were collected at 64 study intersections. From the turning movement counts, Level of Service (LOS) and delay calculations were completed for weekdays during both the a.m. and p.m. peak hours. The a.m. peak hour is generally between 7:00 a.m. and 9:00 a.m., and the p.m. peak hour is typically between 4:00 p.m. and 6:00 p.m.

The significance criteria provided in the General Plan Update include application of 2010 HCM (Highway Capacity Manual) analysis methods which are used for assessing intersection operations and defining impacts. The HCM methods for calculating level of service for signalized and unsignalized intersections are described in Table 4.

Table 4 – Intersection Level of Service Criteria

LOS	Stop-Controlled	Signalized
A	Delay of 0 to 10 seconds. Gaps in traffic are readily available for drivers exiting the minor street.	Delay of 0 to 10 seconds. Most vehicles arrive during the green phase, so do not stop at all.
B	Delay of 10 to 15 seconds. Gaps in traffic are somewhat less readily available than with LOS A, but no queuing occurs on the minor street.	Delay of 10 to 20 seconds. More vehicles stop than with LOS A, but many drivers still do not have to stop.
C	Delay of 15 to 25 seconds. Acceptable gaps in traffic are less frequent, and drivers may approach while another vehicle is already waiting to exit the side street.	Delay of 20 to 35 seconds. The number of vehicles stopping is significant, although many still pass through without stopping.
D	Delay of 25 to 35 seconds. There are fewer acceptable gaps in traffic, and drivers may enter a queue of one or two vehicles on the side street.	Delay of 35 to 55 seconds. The influence of congestion is noticeable, and most vehicles have to stop.
E	Delay of 35 to 50 seconds. Few acceptable gaps in traffic are available, and longer queues may form on the side street.	Delay of 55 to 80 seconds. Most, if not all, vehicles must stop and drivers consider the delay excessive.
F	Delay of more than 50 seconds. Drivers may wait for long periods before there is an acceptable gap in traffic for exiting the side streets, creating long queues.	Delay of more than 80 seconds. Vehicles may wait through more than one cycle to clear the intersection.

Reference: *Highway Capacity Manual*, Transportation Research Board, 2010

Under 2014 existing conditions, 18 intersections were found to be deficient, as shown in Table 5. The study intersections are provided in Appendix A.

Table 5 – Peak Hour Intersection Level of Service Under 2014

No.	Intersection	A.M. Peak Hour		P.M. Peak Hour	
		Delay	LOS	Delay	LOS
2	Sand Hill Rd/Hwy 280 North On-Ramp	14.5	B	74.0	E
17	Middlefield Rd/Willow Rd	61.9	E	>80*	F
18	Willow Rd/Gilbert Ave	20.7	C	>80*	F
19	Willow Rd/Coleman Ave	21.1	C	>80*	F
20	Willow Rd/Durham St	>55*	E	>80*	F
32	Willow Rd/ Bay Rd	>80*	F	>80*	F
33	Willow Rd/Newbridge St	>80*	F	38.0	D
34	Willow Rd/O'Brien Dr	>80*	F	>35*	D
35	Willow Rd/Ivy Dr	>80*	F	>35*	D
36	Willow Rd/Hamilton Ave	>80*	F	>80*	F
37	Willow Rd/Bayfront Expy	>80*	F	>80*	F
38	Bayfront Expy/University Ave	>80*	F	>128.3	F
42	Bayfront Expy/Marsh Rd	65.0	E	44.0	D
47	University Ave/Adams Dr	>50	F	33.2	D
51	University Ave/Bay Rd	38.0	D	100.6	F
54	University Ave/Donohoe St	115.5	F	128.8	F
56	University Ave/US 101 South Ramps	30.9	C	59.3	E
57	University Ave/Woodland Ave	58.6	E	71.2	F

Notes: Delay is in average seconds per vehicle (Delay at side-street stop-controlled intersections is shown for worst movement.), LOS = Level of Service; **Bold** and **shaded** text indicates deficient operation; * = Unserved demand." At these locations, upstream & downstream congestion results in delay not captured by VISTRO analysis.

Source: City of Menlo Park General Plan Update Environmental Impact Report, 2016

Similarly, average daily traffic (ADT) counts were recorded along 87 roadway segments. The roadway segment volumes (ADT) and roadway classification were used to determine whether or not the existing roadway operation was deficient. This information is relevant to this Nexus Study because costs of roadway improvement associated with existing deficiencies cannot be included in a transportation impact fee. Below are the City of Menlo Park’s standards of significance for ADT along roadway segments, as outlined in the General Plan Update:

- City Arterials. The existing ADT is: (1) greater than 18,000 (90 percent of capacity) and there is a net increase of 100 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 10,000 (50 percent of capacity) but less than 18,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 18,000 or more; or (3) the ADT is less than 10,000 and the project-related traffic increases the ADT by 25 percent.
- City Collectors. The existing ADT is: (1) greater than 9,000 (90 percent of capacity) and there is a net increase of 50 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 5,000 (50 percent of capacity) but less than 9,000, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 9,000 or more; or (3) the ADT is less than 5,000 and the project-related traffic increases the ADT by 25 percent.

- Local Streets. The existing ADT is: (1) greater than 1,350 (90 percent of capacity) and there is a net increase of 25 trips or more in ADT due to project-related traffic; (2) the ADT is greater than 750 (50 percent of capacity) but less than 1,350, and the project-related traffic increases the ADT by 12.5 percent or the ADT becomes 1,350; or (3) the ADT is less than 750 and the project-related traffic increases the ADT by 25 percent.

Under existing conditions, 26 roadway segments were found to be deficient, as shown in Table 6. The street segments and their service levels are provided in Appendix A. Copies of the existing and 2040 Plus Project segment volumes are provided in Appendix B.

Table 6 – Roadway Segment ADT Under 2014 Existing Conditions

No.	Street	Segment		Classification	2014 Existing ADT
1	Alameda De Las Pulgas	Avy Ave	Santa Cruz Ave	Minor Arterial	12,450
2	Alameda De Las Pulgas*	Valparaiso Ave	Avy Ave	Minor Arterial	15,330
3	Alameda De Las Pulgas*	City Limit	Valparaiso Ave	Minor Arterial	16,140
4	Alma St	Ravenswood Ave	Oak Grove Ave	Collector	1,640
5	Alma St	Willow Rd	Ravenswood Ave	Collector	3,240
6	Alpine Rd	City Limit	Junipero Serra Blvd	Minor Arterial	23,310
7	Avy Ave**	City Limit	Alameda de las Pulgas	Collector	4,610
8	Avy Ave	Alameda de las Pulgas	Santa Cruz Ave	Collector	5,940
9	Bay Rd	Greenwood Dr	Marsh Rd	Collector	5,550
10	Bay Rd	Ringwood Ave	Greenwood Dr	Collector	5,660
11	Bay Rd	Willow Rd	Ringwood Ave	Collector	7,580
12	Bohannon Dr	Campbell Ave	Marsh Rd	Collector	3,910
13	Chilco St	Constitution Dr	Bayfront Expy	Collector	7,000
14	Chrysler Dr	Constitution Dr	Bayfront Expy	Collector	4,070
15	Constitution Dr	Chilco St	Chrysler Dr	Collector	2,360
16	Crane St	Oak Grove Ave	Santa Cruz Ave	Collector	2,660
17	Crane St	Santa Cruz Ave	Menlo Ave	Collector	2,420
18	Encinal Ave	El Camino Real	Laurel St	Collector	5,600
19	Encinal Ave	Laurel St	Middlefield Rd	Collector	4,950
20	Glenwood Ave	El Camino Real	Laurel St	Collector	5,980
21	Hamilton Ave	Willow Rd	Chilco St	Collector	2,770
22	Haven Ave	Bayfront Expy/Marsh Rd	City Limit	Collector	7,400
23	Junipero Serra Blvd	City Limit	Alpine Rd	Primary Arterial	16,010
24	Laurel St	Oak Grove Ave	Glenwood Ave	Collector	4,060
25	Laurel St	Ravenswood Ave	Oak Grove Ave	Collector	4,410
26	Laurel St	Willow Rd	Ravenswood Ave	Collector	4,470
27	Marsh Rd	City Limit	Bay Rd	Minor Arterial	22,850
28	Marsh Rd	Bay Rd	Bohannon Dr	Primary Arterial	25,830
29	Marsh Rd	Bohannon Dr	Scott Dr	Primary Arterial	32,410
30	Menlo Ave	University Ave	Crane St	Collector	7,360
31	Menlo Ave	Crane St	El Camino Real	Collector	8,650
32	Middle Ave	Olive St	University Dr	Collector	7,250

Table 6 – Roadway Segment ADT Under 2014 Existing Conditions

No.	Street	Segment		Classification	2014 Existing ADT
33	Middle Ave	University Dr	El Camino Real	Collector	8,920
34	Middlefield Rd**	Ravenswood Ave	Oak Grove Ave	Minor Arterial	14,760
35	Middlefield Rd	Willow Rd	Ravenswood Ave	Minor Arterial	19,690
36	Middlefield Rd	City Limit	Willow Rd	Minor Arterial	18,420
37	Newbridge Str	Willow Rd	Chilco St	Collector	7,070
38	Oak Grove Ave	University Dr	Crane St	Collector	6,360
39	Oak Grove Ave	Crane St	El Camino Real	Collector	7,700
40	Oak Grove Ave	El Camino Real	Laurel St	Collector	9,570
41	Oak Grove Avenue	Laurel St	Middlefield Rd	Collector	8,650
42	O'Brien Drive	Kavanaugh Dr	Willow Rd	Collector	6,370
43	O'Brien Drive	University Ave	Kavanaugh Dr	Collector	3,280
44	Ravenswood Ave	El Camino Real	Alma St	Minor Arterial	23,980
45	Ravenswood Ave	Alma St	Laurel St	Minor Arterial	18,760
46	Ravenswood Ave	Laurel St	Middlefield Rd	Minor Arterial	16,550
47	Ringwood Ave*	Middlefield Rd	Bay Rd	Collector	7,300
48	Sand Hill Rd	I-280	Sharon Park Dr	Primary Arterial	28,050
49	Sand Hill Rd	Santa Cruz Ave	Sharon Park Dr	Primary Arterial	30,790
50	Sand Hill Rd	Santa Cruz Ave	City Limit	Minor Arterial	32,740
51	Santa Cruz Ave	Junipero Serra Blvd	Sand Hill Rd	Minor Arterial	26,480
52	Santa Cruz Ave*	Sand Hill Rd	Alameda de las Pulgas	Minor Arterial	23,230
53	Santa Cruz Ave	Alameda de las Pulgas	Avy Ave/Orange Ave	Minor Arterial	10,900
54	Santa Cruz Ave	Avy Ave/Orange Ave	Olive St	Minor Arterial	14,520
55	Santa Cruz Ave	Olive St	University Dr	Minor Arterial	15,320
56	Santa Cruz Ave	University Dr	Crane St	Minor Arterial	7,620
57	Santa Cruz Ave	Crane St	El Camino Real	Minor Arterial	7,370
58	Scott Dr	Marsh Rd	Campbell Ave	Collector	4,820
59	Sharon Park Dr	Sand Hill Rd	Sharon Rd	Collector	9,970
60	Sharon Rd	Sharon Park Dr	Alameda de las Pulgas	Collector	3,780
61	University Dr	Middle Ave	Menlo Ave	Collector	5,840
62	University Dr	Menlo Ave	Santa Cruz Ave	Collector	9,310
63	University Dr	Santa Cruz Ave	Oak Grove Ave	Collector	7,160
64	University Dr	Oak Grove Ave	Valparaiso Ave	Collector	5,110
65	Valparaiso Ave	Alameda de las Pulgas	Cotton St	Minor Arterial	12,050
66	Valparaiso Ave	Cotton St	University Ave	Minor Arterial	14,440

Table 6 – Roadway Segment ADT Under 2014 Existing Conditions

No.	Street	Segment		Classification	2014 Existing ADT
67	Valparaiso Ave	University Dr	El Camino Real	Minor Arterial	13,010
68	Willow Rd	Alma St	Laurel St	Collector	3,360
69	Willow Rd	Laurel St	Middlefield Rd	Collector	5,250
70	Willow Rd	Middlefield Rd	Gilbert Ave	Collector	24,330
71	Chilco St	Hamilton Ave	Terminal Ave	Collector	4,780
72	Chilco St	Ivy Dr	Hamilton Ave	Collector	2,650
73	Chilco St	Newbridge St	Ivy Dr	Collector	2,110
74	Hamilton Ave	Willow Rd	Hamilton Ct	Collector	2,640
75	Willow Rd	Gilbert Ave	Coleman Ave	Minor Arterial	24,350
76	Willow Rd	Coleman Ave	Durham St	Minor Arterial	41,190
77	Willow Rd	Durham St	Bay Rd	Minor Arterial	34,150
78	Chilco St	Terminal Ave	Constitution Dr	Collector	5,100
79	Chrysler Dr	Constitution Dr	Independence Dr	Collector	3,270
80	Chrysler Dr	Independence Dr	Commonwealth Dr	Collector	1,110
81	Adams Dr	University Dr	Adams Ct	Local	1,260
82	Olive St	Santa Cruz Ave	Middle Ave	Local	2,450
83	Olive St	Middle Ave	Oak Ave	Local	3,050
84	Cambridge Ave	University Dr	El Camino Real	Local	1,600
85	Linfield Dr	Middlefield Rd	Waverley St	Local	1,760
86	Waverley St	Laurel St	Linfield Dr	Local	1,650
87	Ivy Dr	Chilco St	Willow Rd	Local	3,200

Notes: * = Roadway segment within San Mateo County; ** = Roadway segment within Town of Atherton; **Bold** text = deficient operation

Reference: City of Menlo Park General Plan Update Environmental Impact Report, 2016

The land use assumptions applied in the Menlo Park City Travel Demand Model for 2040 Plus Project Conditions would allow for the development of approximately 5,500 new residential units to house 13,760 new residents, and the creation of 18,070 new jobs by 2040, compared to 2014 existing conditions. Similar to the existing conditions scenario, the Menlo Park City Travel Demand Model was used to estimate the number of trips generated by these land uses. A total of 95,365 daily net new trips are expected to be generated as a result of buildout of the General Plan Update, including 9,450 a.m. peak hours trip and 10,863 p.m. peak hour trips. The net new trips are outlined in Table 7.

Table 7 – Net New Trip Generation Summary

Scenario	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Existing Conditions	185,828	18,032	18,986
General Plan Buildout	281,193	27,482	29,849
Net New Trips	95,365	9,450	10,863

Reference: Menlo Park City Travel Demand Model, accessed by Kittleson & Associates, Inc. 2019, developed 2014

2014 to 2019 Development Projects

Since 2014, several development projects have been approved within the City of Menlo Park, ultimately adding traffic to the roadway network. These projects have been approved, awarded building permits, and are either currently under construction, or have concluded construction and are operating. These development projects have already paid into the current TIF and are therefore not eligible to be included in the updated fee schedule. Between 2014 and 2019, development projects approved within the City of Menlo Park accounted for approximately 41,687 daily net new trips, including 5,710 a.m. peak hour trips and 5,803 p.m. peak hour trips. The trips estimated to be generated as a result of development projects approved during the five-year period were added to the 2014 Existing Conditions trip generation estimations to reflect a more accurate estimation of net new trips to be expected under 2040 Plus Project conditions. When accounting for recently approved development projects, approximately 227,515 new daily trips, including 23,742 a.m. peak hour trips and 24,789 p.m. peak hour trips are expected to be generated under the Adjusted Existing Conditions. A summary of the adjusted trip generation is outlined below in Table 8.

Table 8 – Adjusted Existing Conditions Trip Generation Summary

Scenario	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Existing Conditions	185,828	18,032	18,986
Recent Development (2014 – 2019)	41,687	5,710	5,803
Adjusted Existing Trips	227,515	23,742	24,789

Reference: Menlo Park City Travel Demand Model, accessed by Kittleson & Associates, Inc. 2019, developed 2014

2040 Plus Project Conditions

The General Plan Update land use mix would allow for the development of approximately 5,500 new residential units housing 13,760 new residents, and the creation of 18,070 new jobs by 2040, as compared to 2014 Existing Conditions. Under 2040 Plus Project conditions, the General Plan Update includes estimated impacts to the roadway network at intersections as well as along roadway segments. When accounting for 2014 Existing Conditions, recently approved development projects (between 2014 and 2019), and buildout of the General Plan Update 2040 Plus Project conditions land use assumptions, approximately 53,678 new daily trips are expected to be generated, including 3,740 a.m. peak hour trips and 5,060 p.m. peak hour trips. The adjusted net new trips are outlined below in Table 9.

Table 9 – 2040 Plus Project Trip Generation Summary

Scenario	Daily Trips	AM Peak Hour Trips	PM Peak Hour Trips
Adjusted* Existing Trips	227,515	23,742	24,789
2040 General Plan Buildout	281,193	27,482	29,849
Net New Trips	53,678	3,740	5,060

Notes: * = Adjusted Trips include 2014 existing conditions plus approved developments between 2014 and 2019
Reference: Menlo Park City Travel Demand Model, accessed by Kittleson & Associates, Inc. 2019, developed 2014

The additional 5,060 trips that are expected to be added during the p.m. peak hour would result in significant impacts to 21 intersections. The net increase in ADT would result in significant impacts along 32 roadway segments under 2040 Plus Project conditions. Table 10 shows the expected LOS and delay at intersections and Table 11 shows the expected ADT under 2040 Plus Project conditions.

Table 10 – Peak Hour Intersection Level of Service Under 2040 Plus Project Conditions

No.	Intersection	A.M. Peak Hour		P.M. Peak Hour	
		Delay	LOS	Delay	LOS
1	Sand Hill Rd/Hwy 280 North Off-Ramp	86.0	F	10.3	E
2	Sand Hill Rd/Hwy 280 North On-Ramp	14.4	B	84.9	F
17	Middlefield Rd/Willow Rd	59.0	E	>80*	F
18	Willow Rd/Gilbert Ave	23.5	C	>80*	F
19	Willow Rd/Coleman Ave	20.4	C	>80*	F
20	Willow Rd/Durham St	>55*	E	>80*	F
28	El Camino Real/Ravenswood Ave	79.2	E	75.9	E
32	Willow Rd/Bay Rd	>80*	F	>80*	F
33	Willow Rd/Newbridge St	>80*	F	58.8	E
34	Willow Rd/O'Brien Dr	>80*	F	>35	D
35	Willow Rd/Ivy Dr	>80*	F	>35	D
36	Willow Rd/Hamilton Ave	>80*	F	103.3	F
37	Willow Rd/Bayfront Expy	155.7	F	113.4	F
38	Bayfront Expy/University Ave	82.1	F	>160	F
45	Chilco St/Constitution Dr	>50	F	>50	F
46	Chrysler Dr/Constitution Dr	32.4	C	68.1	E
47	University Ave/Adams Dr	>50	F	>50	F
51	University Ave/Bay Rd	41.1	D	143.4	F
54	University Ave/Donohoe St	136.4	F	149.0	F
56	University Ave/US 101 South Ramps	52.9	D	87.1	F
51	Chilco St/Hamilton Ave	8.7	A	48.7	E

Notes: Delay is in average seconds per vehicle (Delay at side-street stop-controlled intersections is shown for worst movement.), LOS = Level of Service; **Bold** and **shaded** text indicates deficient operation; * = Unserved demand." At these locations, upstream & downstream congestion results in delay not captured by VISTRO analysis.

Source: City of Menlo Park General Plan Update Environmental Impact Report, 2016

Table 11– Roadway Segment ADT Under 2040 Plus Project Conditions

No.	Street	Segment		Classification	2014 Existing ADT	2040 Plus Project ADT	Net Increase in ADT
1	Alameda De Las Pulgas	Avy Ave	Santa Cruz Ave	Minor Arterial	12,450	14,810	2,360
2	Alameda De Las Pulgas*	Valparaiso Ave	Avy Ave	Minor Arterial	15,330	18,130	2,800
3	Alameda De Las Pulgas*	City Limit	Valparaiso Ave	Minor Arterial	16,140	19,280	3,140
5	Alma St	Willow Rd	Ravenswood Ave	Collector	3,240	5,070	1,830
6	Alpine Rd	City Limit	Junipero Serra Blvd	Minor Arterial	23,310	26,170	2,860
9	Bay Rd	Greenwood Dr	Marsh Rd	Collector	5,550	10,190	4,640
10	Bay Rd	Ringwood Ave	Greenwood Dr	Collector	5,660	10,110	4,450
11	Bay Rd	Willow Rd	Ringwood Ave	Collector	7,580	9,670	2,090
13	Chilco St	Constitution Dr	Bayfront Expwy	Collector	7,000	9,320	2,320
15	Constitution Dr	Chilco St	Chrysler Dr	Collector	2,360	5,300	2,940
18	Encinal Ave	El Camino Real	Laurel St	Collector	5,600	6,420	820
19	Encinal Ave	Laurel St	Middlefield Rd	Collector	4,950	6,280	1,330
21	Hamilton Ave	Willow Rd	Chilco St	Collector	2,770	3,470	700
22	Haven Ave	Bayfront Expy/Marsh Rd	City Limit	Collector	7,400	17,490	10,090
23	Junipero Serra Blvd	City Limit	Alpine Rd	Primary Arterial	16,010	18,370	2,360
24	Laurel St	Oak Grove Ave	Glenwood Ave	Collector	4,060	5,570	1,510
25	Laurel St	Ravenswood Ave	Oak Grove Ave	Collector	4,410	5,800	1,390
26	Laurel St	Willow Rd	Ravenswood Ave	Collector	4,470	5,640	1,170
27	Marsh Rd	City Limit	Bay Rd	Minor Arterial	22,850	26,080	3,230
28	Marsh Rd	Bay Rd	Bohannon Dr	Primary Arterial	25,830	33,930	8,100
29	Marsh Rd	Bohannon Dr	Scott Dr	Primary Arterial	32,410	43,410	11,000
35	Middlefield Rd	Willow Rd	Ravenswood Ave	Minor Arterial	19,690	21,790	2,110
36	Middlefield Rd	City Limit	Willow Rd	Minor Arterial	18,420	22,310	3,890
37	Newbridge St	Willow Rd	Chilco St	Collector	7,070	8,000	930
38	Oak Grove Ave	University Dr	Crane St	Collector	6,360	7,430	1,080
39	Oak Grove Ave	Crane St	El Camino Real	Collector	7,700	10,540	2,840

Table 11– Roadway Segment ADT Under 2040 Plus Project Conditions

No.	Street	Segment		Classification	2014 Existing ADT	2040 Plus Project ADT	Net Increase in ADT
40	Oak Grove Ave	El Camino Real	Laurel St	Collector	9,570	11,490	1,920
42	O'Brien Dr	Kavanaugh Dr	Willow Rd	Collector	6,370	13,750	7,380
43	O'Brien Dr	University Ave	Kavanaugh Dr	Collector	3,280	5,610	2,330
44	Ravenswood Ave	El Camino Real	Alma St	Minor Arterial	23,980	25,910	1,930
47	Ringwood Ave*	Middlefield Rd	Bay Rd	Collector	7,300	8,660	1,360
48	Sand Hill Rd	I-280	Sharon Park Dr	Primary Arterial	28,050	29,900	1,850
49	Sand Hill Rd	Santa Cruz Ave	Sharon Park Dr	Primary Arterial	30,790	33,570	2,780
50	Sand Hill Rd	Santa Cruz Ave	City Limit	Minor Arterial	32,740	35,170	2,430
51	Santa Cruz Ave	Junipero Serra Blvd	Sand Hill Rd	Minor Arterial	26,480	30,810	4,330
52	Santa Cruz Ave*	Sand Hill Rd	Alameda de las Pulgas	Minor Arterial	23,230	26,850	3,620
59	Sharon Park Dr	Sand Hill Rd	Sharon Rd	Collector	9,970	10,470	500
68	Willow Rd	Alma St	Laurel St	Collector	3,360	5,180	1,820
69	Willow Rd	Laurel St	Middlefield Rd	Collector	5,250	7,820	2,570
70	Willow Rd	Middlefield Rd	Gilbert Ave	Collector	24,330	24,460	130
71	Chilco St	Hamilton Ave	Terminal Ave	Collector	4,780	8,280	3,500
72	Chilco St	Ivy Dr	Hamilton Ave	Collector	2,650	5,990	3,340
73	Chilco St	Newbridge St	Ivy Dr	Collector	2,110	4,030	1,920
75	Willow Rd	Gilbert Ave	Coleman Ave	Minor Arterial	24,350	25,920	1,570
76	Willow Rd	Coleman Ave	Durham St	Minor Arterial	41,190	42,640	1,450
77	Willow Rd	Durham St	Bay Rd	Minor Arterial	34,150	37,720	3,570
78	Chilco St	Terminal Ave	Constitution Dr	Collector	5,100	8,490	3,390
81	Adams Dr	University Dr	Adams Ct	Local	1,260	7,760	6,500
82	Olive St	Santa Cruz Ave	Middle Ave	Local	2,450	2,560	110
83	Olive St	Middle Ave	Oak Ave	Local	3,050	3,270	220
85	Linfield Dr	Middlefield Rd	Waverley St	Local	1,760	1,790	30
86	Waverley St	Laurel St	Linfield Dr	Local	1,650	1,900	250
87	Ivy Dr	Chilco St	Willow Rd	Local	3,200	4,980	1,780

Notes: * = Roadway segment within San Mateo County; ** = Roadway segment within Town of Atherton; **Bold** text = deficient operation

Reference: City of Menlo Park General Plan Update Environmental Impact Report, 2016

Transportation Improvement Projects

The money collected under the existing Transportation Impact Fee structure is used to fund transportation improvement projects throughout the City of Menlo Park. These projects are needed to accommodate future growth, specifically, future growth in traffic. This updated TIF includes 158 additional transportation improvement projects to accommodate new growth expected as a result of 2040 Plus Project land use as outlined in the General Plan Update. The recommendations stem from those identified in the General Plan Update and projects developed through the Transportation Master Plan process to alleviate impacts to pedestrian, bicycle, transit, and vehicle facilities throughout Menlo Park. Overall, the recommendations range from those which are easy to implement, such as new signage, to those which are more difficult, such as installation of traffic signals or and grade separation of intersections along major arterials.

As noted above, AB 1600 does not allow improvements to existing deficiencies to be fully funded through a TIF. Intersections and roadway segments found to be deficient under 2014 Existing Conditions can only be partially funded through the TIF. The proportion of costs which can be funded through the TIF directly relate to the net increase in traffic expected to occur as a result of 2040 Plus Project conditions compared to existing volumes.

Based on the model output of the Menlo Park City Travel Demand Model, approximately 17 percent of trips during the p.m. peak hour are attributable to added traffic under 2040 Plus Project conditions compared to the Adjusted Existing volumes. As such, 17 percent of the capital costs of projects associated with intersections and segments found to be deficient under 2014 Existing Conditions can be funded via the updated TIF.

The increase in net new trips serves as a nexus between the increase in the fee schedule and the amount of new development expected to occur within Menlo Park. Based on the percentage of net new trips expected, development fees associated with transportation projects at locations deemed to operate deficiently under 2014 Existing Conditions should only be expected to fund 17 percent of the project costs. Conversely, transportation projects at intersections and roadway segments deemed to operate acceptably under 2014 Existing Conditions, but deficiently under 2040 Plus Project conditions, can be expected to be fully funded via the updated TIF. Table 12 shows the percentage of trips attributable to new development based on the 2014 Existing Trips and recently approved development projects as compared to 2040 Plus Projects trips.

Table 12 – Trip Generation Summary Comparison				
Analysis Period	2014 Existing Trips	2040 Plus Project Trips	Adjusted Net New Trips	Percent of Total Trips
Daily Trips	185,828	281,193	53,678	19%
AM Trips	18,032	27,482	3,740	14%
PM Trips	18,986	29,849	5,060	17%

Reference: Menlo Park City Travel Demand Model, accessed by Kittleson & Associates, Inc. 2019, developed 2014

It is noted that while daily trips and a.m. trips are calculated above, p.m. peak hour trips are used for the calculation of the TIF because the p.m. peak hour has been found to be relatively more congested, in comparison to the a.m. peak hour and traffic over the course of a typical 24-hour period. Further, significant impacts to intersection facilities are typically assessed during the a.m. and p.m. peak periods as opposed to the daily 24-hour period.

In comparison, several transportation improvement projects have been deemed fully fundable, as their associated LOS and ADT were found to be acceptable under Existing Conditions but were projected to operate at an unacceptable level under 2040 Plus Project conditions. Therefore, it can be assumed that 100 percent of the resulting deficient operation can be attributed to the additional traffic on the roadway under 2040 Plus Project conditions, and thus these projects are eligible to be fully funded through the updated fee schedule.

Further, the General Plan Update analyzed intersections and roadway segments that are partially or completely outside the boundaries of Menlo Park, including some in the Town of Atherton, City of East Palo Alto, and San Mateo County. The construction costs for projects outside Menlo Park which could be funded through the TIF vary based on a proportional share calculation. The proportion of new traffic attributable to 2040 Plus Project conditions compared to the overall traffic is directly tied to the percentage of construction costs which can be funded via the updated TIF, as discussed below under Multi-Jurisdictional Projects.

Finally, a few of the recommended improvements are regional in nature and also span multiple jurisdictions. These projects are typically higher in cost relative to other transportation improvement projects included in this document. The City of Menlo Park's share of costs for projects designated as regional transportation improvement projects is based on an estimate of the design fees for the projects and application of the standard 12 percent local funding match required to obtain federal, state, and/or county funding.

Transportation Improvement Project Costs

The cost estimates for the 158 transportation improvement projects at intersections and along roadway segments were developed by Iteris, Inc. and W-Trans. The total estimated cost for all projects is approximately \$164 Million. Tier 1 projects represent \$77.4 Million and Tier 2 projects are \$47.9 Million of the total estimated costs. Design costs for Regional projects are included in this total, accounting for \$10.8 Million. The Regional projects evaluated in the cost estimation include the Ravenswood Caltrain Crossing, managed lanes and grade separation along Bayfront Expressway, Transit Signal Priority along Bayfront Expressway, as well as Class I Multiuse Path along the Dumbarton Rail Corridor. Conceptual cost estimations for all 158 projects are provided in Appendix C.

To account for staff time and resources associated with administering the updated transportation impact fee, an Administrative Fee was included in the calculation of the updated TIF. Throughout the San Francisco Bay Area, similar jurisdictions have applied administrative costs fees to their respective TIF updates up to four percent. The fee is intended to cover City staff time devoted to the development of the impact fee, required reporting and monitoring, auditing, collection, and oversight of the TIF in general. An administrative fee of four percent (\$2,979,300) was chosen for the updated Menlo Park TIF based on the relatively large number and complexity of transportation improvement projects included in the TIF.

Table 13 provides a breakdown of project cost summaries based on the prioritization categories developed for the TMP process including Tier 1, Tier 2, Regional, Straightforward, and Citywide projects.

Table 13 – Transportation Improvement Project Cost Summary

TMP Implementation Group	Estimated Cost	Developer Share
Tier 1 Projects	\$77,339,800	\$43,302,300
Tier 2 Projects	\$47,928,600	\$14,601,500
Regional Projects	\$10,785,000	\$10,785,000
Straightforward Projects	\$3,033,200	\$914,000
Tier 1 Citywide Projects	\$4,305,000	\$818,000
Tier 2 Citywide Projects	\$14,190,000	\$2,696,100
General Plan Update Mitigation Measures	\$6,400,000	\$1,363,900
Subtotal	\$163,981,600	\$74,480,800
Administrative Fee (4%)		\$2,979,300
Total		\$77,460,100

Fully Funded Projects

Below is a list of the study intersections and roadway segments which would be eligible for 100 percent of their estimated costs to be funded by the updated TIF. These projects have been deemed fully fundable as their associated LOS and ADT was found to be acceptable under Existing Conditions, and then projected to operate at an unacceptable level under 2040 Plus Project conditions. As such, it can be assumed that 100 percent of newly added traffic on the roadway network would contribute to the deficiency in LOS as presented in the General Plan Update Environmental Impact Report. The projects which are eligible to receive 100 percent of funding are listed below in Table 14.

Table 14 – Fully Fundable Projects

Project Number*	Project Location	Current Estimated Cost
1	Haven Ave from Marsh Rd to Haven Ct	\$2,866,100
14	Marsh Rd from Bay Rd to Scott Dr	\$1,490,900
16	Constitution Dr & Chrysler Dr	\$256,300
31	University Ave & Adams Dr	\$896,000
36	Willow Rd b/w Bayfront Expy & US 101	\$199,600
41	Willow Rd & Newbridge St	\$220,900
49	Willow Rd	\$280,300
89	El Camino Real & Ravenswood Ave-Menlo Ave	\$1,536,600
152	Sand Hill Rd & I-280 Northbound Ramps	\$247,900
178	Marsh Rd between Independence Dr and Scott Dr	\$30,340,800
184	Marsh Rd between Page St and Florence St	\$167,100
185	Dumbarton Rail Corridor	\$6,300,000
19XX5	Chilco St & Hamilton Ave	\$896,000
Total		\$45,698,500

Notes: * = The project numbers included in this list match those within the cost estimations. The projects are likely to be renumbered in production of the final TMP document.

Multi-Jurisdictional Projects

Several projects included in the TIF are located on the border of the City of Menlo Park and therefore span multiple jurisdictions. In addition, several projects that were identified as mitigation measures in the General Plan Update Environmental Impact Report are located within the City of East Palo Alto, but the City of Menlo Park would contribute to them. The percentage to which each of these projects would be funded through the TIF has been assessed for each project, as they are all unique. For example, the intersection of Middlefield Road and Ravenswood Avenue falls under the jurisdiction of two municipalities (City of Menlo Park and Town of Atherton). As such, Menlo Park would be responsible for funding one-half of the transportation improvement costs that result from the 17-percent net increase in p.m. peak hour trips attributable to Menlo Park. In this example, the total improvement cost estimate is \$297,100. Applying one-half of that amount to each jurisdiction would yield \$148,550, and then applying 17-percent that can be funded through the Menlo Park TIF would result in \$25,254.

In other cases, some projects reflect the City of Menlo Park as being financially responsible for 100-percent of the estimated costs. The reasoning for this is that the improvement projects are aimed at improving transportation within the City but may require coordination with or approval from stakeholders like the San Francisco Public Utilities Commission (SFPUC, for example on Ivy Drive) or school districts. Further, there is one project, the intersection of University Avenue/Adams Drive, where the increase in traffic due to development expected within the City of Menlo Park is expected to necessitate the improvement, rather than the City of East Palo Alto or Caltrans which share jurisdiction over the facilities in question.

Table 15 below shows the projects in locations that share boundaries with neighboring jurisdictions and the portion of costs to be funded via the updated TIF. For reference, several school districts are noted in the table where improvements are adjacent or could benefit schools, but no costs have been attributed to school districts in this analysis.

Table 15 – Multi-Jurisdiction and Neighboring Jurisdiction Projects

Project Location	Jurisdiction(s)	Estimated Cost	Percent of Costs Funded by Menlo Park	Fair Share Contribution	Total Costs Funded via Updated TIF
#27. Ivy Dr from Willow Rd to Chilco St	Menlo Park/SFPUC	\$2,137,400	100%	17%	\$363,400
#31. University Ave & Adams Dr	Menlo Park/East Palo Alto/Caltrans	\$896,000	100%	100%	\$896,000
#59. The Willows	Menlo Park/Ravenswood City & Menlo Park City School Districts	\$1,089,500	100%	17%	\$185,200
#61. Coleman Ave from Ringwood Ave to Willow Rd	Menlo Park/San Mateo County	\$224,000	50%	17%	\$19,000
#63. Middlefield Rd & Ravenswood Ave	Menlo Park/Atherton/Menlo-Atherton High School	\$297,100	50%	17%	\$25,300
#65. Middlefield Rd & Linfield Dr-Santa Monica Ave	Menlo Park/Menlo Fire Protection District	\$544,500	50%	17%	\$46,300
#72. Laurel St & Glenwood Ave	Menlo Park/Atherton	\$896,000	50%	17%	\$76,200
#144. Sand Hill Rd & Santa Cruz Ave	Menlo Park/ San Mateo County	\$151,300	50%	17%	\$12,900

Notes: SFPUC = San Francisco Public Utilities Commission; Caltrans = California Department of Transportation; MAHS = Menlo Atherton High School (Sequoia Union High School District)

East Palo Alto Projects

For projects located in East Palo Alto, a proportional share calculation was conducted to determine the net new trips associated with buildout of the General Plan Update land use assumptions. As a result of the General Plan Update Draft Environmental Impact Report and the subsequent settlement agreement, fees specific to the City of East Palo Alto are required to be collected. These fees are meant to fund a share of the costs of transportation improvement projects located within the City of East Palo Alto. Similar to the multi-jurisdictional projects, the projects located within East Palo Alto include costs which are subject to a proportional share. The proportional share calculations and costs associated with transportation improvement projects located in East Palo Alto are listed below in Table 16.

Table 16 – Cost Summary and Proportional Share for East Palo Alto Projects

Project Location	Estimated Cost	Percent of Costs Funded by Menlo Park	Fair Share Contribution	Total Costs Funded via Updated TIF
University Ave & Bay Rd	\$168,000	50%	17%	\$14,300
University Ave & Donohoe St	\$336,000	50%	17%	\$28,600
University Ave & US 101 South Ramp	\$5,000,000	50%	17%	\$425,000

Transportation Impact Fee and Recommendations

Transportation Impact Fee Calculation

The updated transportation impact fee is based on net trip generation estimates for p.m. peak hour trips provided above in Table 13, and the share of capital costs to be funded by new development. A total of 5,060 trips during p.m. peak hour are estimated to be generated by future development based on the adjusted trip generation estimates derived from the Menlo Park City Transportation Demand Model. The total cost assigned to new development is \$163,981,600 as noted above in Table 13. When dividing the costs which can be funded via the updated TIF (\$77,460,100) by the number of net new trips (5,060), the cost per p.m. peak hour trip is equal to \$15,308.32. A single citywide fee would be applied to all future development projects. Table 17 shows the maximum allowable fee schedule.

Table 17 – 2019 Maximum Allowable Fee Schedule Calculation

Land Use	ITE Trip Rate	Unit	2019 Cost Per New Trip	Calculated Fee
Office	1.15	1000 sf	\$15,308.32	\$17.60 per sf
Research & Development	0.49	1000 sf	\$15,308.32	\$7.50 per sf
Manufacturing	0.67	1000 sf	\$15,308.32	\$10.26 per sf
Warehousing	0.19	1000 sf	\$15,308.32	\$2.91 per sf
Restaurant	9.94	1000 sf	\$15,308.32	\$17.60 per sf*
Retail	3.81	1000 sf	\$15,308.32	\$17.60 per sf*
Single-Family	0.99	Unit	\$15,308.32	\$15,155.24 per unit
Multi-Family	0.56	Unit	\$15,308.32	\$8,572.66 per unit
Hotel	0.6	Unit	\$15,308.32	\$9,184.99 per unit
Medical Office	3.46	1000 sf	\$15,308.32	\$52.97 per sf
Childcare	11.12	1000 sf	\$15,308.32	\$17.60 per sf*
Secondary Dwelling Unit		Unit	\$15,308.32	\$3,178.84 per unit**

Note: * = Fees for restaurant, childcare, and retail use were lowered based on direction from Menlo Park City Council to continue to incentivize these uses; ** = The Maximum Fee for Secondary Dwelling Units is based on the existing ratio between Multi-Family Developments and Secondary Dwelling Units; sf = square foot

Additional Considerations

It is noted that the calculated fee per new trip of \$15,308.32 is relatively high compared to other nearby jurisdictions. Table 18 includes a comparison of current Menlo Park fees and those of other jurisdictions. The existing fee of \$3,393.74 is approximately 22 percent of the newly calculated fee. Further, the number of transportation improvement projects included in this nexus study is significantly higher than the prior TIF prepared in 2009. For this reason, the maximum allowable fee is significantly higher than the existing fee. The newly calculated fee of \$15,308.32 per trip is the maximum fee which the City of Menlo Park can apply to new development under AB 1600. As such, City staff/City Council has the ability to adopt a fee at, or below, this maximum fee amount to encourage or incentivize specific types of development. Table 18 shows a comparison of transportation impact fees in communities adjacent to Menlo Park.

Table 18 – Adjacent Jurisdiction Transportation Impact Fees

Jurisdiction	Per Peak PM Hour Trip	Single-Family	Multi-Family	Office	Research & Development	Light Industrial Manufacturing	Retail	Hotel
Unit		du	du	sf	sf	sf	sf	room
Proposed Menlo Park Citywide*	\$15,308.32	\$15,155.24	\$8,572.66	\$17.60	\$7.50	\$10.26	\$17.60	\$9,184.99
San Mateo	N/A	\$4,367	\$2,681	\$4.01	N/A	\$2.61	\$7.50	N/A
San Carlos	N/A	\$3,052	\$1,892	\$4.55	\$3.27	\$2.23	\$11.32	\$1,831
Redwood City	N/A	\$1,617	\$992	\$2.38	\$1.71	\$1.55	\$3.94	\$945
Palo Alto Citywide*	\$7,886	\$7,886	\$4,889	\$11.75	\$8.44	\$3.31	\$29.26	\$4.73
East Palo Alto	\$6,898	\$2,358	\$1,775	\$7.33	\$7.33	\$4.77	\$7.33	N/A
Los Altos	N/A	\$6,774	\$4,159	\$9.99	N/A	N/A	\$12.41	N/A
Mountain View Citywide*	N/A	\$4,671	\$2,616	\$4.99	\$4.99	\$4.99	\$ 4.99 - \$ 12.83	\$2,889

Note: du = dwelling unit; sf = square feet; * = Rates are reflect the applicable Citywide Transportation Impact Fees as opposed to area specific fees with the given jurisdiction.

Development of Single Citywide Fee

In addition to the calculated fees per trip for the individual land uses listed in the 2009 TIF, a supplemental TIF was established in 2009 for development within the El Camino Real/Downtown Specific Plan Area in 2015. For development within the El Camino Real/Downtown Specific Plan Area, two fees are typically assessed, including the fees listed in the citywide 2009 TIF Study, as well as the Supplemental Fee. Under the proposed fee schedule, only a single city-wide fee would be needed. The transportation improvement projects specific to the El Camino Real/Downtown Specific Plan Area have been incorporated with the general list of all other infrastructure projects throughout the City of Menlo Park.

Fee Waivers and Incentives

As a way to encourage the development of specific land uses within the City of Menlo Park, the Menlo Park City Council has directed City staff to allow for a fee waiver specifically for affordable housing units. In addition, a waiver should be considered for secondary dwelling units. Similarly, to be consistent with the current fee schedule, restaurant, childcare, and retail fees were reduced to match office rates. The same method was applied to the updated fee schedule.

Fee Index

It is recommended the City of Menlo Park continue to adjust the Transportation Impact Fee annually based on the Construction Cost Index published by the Engineering News Record.

Vacant Parcels

When calculating trips expected to be generated by proposed development, it is recommended that trip credits not be provided to parcels which have been vacant for two or more years. This recommendation is consistent with industry-wide traffic engineering practices of not using turning movement counts that are more than two years old or applying trip credits to the traffic impact analysis in similar situations. It would thus be consistent to apply this logic to the TIF, and to accurately analyze the net increase in trips added to the transportation network attributable to new development as a means of fairly calculating the appropriate development fees.

Adopted Transportation Impact Fee and Recommendations

Transportation Impact Fee Adopted by City Council

On November 5, 2019, the Menlo Park City Council accepted the Nexus Study and subsequently introduced Ordinance #1061 on November 19, 2019. On December 10, 2019, the Menlo Park City Council adopted an updated Transportation Impact Fee Rates schedule and Ordinance #1061, amending *Chapter 13.26 Transportation Impact Fee of Title 13 Street, Sidewalks and Utilities* of the Menlo Park Municipal Code. The updated fees include waivers and fee reductions below the maximum allowable fees presented above in Table 17. The reduced fees and waivers align with recent California State legislation that streamlines cities' review of housing and developments that are at least two-thirds housing. The strategies adopted by City Council include:

- Reduced the maximum allowable fees for multifamily residential units by 40 percent.
- Waived fees for secondary dwelling units.
- Waived fees for affordable housing developments by considering the fee as part of the City's contribution for affordable housing. Fees for developments which supply units above and beyond the City's Below Market Rate requirements will also be waived.

In addition to residential uses, fees for childcare uses were waived to continue to encourage this type of land use. Further, fees for restaurant and retail land uses were tied to manufacturing fees with a review of these fees in one year. The updated fee schedule adopted by the Menlo Park City Council on December 10, 2019 are summarized in Table 19.

Table 19 – Adopted Transportation Impact Fee Rates

Land Use	Unit	Calculated Fee
Office	1000 sf	\$17.60 per sf
Research & Development	1000 sf	\$7.50 per sf
Manufacturing	1000 sf	\$10.26 per sf
Warehousing	1000 sf	\$2.91 per sf
Restaurant	1000 sf	\$10.26 per sf*
Retail	1000 sf	\$10.26 per sf*
Single-Family	Unit	\$15,155.24 per unit***
Multi-Family	Unit	\$5,108.02 per unit***
Hotel	Unit	\$9,184.99 per unit
Medical Office	1000 sf	\$52.97 per sf
Childcare	1000 sf	\$0.00 per sf**
Secondary Dwelling Unit	Unit	\$0.00 per unit**

Note: * = Fees for restaurant and retail use were lowered to incentivize these uses; ** = The Fees for Childcare and Secondary Dwelling Units were waived; *** = the Fee for Multi-Family Developments is reduced by 40 percent of the maximum allowable fee and fees for affordable units above the City's mandated requirements will be waived.

Study Participants and References

Study Participants

Principal in Charge	Mark E. Spencer, TE
Traffic Engineer	Steve Fitzsimons, PE, TE
Assistant Planner	Andre Huff
Editing/Formatting	Hannah Yung-Boxdell
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Principal Control (Iteris)	Richard Shinn
Engineer (Iteris)	Mathew Redmond, PE
Principal Planner (Kittelson)	Damian Stefanakis

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Appendix A

Study Intersections and LOS for Existing and Future plus Project Conditions



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Menlo Park GP Circulation Update

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Scenario 1: Existing AM
1/9/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM2000	SWBT	1.021	53.4	D
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM2000	SWBT	0.704	95.4	F
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM2000	NBL	0.739	67.2	E
4	Marsh Rd/Bay Rd	Signalized	HCM2000	SBL	0.585	32.2	C
9	Middlefield Rd/Ravenswood Ave	Signalized	HCM2000	NEBL	0.647	35.5	D
10	Middlefield Rd/Ringswood Ave	Signalized	HCM2000	NWBL	0.429	33.7	C
15	Bayfront Expy (SR 84)/University Ave (SR 109)	Signalized	HCM2000	NWBL	0.957	22.1	C
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM2000	SBR	0.814	33.7	C
17	Willow Rd (SR 114)/Hamilton Ave	Signalized	HCM2000	SBL	0.557	27.6	C
18	Willow Rd (SR 114)/Ivy Dr	Signalized	HCM2000	NBL	0.543	19.0	B
19	Willow Rd (SR 114)/O'Brien Dr	Signalized	HCM2000	SBL	0.547	14.5	B
20	Willow Rd (SR 114)/Newbridge St	Signalized	HCM2000	SBL	0.785	40.6	D
21	Willow Rd/Bay Rd	Signalized	HCM2000	NEBL	0.675	20.7	C
22	Willow Rd/Durham St-VA Med Entrance	Signalized	HCM2000	WBL	0.761	14.3	B
23	Willow Rd/Coleman Ave	Signalized	HCM2000	EBL	0.954	33.8	C
24	Willow Rd/Gilbert Ave	Signalized	HCM2000	WBT	0.683	18.3	B
25	Middlefield Rd-Willow Rd	Signalized	HCM2000	NEBT	0.623	48.7	D
26	Ravenswood Ave/Laurel St	Signalized	HCM2000	SEBT	0.958	20.4	C
28	Oak Grove Ave/Laurel St	Signalized	HCM2000	SEBT	0.751	15.6	B
29	El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance	Signalized	HCM2000	NWBL	0.646	18.1	B
30	El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave	Signalized	HCM2000	NWBL	0.823	35.4	D

31	El Camino Real (SR 82)/Oak Grove Ave	Signalized	HCM2000	NEBL	0.728	30.6	C
32	El Camino Real (SR 82)/Santa Cruz Ave	Signalized	HCM2000	NEBR	0.658	11.3	B
33	El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave	Signalized	HCM2000	NWBL	0.824	37.8	D
34	El Camino Real (SR 82)/Roble Ave	Signalized	HCM2000	SEBL	0.569	8.7	A
35	El Camino Real (SR 82)/Middle Ave	Signalized	HCM2000	NWBL	0.685	16.8	B
36	El Camino Real (SR 82)/Cambridge Ave	Signalized	HCM2000	NEBL	0.591	4.3	A
38	Santa Cruz Ave/University Dr (S)	Signalized	HCM2000	SWBL	0.601	16.9	B
39	Santa Cruz Ave/Sand Hill Rd	Signalized	HCM2000	SEBL	0.782	52.6	D
58	University Avenue and Adams Drive	Two-way stop	HCM2000	EBL	0.196	146.8	F
74	University Ave/O'Brien Dr	Signalized	HCM2000	EBR	0.569	3.7	A
88	Valparaiso Ave/ University Dr	Signalized	HCM2000	NWBT	0.675	19.8	B
103	Addison Wesley/Sand Hill Rd	Signalized	HCM2000	EBT	0.668	155.5	F
107	Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd	Signalized	HCM2000	WBR	0.784	46.4	D
110	Marsh Road and US 101 NB Ramps	Signalized	HCM2000	NWBL	0.681	17.1	B
132	Oak Ave/Sand Hill Rd	Signalized	HCM2000	SEBR	0.789	18.2	B
156	Saga Ln/Sand Hill Rd	Signalized	HCM2000	EBT	0.605	54.3	D
157	Branner Dr/Sand Hill Rd	Signalized	HCM2000	EBT	0.575	44.3	D
162	Sharon Park Dr/ Sand Hill Rd	Signalized	HCM2000	SWBL	0.650	29.4	C
163	Bayfront Expy/Marsh Rd	Signalized	HCM2000	WBL	1.173	140.9	F
181	Santa Cruz Ave/Elder Ave	Signalized	HCM2000	NEBL	0.545	15.4	B
195	Bayfront Expy/Chilco St	Signalized	HCM2000	NBL	0.843	18.9	B
196	Bayfront Expy/Chrysler Drive	Signalized	HCM2000	NBL	0.883	15.1	B
207	Chilco St/Constitution Dr	All-way stop	HCM2000	SBT		11.6	B
209	Jefferson Dr/Constitution Dr	Two-way stop	HCM2000	NEBT	0.000	9.6	A
213	Chrysler Dr/Independence Dr	Two-way stop	HCM2000	NWBT	0.016	10.1	B
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM2000	NWBT	0.000	12.2	B

215	Chrysler Dr/Constitution Dr	All-way stop	HCM2000	EBT		8.8	A
233	Sand Hill Road and Sand Hill Circle	Signalized	HCM2000	NBT	0.435	63.7	E
234	Sand Hill Rd/Hwy 280 NB Off-Ramp	Signalized	HCM2000	EBT	0.731	233.2	F

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

Menlo Park GP Circulation Update

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Report File: J:\...\Menlo Park_PM Results.pdf

Scenario 1: Existing PM
1/9/2015

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM2000	SWBT	1.000	25.5	C
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM2000	SWBT	0.558	68.3	E
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM2000	SBR	0.699	79.4	E
4	Marsh Rd/Bay Rd	Signalized	HCM2000	WBR	0.584	26.2	C
9	Middlefield Rd/Ravenswood Ave	Signalized	HCM2000	NWBL	0.628	139.1	F
10	Middlefield Rd/Ringwood Ave	Signalized	HCM2000	SEBL	0.637	110.3	F
15	Bayfront Expy (SR 84)/University Ave (SR 109)	Signalized	HCM2000	NEBT	1.217	119.7	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM2000	SBL	0.901	48.4	D
17	Willow Rd (SR 114)/Hamilton Ave	Signalized	HCM2000	EBL	0.665	29.2	C
18	Willow Rd (SR 114)/Ivy Dr	Signalized	HCM2000	EBR	0.552	14.4	B
19	Willow Rd (SR 114)/O'Brien Dr	Signalized	HCM2000	SBL	0.568	16.1	B
20	Willow Rd (SR 114)/Newbridge St	Signalized	HCM2000	WBT	0.771	42.2	D
21	Willow Rd/Bay Rd	Signalized	HCM2000	SEBL	0.813	27.0	C
22	Willow Rd/Durham St-VA Med Entrance	Signalized	HCM2000	EBL	0.686	22.3	C
23	Willow Rd/Coleman Ave	Signalized	HCM2000	EBL	0.644	14.1	B
24	Willow Rd/Gilbert Ave	Signalized	HCM2000	WBL	0.574	25.6	C
25	Middlefield Rd-Willow Rd	Signalized	HCM2000	NEBR	0.561	46.8	D
26	Ravenswood Ave/Laurel St	Signalized	HCM2000	NWBL	0.972	23.0	C
28	Oak Grove Ave/Laurel St	Signalized	HCM2000	NWBT	0.716	15.4	B
29	El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance	Signalized	HCM2000	SEBL	0.782	19.5	B
30	El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave	Signalized	HCM2000	SEBL	0.855	38.6	D

AVE							
31	El Camino Real (SR 82)/Oak Grove Ave	Signalized	HCM2000	SWBL	0.755	31.9	C
32	El Camino Real (SR 82)/Santa Cruz Ave	Signalized	HCM2000	SWBT	0.730	13.7	B
33	El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave	Signalized	HCM2000	SEBL	0.872	44.6	D
34	El Camino Real (SR 82)/Roble Ave	Signalized	HCM2000	NEBL	0.586	10.4	B
35	El Camino Real (SR 82)/Middle Ave	Signalized	HCM2000	NEBL	0.682	19.5	B
36	El Camino Real (SR 82)/Cambridge Ave	Signalized	HCM2000	NEBL	0.622	10.4	B
38	Santa Cruz Ave/University Dr (S)	Signalized	HCM2000	SWBL	0.619	19.2	B
39	Sand Hill Rd/Santa Cruz Ave	Signalized	HCM2000	SEBL	0.709	49.9	D
58	University Avenue and Adams Drive	Two-way stop	HCM2000	EBT	0.000	87.6	F
74	University Ave/O'Brien Dr	Signalized	HCM2000	NBL	0.710	9.7	A
88	Valparaiso Ave/ University Dr	Signalized	HCM2000	NWBL	0.731	31.5	C
103	Addison Wesley/Sand Hill Rd	Signalized	HCM2000	WBT	0.650	81.9	F
107	Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd	Signalized	HCM2000	NEBT	0.732	51.3	D
110	Marsh Road/101 NB Ramps	Signalized	HCM2000	NBT	0.851	49.8	D
132	Oak Ave/Sand Hill Rd	Signalized	HCM2000	SEBR	0.556	6.2	A
156	Saga Ln/Sand Hill Rd	Signalized	HCM2000	WBT	0.516	35.2	D
157	Branner Dr/Sand Hill Rd	Signalized	HCM2000	EBL	0.451	21.0	C
162	Sharon Park Dr/ Sand Hill Rd	Signalized	HCM2000	SWBT	0.684	51.3	D
163	Bayfront Expy/Marsh Rd	Signalized	HCM2000	NBR	0.964	320.4	F
181	Santa Cruz Ave/Elder Ave	Signalized	HCM2000	SEBR	0.514	10.0	A
195	Bayfront Expy/Chilco St	Signalized	HCM2000	NBR	0.701	12.7	B
196	Bayfront Expy/Chrysler Drive	Signalized	HCM2000	WBL	0.795	21.6	C
207	Chilco St/Constitution Dr	All-way stop	HCM2000	NWBR		23.6	C
209	Jefferson Dr/Constitution Dr	Two-way stop	HCM2000	SBL	0.037	15.5	C
213	Chrysler Dr/Independence Dr	Two-way stop	HCM2000	SEBT	0.004	10.0	A
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM2000	NWBL	0.002	10.4	B
215	Chrysler Dr/Constitution Dr	All-way stop	HCM2000	EBT		14.4	B

233	Sand Hill Circle/Sand Hill Road	Signalized	HCM2000	WBT	0.712	361.8	F
234	Sand Hill Rd/Hwy 280 NB Off-Ramp	Signalized	HCM2000	NBR	0.360	31.3	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

General Plan & Facebook Expansion

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Scenario 1: Proposed General Plan Conditions AM

Report File: J:\...\Cumulative 2040 Proposed General Plan
Conditions AM.pdf

5/19/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 2010	SEB Left	0.907	19.7	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 2010	NEB Left	0.731	28.1	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 2010	WB Right	0.733	33.3	C
4	Marsh Rd/Bay Rd	Signalized	HCM 2010	SB Left	0.742	21.2	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 2010	EB Left	0.864	30.5	C
9	Middlefield Rd/Ravenswood Ave	Signalized	HCM 2010	NWB Left	0.678	40.4	D
10	Middlefield Rd/Ringswood Ave	Signalized	HCM 2010	SEB Left	0.433	22.5	C
13	Middlefield Rd/Lytton Ave	Signalized	HCM 2010	SWB Thru	0.573	37.3	D
14	Middlefield Rd/University Ave	Signalized	HCM 2010	SEB Left	0.489	36.4	D
15	Bayfront Expy (SR 84)/University Ave (SR 109)	Signalized	HCM 2010	NWB Left	1.142	82.1	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 2010	NB Left	1.147	155.7	F
17	Willow Rd (SR 114)/Hamilton Ave	Signalized	HCM 2010	SB Left	0.823	10.9	B
18	Willow Rd (SR 114)/Ivy Dr	Signalized	HCM 2010	NB Left	0.668	13.7	B
19	Willow Rd (SR 114)/O'Brien Dr	Signalized	HCM 2010	SB Left	0.744	17.3	B
20	Willow Rd (SR 114)/Newbridge St	Signalized	HCM 2010	SB Left	0.959	59.5	E
21	Willow Rd/Bay Rd	Signalized	HCM 2010	NEB Left	0.721	11.9	B
22	Willow Rd/Durham St-VA Med Entrance	Signalized	HCM 2010	NB Left	0.757	23.1	C
23	Willow Rd/Coleman Ave	Signalized	HCM 2010	EB Left	0.751	20.4	C
24	Willow Rd/Gilbert Ave	Signalized	HCM 2010	EB Left	0.630	23.5	C
25	Middlefield Rd-Willow Rd	Signalized	HCM 2010	NEB Thru	0.570	59.0	E
26	Ravenswood Ave/Laurel St	Signalized	HCM 2010	NWB Left	0.763	27.3	C
28	Oak Grove Ave/Laurel St	Signalized	HCM 2010	SEB Thru	0.530	8.3	A

29	El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance	Signalized	HCM 2010	SEB Left	1.005	40.2	D
30	El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave	Signalized	HCM 2010	NWB Left	0.969	59.4	E
31	El Camino Real (SR 82)/Oak Grove Ave	Signalized	HCM 2010	NWB Left	0.890	36.9	D
32	El Camino Real (SR 82)/Santa Cruz Ave	Signalized	HCM 2010	NEB Right	0.925	22.6	C
33	El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave	Signalized	HCM 2010	NWB Left	1.057	88.7	F
34	El Camino Real (SR 82)/Roble Ave	Signalized	HCM 2010	SEB Left	0.626	6.2	A
35	El Camino Real (SR 82)/Middle Ave	Signalized	HCM 2010	NEB Left	0.773	15.7	B
36	El Camino Real (SR 82)/Cambridge Ave	Signalized	HCM 2010	SEB Left	0.671	5.3	A
38	Santa Cruz Ave/University Dr (S)	Signalized	HCM 2010	SWB Left	0.548	9.9	A
39	Santa Cruz Ave/Sand Hill Rd	Signalized	HCM 2010	SEB Left	0.734	44.8	D
58	University Avenue and Adams Drive	Two-way stop	HCM 2010	EB Left	6.157	2,552.0	F
71	Chilco Street/Terminal Avenue	All-way stop	HCM 2010	EB Left		10.9	B
74	University Ave/O'Brien Dr	Signalized	HCM 2010	NB Left	0.508	28.0	C
77	University Avenue/Donohoe Street	Signalized	HCM 2010	EB Right	1.130	136.4	F
88	Valparaiso Ave/ University Dr	Signalized	HCM 2010	SEB Left	0.643	20.4	C
103	Addison Wesley/Sand Hill Rd	Signalized	HCM 2010	WB Left	0.699	12.6	B
107	Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd	Signalized	HCM 2010	WB Right	0.728	40.6	D
110	Marsh Road and US 101 NB Ramps	Signalized	HCM 2010	NWB Left	0.792	14.0	B
111	University Avenue / Woodland Avenue	Signalized	HCM 2010	NWB Right	0.806	54.2	D
131	Chilco Street/Hamilton Avenue	All-way stop	HCM 2010	SB Thru		8.7	A
132	Oak Ave/Sand Hill Rd	Signalized	HCM 2000	SEB Right	0.732	13.5	B
156	Saga Ln/Sand Hill Rd	Signalized	HCM 2010	SB Left	8.632	38.4	D

157	Branner Dr/Sand Hill Rd	Signalized	HCM 2010	EB Left	0.539	6.5	A
162	Sharon Park Dr/ Sand Hill Rd	Signalized	HCM 2010	SEB Left	1.202	43.3	D
163	Bayfront Expy/Marsh Rd	Signalized	HCM 2010	EB Right	0.992	50.4	D
181	Santa Cruz Ave/Elder Ave	Signalized	HCM 2010	NEB Left	0.638	9.6	A
195	Bayfront Expy/Chilco St	Signalized	HCM 2010	WB Left	0.891	29.8	C
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 2010	WB Left	0.807	8.9	A
199	Bayfront Expwy/Bldg 21	Signalized	HCM 2010	WB Left	0.927	44.7	D
201	Bayfront Expwy/Bldg 20	Signalized	HCM 2010	WB Left	0.894	38.9	D
204	Chilco Street/Newbridge Street	All-way stop	HCM 2010	SB Left		8.6	A
206	Chilco Street/Ivy Drive	All-way stop	HCM 2010	SB Thru		8.2	A
207	Chilco St/Constitution Dr	All-way stop	HCM 2010	SB Left		160.9	F
209	Jefferson Dr/Constitution Dr	Two-way stop	HCM 2000	NEB Thru	0.000	9.7	A
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 2010	NWB Thru	0.016	10.9	B
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 2010	NWB Thru	0.000	13.8	B
215	Chrysler Dr/Constitution Dr	Signalized	HCM 2010	NEB Right	0.414	32.4	C
233	Sand Hill Road and Sand Hill Circle	Signalized	HCM 2010	NB Thru	0.580	14.4	B
234	Sand Hill Rd/Hwy 280 NB Off-Ramp	Signalized	HCM 2010	NB Right	0.933	86.1	F
243	University Avenue/US 101 SB Ramps	Signalized	HCM 2010	WB Right	0.940	52.9	D
245	University Avenue/Runnymede Street	Signalized	HCM 2010	SB Left	0.723	15.7	B
246	University Avenue/Bell Street	Signalized	HCM 2010	WB Thru	0.600	13.7	B
247	University Avenue/Bay Road	Signalized	HCM 2010	NEB Left	0.661	41.1	D
249	Donohoe Street/US 101 NB Off-ramp/Capitol Avenue	Signalized	HCM 2010	WB Right	0.521	45.1	D

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

General Plan & Facebook Expansion

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Scenario 1: Proposed General Plan Conditions PM

Report File: J:\...\Cumulative 2040 Proposed General Plan
Conditions PM.pdf

5/19/2016

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Marsh Rd (SR 84)/US 101 SB Offramp	Signalized	HCM 2010	SWB Thru	0.800	18.5	B
2	Marsh Rd/Rolison Rd-Scott Dr	Signalized	HCM 2010	NEB Left	0.610	22.4	C
3	Marsh Rd/Florence St-Bohannon Dr	Signalized	HCM 2010	SB Left	0.670	35.2	D
4	Marsh Rd/Bay Rd	Signalized	HCM 2010	SB Left	0.519	21.7	C
5	Middlefield Rd/Marsh Rd	Signalized	HCM 2010	EB Left	0.767	36.5	D
9	Middlefield Rd/Ravenswood Ave	Signalized	HCM 2010	SEB Thru	1.412	52.1	D
10	Middlefield Rd/Ringwood Ave	Signalized	HCM 2010	SEB Left	0.727	42.2	D
13	Middlefield Rd/Lytton Ave	Signalized	HCM 2010	SWB Thru	0.744	41.3	D
14	Middlefield Rd/University Ave	Signalized	HCM 2010	SEB Left	0.545	35.1	D
15	Bayfront Expy (SR 84)/University Ave (SR 109)	Signalized	HCM 2010	NWB Right	1.477	198.0	F
16	Bayfront Expy (SR 84)/Willow Rd (SR 114)	Signalized	HCM 2010	SB Left	1.094	113.4	F
17	Willow Rd (SR 114)/Hamilton Ave	Signalized	HCM 2010	EB Left	0.810	103.3	F
18	Willow Rd (SR 114)/Ivy Dr	Signalized	HCM 2010	NB Left	0.864	24.9	C
19	Willow Rd (SR 114)/O'Brien Dr	Signalized	HCM 2010	SB Left	0.794	13.2	B
20	Willow Rd (SR 114)/Newbridge St	Signalized	HCM 2010	NB Left	1.008	58.8	E
21	Willow Rd/Bay Rd	Signalized	HCM 2010	NEB Left	0.810	13.8	B
22	Willow Rd/Durham St-VA Med Entrance	Signalized	HCM 2010	NB Left	0.771	25.5	C
23	Willow Rd/Coleman Ave	Signalized	HCM 2010	EB Left	0.563	8.5	A
24	Willow Rd/Gilbert Ave	Signalized	HCM 2010	WB Left	0.527	13.9	B
25	Middlefield Rd-Willow Rd	Signalized	HCM 2010	NEB Right	0.585	68.9	E
26	Ravenswood Ave/Laurel St	Signalized	HCM 2010	SEB Thru	0.731	24.7	C
28	Oak Grove Ave/Laurel St	Signalized	HCM 2010	NWB Thru	0.611	8.1	A

29	El Camino Real (SR 82)/Encinal Ave-Menlo College Entrance	Signalized	HCM 2010	SWB Left	12.363	37.4	D
30	El Camino Real (SR 82)/Glenwood Ave-Valparaiso Ave	Signalized	HCM 2010	SWB Thru	0.852	47.3	D
31	El Camino Real (SR 82)/Oak Grove Ave	Signalized	HCM 2010	SEB Left	0.740	26.5	C
32	El Camino Real (SR 82)/Santa Cruz Ave	Signalized	HCM 2010	NEB Right	0.920	33.0	C
33	El Camino Real (SR 82)/Ravenswood Ave-Menlo Ave	Signalized	HCM 2010	SEB Left	1.000	82.8	F
34	El Camino Real (SR 82)/Roble Ave	Signalized	HCM 2010	NWB Left	0.638	9.1	A
35	El Camino Real (SR 82)/Middle Ave	Signalized	HCM 2010	NEB Left	0.788	17.3	B
36	El Camino Real (SR 82)/Cambridge Ave	Signalized	HCM 2010	SEB Left	0.625	8.5	A
38	Santa Cruz Ave/University Dr (S)	Signalized	HCM 2010	SWB Left	0.615	11.8	B
39	Sand Hill Rd/Santa Cruz Ave	Signalized	HCM 2010	NWB Left	0.781	46.0	D
58	University Avenue and Adams Drive	Two-way stop	HCM 2010	EB Thru	0.000	3,546.1	F
71	Chilco Street/Terminal Avenue	All-way stop	HCM 2010	SEB Thru		16.5	C
74	University Ave/O'Brien Dr	Signalized	HCM 2010	NB Left	0.903	18.7	B
77	University Avenue/Donohoe Street	Signalized	HCM 2010	SB Left	1.120	149.0	F
88	Valparaiso Ave/ University Dr	Signalized	HCM 2010	SEB Left	0.751	25.6	C
103	Addison Wesley/Sand Hill Rd	Signalized	HCM 2010	EB Left	0.690	15.9	B
107	Alpine Rd/Santa Cruz Ave&Junipero Serra Blvd	Signalized	HCM 2010	NEB Thru	0.771	48.3	D
110	Marsh Road/101 NB Ramps	Signalized	HCM 2010	NWB Left	0.896	13.1	B
111	University Avenue/Woodland Avenue	Signalized	HCM 2010	SWB Left	0.798	53.8	D
131	Chilco Street/Hamilton Avenue	All-way stop	HCM 2010	SB Thru		48.7	E
132	Oak Ave/Sand Hill Rd	Signalized	HCM 2000	SEB Right	0.578	6.5	A
156	Saga Ln/Sand Hill Rd	Signalized	HCM 2010	NB Left	50.579	42.1	D
157	Branner Dr/Sand Hill Rd	Signalized	HCM 2010	WB Left	0.467	5.5	A

162	Sharon Park Dr/ Sand Hill Rd	Signalized	HCM 2010	NWB Right	1.449	47.9	D
163	Bayfront Expy/Marsh Rd	Signalized	HCM 2010	NB Left	0.848	29.0	C
181	Santa Cruz Ave/Elder Ave	Signalized	HCM 2010	NEB Left	0.643	7.9	A
195	Bayfront Expy/Chilco St	Signalized	HCM 2010	NB Right	1.035	47.5	D
196	Bayfront Expy/Chrysler Drive	Signalized	HCM 2010	WB Left	0.859	18.0	B
199	Bafront Expwy/Bldg 21	Signalized	HCM 2010	EB Thru	1.093	138.2	F
201	Bayfront Expwy/Bldg 20	Signalized	HCM 2010	EB Thru	1.224	216.6	F
204	Chilco Street/Newbridge Street	All-way stop	HCM 2010	SB Left		9.2	A
206	Chilco Street/Ivy Drive	All-way stop	HCM 2010	SB Thru		11.3	B
207	Chilco St/Constitution Dr	All-way stop	HCM 2010	NWB Right		206.1	F
209	Jefferson Dr/Constitution Dr	Two-way stop	HCM 2010	NEB Left	0.221	22.3	C
213	Chrysler Dr/Independence Dr	Two-way stop	HCM 2010	SEB Thru	0.004	13.3	B
214	Chrysler Dr/Jefferson Dr	Two-way stop	HCM 2010	NWB Left	0.004	14.9	B
215	Chrysler Dr/Constitution Dr	Signalized	HCM 2010	EB Left	0.858	68.0	E
233	Sand Hill Circle/Sand Hill Road	Signalized	HCM 2010	WB Right	1.191	84.9	F
234	Sand Hill Rd/Hwy 280 NB Off-Ramp	Signalized	HCM 2010	SB Left	0.407	10.3	B
243	University Avenue/US 101 SB Ramps	Signalized	HCM 2010	WB Right	1.048	87.1	F
245	University Avenue/Runnymede Street	Signalized	HCM 2010	WB Right	0.757	25.7	C
246	University Avenue/Bell Street	Signalized	HCM 2010	NB Left	0.808	32.7	C
247	University Avenue/Bay Road	Signalized	HCM 2010	NWB Right	1.148	143.4	F
249	Donohoe Street/US 101 NB Off-ramp/Capitol Avenue	Signalized	HCM 2010	NB Right	0.791	31.9	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. for all other control types, they are taken for the whole intersection.

Appendix B

Segment Volumes for Existing and Future Plus Project Conditions



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TRANSPORTATION AND CIRCULATION

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
1	Alameda de las Pulgas	Avy Avenue	Santa Cruz Avenue	Minor Arterial	12,450
2 ^a	Alameda de las Pulgas	Valparaiso Avenue	Avy Avenue	Minor Arterial	15,330
3 ^a	Alameda de las Pulgas	City Limit	Valparaiso Avenue	Minor Arterial	16,140
4	Alma Street	Ravenswood Avenue	Oak Grove Avenue	Collector	1,640
5	Alma Street	Willow Road	Ravenswood Avenue	Collector	3,240
6	Alpine Road	City Limit	Junipero Serra Boulevard	Minor Arterial	23,310
7 ^b	Avy Avenue	City Limit	Alameda de las Pulgas	Collector	4,610
8	Avy Avenue	Alameda de las Pulgas	Santa Cruz Avenue	Collector	5,940
9	Bay Road	Greenwood Drive	Marsh Road	Collector	5,550
10	Bay Road	Ringwood Avenue	Greenwood Drive	Collector	5,660
11	Bay Road	Willow Road	Ringwood Avenue	Collector	7,580
12	Bohannon Drive	Campbell Avenue	Marsh Road	Collector	3,910
13	Chilco Street	Constitution Drive	Bayfront Expressway	Collector	7,000
14	Chrysler Drive	Constitution Drive	Bayfront Expressway	Collector	4,070
15	Constitution Drive	Chilco Street	Chrysler Drive	Collector	2,360
16	Crane Street	Oak Grove Avenue	Santa Cruz Avenue	Collector	2,660
17	Crane Street	Santa Cruz Avenue	Menlo Avenue	Collector	2,420
18	Encinal Avenue	El Camino Real	Laurel Street	Collector	5,600
19	Encinal Avenue	Laurel Street	Middlefield Road	Collector	4,950
20	Glenwood Avenue	El Camino Real	Laurel Street	Collector	5,980
21	Hamilton Avenue	Willow Road	Chilco Street	Collector	2,770
22	Haven Avenue	Bayfront Expressway/Marsh Road	City Limit	Collector	7,400
23	Junipero Serra Boulevard	City Limit	Alpine Road	Primary Arterial	16,010
24	Laurel Street	Oak Grove Avenue	Glenwood Avenue	Collector	4,060
25	Laurel Street	Ravenswood Avenue	Oak Grove Avenue	Collector	4,410

TRANSPORTATION AND CIRCULATION

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
26	Laurel Street	Willow Road	Ravenswood Avenue	Collector	4,470
27	Marsh Road	City Limit	Bay Road	Minor Arterial	22,850
28	Marsh Road	Bay Road	Bohannon Drive	Primary Arterial	25,830
29	Marsh Road	Bohannon Drive	Scott Drive	Primary Arterial	32,410
30	Menlo Avenue	University Avenue	Crane Street	Collector	7,360
31	Menlo Avenue	Crane Street	El Camino Real	Collector	8,650
32	Middle Avenue	Olive Street	University Drive	Collector	7,250
33	Middle Avenue	University Drive	El Camino Real	Collector	8,920
34 ^b	Middlefield Road	Ravenswood Avenue	Oak Grove Avenue	Minor Arterial	14,760
35	Middlefield Road	Willow Road	Ravenswood Avenue	Minor Arterial	19,690
36	Middlefield Road	City Limit	Willow Road	Minor Arterial	18,420
37	Newbridge Street	Willow Road	Chilco Street	Collector	7,070
38	Oak Grove Avenue	University Drive	Crane Street	Collector	6,360
39	Oak Grove Avenue	Crane Street	El Camino Real	Collector	7,700
40	Oak Grove Avenue	El Camino Real	Laurel Street	Collector	9,570
41	Oak Grove Avenue	Laurel Street	Middlefield Road	Collector	8,650
42	O'Brien Drive	Kavanaugh Drive	Willow Road	Collector	6,370
43	O'Brien Drive	University Avenue	Kavanaugh Drive	Collector	3,280
44	Ravenswood Avenue	El Camino Real	Alma Street	Minor Arterial	23,980
45	Ravenswood Avenue	Alma Street	Laurel Street	Minor Arterial	18,760
46	Ravenswood Avenue	Laurel Street	Middlefield Road	Minor Arterial	16,550
47 ^a	Ringwood Avenue	Middlefield Road	Bay Road	Collector	7,300
48	Sand Hill Road	I-280	Sharon Park Drive	Primary Arterial	28,050
49	Sand Hill Road	Santa Cruz Avenue	Sharon Park Drive	Primary Arterial	30,790
50	Sand Hill Road	Santa Cruz Avenue	City Limit	Minor Arterial	32,740

TRANSPORTATION AND CIRCULATION

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
51	Santa Cruz Avenue	Junipero Serra Blvd.	Sand Hill Road	Minor Arterial	26,480
52 ^a	Santa Cruz Avenue	Sand Hill Road	Alameda de las Pulgas	Minor Arterial	23,230
53	Santa Cruz Avenue	Alameda de las Pulgas	Avy Avenue/Orange Avenue	Minor Arterial	10,900
54	Santa Cruz Avenue	Avy Avenue/Orange Avenue	Olive Street	Minor Arterial	14,520
55	Santa Cruz Avenue	Olive Street	University Drive	Minor Arterial	15,320
56	Santa Cruz Avenue	University Drive	Crane Street	Minor Arterial	7,620
57	Santa Cruz Avenue	Crane Street	El Camino Real	Minor Arterial	7,370
58	Scott Drive	Marsh Road	Campbell Avenue	Collector	4,820
59	Sharon Park Drive	Sand Hill Road	Sharon Road	Collector	9,970
60	Sharon Road	Sharon Park Drive	Alameda de las Pulgas	Collector	3,780
61	University Drive	Middle Avenue	Menlo Avenue	Collector	5,840
62	University Drive	Menlo Avenue	Santa Cruz Avenue	Collector	9,310
63	University Drive	Santa Cruz Avenue	Oak Grove Avenue	Collector	7,160
64	University Drive	Oak Grove Avenue	Valparaiso Avenue	Collector	5,110
65	Valparaiso Avenue	Alameda de las Pulgas	Cotton Street	Minor Arterial	12,050
66	Valparaiso Avenue	Cotton Street	University Avenue	Minor Arterial	14,440
67	Valparaiso Avenue	University Drive	El Camino Real	Minor Arterial	13,010
68	Willow Road	Alma Street	Laurel Street	Collector	3,360
69	Willow Road	Laurel Street	Middlefield Road	Collector	5,250
70	Willow Road	Middlefield Road	Gilbert Avenue	Collector	24,330
71	Chilco Street	Hamilton Avenue	Terminal Avenue	Collector	4,780
72	Chilco Street	Ivy Drive	Hamilton Avenue	Collector	2,650
73	Chilco Street	Newbridge Street	Ivy Drive	Collector	2,110
74	Hamilton Avenue	Willow Road	Hamilton Court	Collector	2,640
75	Willow Road	Gilbert Avenue	Coleman Avenue	Minor Arterial	24,350

TRANSPORTATION AND CIRCULATION

TABLE 4.13-5 STUDY AREA ROADWAY SEGMENTS AND 2014 EXISTING AVERAGE DAILY TRAFFIC (ADT) VOLUME

No.	Street	From	To	Current Classification	2014 Existing
76	Willow Road	Coleman Avenue	Durham Street	Minor Arterial	41,190
77	Willow Road	Durham Street	Bay Road	Minor Arterial	34,150
78	Chilco Street	Terminal Avenue	Constitution Drive	Collector	5,100
79	Chrysler Drive	Constitution Drive	Independence Drive	Collector	3,270
80	Chrysler Drive	Independence Drive	Commonwealth Drive	Collector	1,110
81	Adams Drive	University Drive	Adams Court	Local	1,260
82	Olive Street	Santa Cruz Avenue	Middle Avenue	Local	2,450
83	Olive Street	Middle Avenue	Oak Avenue	Local	3,050
84	Cambridge Avenue	University Drive	El Camino Real	Local	1,600
85	Linfield Drive	Middlefield Road	Waverley Street	Local	1,760
86	Waverley Street	Laurel Street	Linfield Drive	Local	1,650
87	Ivy Drive	Chilco Street	Willow Road	Local	3,200

a. San Mateo County jurisdiction

b. Town of Atherton jurisdiction

Source: TJKM Transportation Consultants, January 2016.

TRANSPORTATION AND CIRCULATION

TABLE 4.13-11 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 PLUS PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project	2040 Plus Project	Net Change 2040 Plus Project and 2014 Existing Conditions ^b
1	Alameda De Las Pulgas	Avy Ave.	Santa Cruz Ave.	Minor Arterial	12,450	14,710	14,810	2,360
2	Alameda De Las Pulgas	Valparaiso Ave.	Avy Ave.	Minor Arterial	15,330	18,250	18,130	2,800
3	Alameda De Las Pulgas	City Limit	Valparaiso Ave.	Minor Arterial	16,140	19,330	19,280	3,140
5	Alma St.	Willow Rd.	Ravenswood Ave.	Collector	3,240	4,910	5,070	1,830
6	Alpine Rd.	City Limit	Junipero Serra Blvd.	Minor Arterial	23,310	26,330	26,170	2,860
9	Bay Rd.	Greenwood Dr.	Marsh Rd.	Collector	5,550	10,190	10,190	4,640
10	Bay Rd.	Ringwood Ave.	Greenwood Dr.	Collector	5,660	10,100	10,110	4,450
11	Bay Rd.	Willow Rd.	Ringwood Ave.	Collector	7,580	9,580	9,670	2,090
13	Chilco St.	Constitution Dr.	Bayfront Expwy.	Collector	7,000	17,380	9,320	2,320
15	Constitution Dr.	Chilco St.	Chrysler Dr.	Collector	2,360	6,680	5,300	2,940
18	Encinal Ave.	El Camino Real	Laurel St.	Collector	5,600	6,050	6,420	820
19	Encinal Ave.	Laurel St.	Middlefield Rd.	Collector	4,950	5,840	6,280	1,330
21	Hamilton Ave.	Willow Rd.	Chilco St.	Collector	2,770	3,480	3,470	700
22	Haven Ave.	Bayfront Expwy./Marsh Rd.	City Limit	Collector	7,400	15,120	17,490	10,090
23	Junipero Serra Blvd.	City Limit	Alpine Rd.	Primary Arterial	16,010	18,530	18,370	2,360
24	Laurel St.	Oak Grove Ave.	Glenwood Ave.	Collector	4,060	5,520	5,570	1,510
25	Laurel St.	Ravenswood Ave.	Oak Grove Ave.	Collector	4,410	6,190	5,800	1,390
26	Laurel St.	Willow Rd.	Ravenswood Ave.	Collector	4,470	5,590	5,640	1,170
27	Marsh Rd.	City Limit	Bay Rd.	Minor Arterial	22,850	25,180	26,080	3,230
28	Marsh Rd.	Bay Rd.	Bohannon Dr.	Primary Arterial	25,830	33,040	33,930	8,100
29	Marsh Rd.	Bohannon Dr.	Scott Dr.	Primary Arterial	32,410	42,390	43,410	11,000
35	Middlefield Rd.	Willow Rd.	Ravenswood Ave.	Minor Arterial	19,680	21,920	21,790	2,110
36	Middlefield Rd.	City Limit	Willow Rd.	Minor Arterial	18,420	21,810	22,310	3,890
37	Newbridge St.	Willow Rd.	Chilco St.	Collector	7,070	12,160	8,000	930
38	Oak Grove Ave.	University Dr.	Crane St.	Collector	6,350	7,670	7,430	1,080
39	Oak Grove Ave.	Crane St.	El Camino Real	Collector	7,700	10,940	10,540	2,840
40	Oak Grove Ave.	El Camino Real	Laurel St.	Collector	9,570	11,760	11,490	1,920
42	O'Brien Dr.	Kavanaugh Dr.	Willow Rd.	Collector	6,370	7,880	13,750	7,380

TRANSPORTATION AND CIRCULATION

TABLE 4.13-11 ROADWAY SEGMENTS THAT EXCEED AVERAGE DAILY TRAFFIC (ADT) STANDARDS UNDER 2040 PLUS PROJECT CONDITIONS

No.	Street	From	To	Classification	2014 Existing	2040 No Project	2040 Plus Project	Net Change 2040 Plus Project and 2014 Existing Conditions ^b
43	O'Brien Dr.	University Ave.	Kavanaugh Dr.	Collector	3,280	3,600	5,610	2,330
44	Ravenswood Ave.	El Camino Real	Alma St.	Minor Arterial	23,980	25,690	25,910	1,930
47	Ringwood Ave.	Middlefield Rd.	Bay Rd.	Collector	7,300	9,500	8,660	1,360
48	Sand Hill Rd.	I-280	Sharon Park Dr.	Primary Arterial	28,050	30,120	29,900	1,850
49	Sand Hill Rd.	Santa Cruz Ave.	Sharon Park Dr.	Primary Arterial	30,790	33,870	33,570	2,780
50	Sand Hill Rd.	Santa Cruz Ave.	City Limit	Minor Arterial	32,740	35,010	35,170	2,430
51	Santa Cruz Ave.	Junipero Serra Blvd.	Sand Hill Rd.	Minor Arterial	26,480	30,860	30,810	4,330
52 ^a	Santa Cruz Ave.	Sand Hill Rd.	Alameda de las Pulgas	Minor Arterial	23,230	26,730	26,850	3,620
59	Sharon Park Dr.	Sand Hill Rd.	Sharon Rd.	Collector	9,970	10,610	10,470	500
68	Willow Rd.	Alma St.	Laurel St.	Collector	3,360	5,010	5,180	1,820
69	Willow Rd.	Laurel St.	Middlefield Rd.	Collector	5,250	7,620	7,820	2,570
70	Willow Rd.	Middlefield Rd.	Gilbert Ave.	Collector	24,330	23,610	24,460	130
71	Chilco St.	Hamilton Ave.	Terminal Ave.	Collector	4,780	10,990	8,280	3,500
72	Chilco St.	Ivy Dr.	Hamilton Ave.	Collector	2,650	8,280	5,990	3,340
73	Chilco St.	Newbridge St.	Ivy Dr.	Collector	2,110	7,210	4,030	1,920
75	Willow Rd.	Gilbert Ave.	Coleman Ave.	Minor Arterial	24,350	24,520	25,920	1,570
76	Willow Rd.	Coleman Ave.	Durham St.	Minor Arterial	41,190	41,290	42,640	1,450
77	Willow Rd.	Durham St.	Bay Rd.	Minor Arterial	34,150	35,850	37,720	3,570
78	Chilco St.	Terminal Ave.	Constitution Dr.	Collector	5,100	11,250	8,490	3,390
81	Adams Dr.	University Dr.	Adams Ct.	Local	1,260	3,490	7,760	6,500
82	Olive St.	Santa Cruz Ave.	Middle Ave.	Local	2,450	2,560	2,560	110
83	Olive St.	Middle Ave.	Oak Ave.	Local	3,050	3,280	3,270	220
85	Linfield Dr.	Middlefield Rd.	Waverley St.	Local	1,760	1,770	1,790	30
86	Waverley St.	Laurel St.	Linfield Dr.	Local	1,650	1,860	1,900	250
87	Ivy Dr.	Chilco St.	Willow Rd.	Local	3,200	3,910	4,980	1,780

a. San Mateo County jurisdiction.

b. Represents the difference between the 2040 Plus Project and 2014 Existing Conditions.

Source: TJKM Transportation Consultants,

Appendix C

Conceptual Cost Estimations





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Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 1

Project Location: Haven Ave from Marsh Rd to Haven Ct
 Project Name: Bayfront Expy Multimodal Corridor Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Construct Class I Multi-Use Path from Marsh Rd to Atherton Channel				
Construct Class I - Multiuse Path	LF	\$355	850	\$301,750
Sub Total				\$301,750
Establish Class II Bicycle Lanes from Haven Court to Atherton Channel				
Install Class II Bicycle Lane	LF	\$20	1,600	\$32,000
Sub Total				\$32,000
Install Bicycle and Pedestrian crossing upgrades				
Construct Curb Ramp with Truncated domes	EA	\$5,000	5	\$25,000
Furnish & Install Pedestrian/Bike Call Button	EA	\$889	10	\$8,890
Furnish & Install In Road Warning Lights	EA Puck	\$1,029	16	\$16,464
Paint High Visibility Crosswalk	LF	\$112	450	\$50,400
Sub Total				\$100,754
Pavement Rehabilitation				
Demolition; Site Preparation; Asphalt Concrete	LS	\$455,000	1	\$455,000
Sub Total				\$455,000
Relocate existing water line				
Wet Utilities	LS	\$190,000	1	\$190,000
Sub Total				\$190,000
Install Pedestrian and Bicycle Bridge				
Construct Pedestrian & Bicycle Bridge	EA	\$200,000	1	\$200,000
Sub Total				\$200,000
Project Subtotal				\$1,279,504
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$191,926.00
SWPPP/WPC	3%			\$38,385.00
Mobilization	10%			\$127,950.00
Construction Subtotal				\$1,637,765.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$245,665.00
Design Engineering	15%			\$245,665.00
Construction Management	10%			\$163,777.00
Overhead and Administration	5%			\$81,888.00
Contingencies	30%			\$491,330.00
Estimated Project Cost				\$2,866,090.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 2

Project Location: Bayfront Expy & Marsh Rd
Project Name: Bayfront Expy Multimodal Corridor Project

Project Tasks				
Modify Southbound Haven Ave to Left Turn, Shared through-right and right-turn lane	Unit	Unit Cost	Qty	Cost
Remove Thermoplastic Traffic Markings	LF	\$3	250	\$750
Install Thermoplastic Pavement Markings	LF	\$4	250	\$1,000
Paint Large Arrows	EA	\$294	6	\$1,764
Sub Total				\$3,514
Install Bicycle and Pedestrian crossing upgrades	Unit	Unit Cost	Qty	Cost
Furnish & Install Pedestrian/Bike Call Button	EA	\$889	8	\$7,112
Furnish & Install Pedestrian Countdown Signal Heads	EA	\$540	12	\$6,480
Sub Total				\$13,592
Traffic Signal Modification	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Project Subtotal				\$92,106.00
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$13,816.00
SWPPP/WPC	3%			\$2,763.00
Mobilization	10%			\$9,211.00
Construction Subtotal				\$117,896.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$17,684.00
Design Engineering	15%			\$17,684.00
Construction Management	10%			\$11,790.00
Overhead and Administration	5%			\$5,895.00
Contingencies	30%			\$35,369.00
Estimated Project Cost				\$206,318.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 8

Project Location: Bayfront Expy & Willow Rd
 Project Name: Bayfront Expy Multimodal Corridor Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install bike signals across north Bayfront Expy leg and west Willow Rd leg				
Furnish & Install Bicycle Signal Head	EA	\$1,000	12	\$12,000
Sub Total				\$12,000
Install high-visibility crosswalks and cross-bike markings				
Paint High Visibility Crosswalk	LF	\$112	280	\$31,360
Paint Dashed Thermoplastic Traffic Stripe	LF	\$3	280	\$840
Sub Total				\$32,200
Reconstruct eastbound Willow Rd right-turn channelizing island to improve pedestrian access and provide space for shoulder-running bus lane				
Remove Concrete	SQFT	\$22	250	\$5,500
Remove Concrete Curb & Gutter	LF	\$31	80	\$2,480
Remove Asphalt Concrete	LF	\$1.1	130	\$143
Construct Concrete Curb & Gutter	LF	\$27	80	\$2,120
Construct Concrete Sidewalk	SQFT	\$10	250	\$2,493
Complexity Factor: Curb and Gutter	LS	10%	12,736	\$1,274
Sub Total				\$14,009
Remove southbound Bayfront Expy channelizing island to provide space for shoulder-running bus lane and restripe with a right-turn lane and add right-turn overlap phase				
Modify Signal to Include Right Turn Overlap	EA Intersection	\$10,000.00	1	\$10,000.00
Remove Concrete	SQFT	\$22	325	\$7,150
Remove Concrete Curb & Gutter	LF	\$31	139	\$4,309
Mill & Resurface Roadway	FT/LANE	\$219	139	\$30,439
Install 6" Thermoplastic Stripe	LF	\$4	100	\$400
Install Stencil Paint Marking	EA	\$385	4	\$1,540
Sub Total				\$53,838.16
Modify traffic signal to accommodate channelized right turn modifications				
Modify Traffic Signal at One Corner	LS	\$150,000	1	\$150,000.00
Sub Total				\$150,000.00
Install Transit Signal Priority (TSP) for queue jumps by shoulder-running buses on northbound and southbound Bayfront Expy approaches				
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	35,160	\$492,240
Sub Total				\$522,240
Project Estimate:				\$784,287
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$117,643.00
SWPPP/WPC	3%			\$23,529.00
Mobilization	10%			\$78,429.00
Construction Subtotal				\$1,003,888.21
	% of Construction Subtotal			
Miscellaneous Items	15%			\$150,583.00
Design Engineering	15%			\$150,583.00
Construction Management	10%			\$100,389.00
Overhead and Administration	5%			\$50,194.00
Contingencies	30%			\$301,166.00
Estimated Project Cost				\$1,756,803.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 9
Project Location: Bayfront Expy
Project Name: Bayfront Expy Multimodal Corridor Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install shoulder-running peak hour bus lane on Bayfront Expy				
Remove Thermoplastic Traffic Markings	LF	\$3	16,896	\$50,688
Install 6" Thermoplastic Stripe	LF	\$4	33,792	\$135,168
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	35,160	\$492,240
Install Stencil Paint Marking	EA	\$385	135	\$52,040
Sub Total				\$730,136
Install TSP at signalized intersections				
Furnish & Install EVP	EA Intersection	\$15,000	1	\$15,000
Furnish & Install EVP	EA Vehicle	\$2,000	20	\$40,000
Sub Total				\$55,000
Project Subtotal:				\$785,136
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$117,770.00
SWPPP/WPC	3%			\$23,554.00
Mobilization	10%			\$78,514.00
Construction Subtotal			\$1,004,973.68	
	% of Construction Subtotal			
Miscellaneous Items	15%			\$150,746.00
Design Engineering	15%			\$150,746.00
Construction Management	10%			\$100,497.00
Overhead and Administration	5%			\$50,249.00
Contingencies	30%			\$301,492.00
Estimated Project Cost:				\$1,758,704.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 11
Project Location: Bayfront Expy
Project Name: Dumbarton Corridor Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Implement Dumbarton Transportation Corridor Study alternative with improved mixed flow and managed lane connections, including grade separations with revised access at University Ave, Willow Rd, Chilco St, Marsh Rd, and Chrysler Dr				0
Sub Total				0
Project Estimate:				\$0

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 12
Project Location: Dumbarton Rail
Project Name: Dumbarton Corridor Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Support reactivation of Dumbarton Rail service between East Bay and Peninsula				
Support Reactivation Of Dumbarton Rail Service	LS	\$0.00		\$0.00
Sub Total				\$0.00
Project Estimate:				\$0

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 13

Project Location: Dumbarton Rail Corridor Trail from Marsh Rd to University Ave

Project Name: Dumbarton Corridor Project

Project Tasks				
Construct Class I Multi-Use Path	Unit	Unit Cost	Qty	Cost
Construct Class I - Multiuse Path	LF	\$355	13,728	\$4,873,440
Furnish & Install Class I Lighting Fixture	EA	\$7,500	14	\$102,960
Install Green Infrastructure	LS	\$20,000	10	\$200,000
Sub Total				\$5,176,400
Project Subtotal:				\$5,176,400
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%	\$776,460.00		
SWPPP/WPC	3%	\$155,292.00		
Mobilization	10%	\$517,640.00		
Construction Subtotal		\$6,625,792.00		
	% of Construction Subtotal			
Miscellaneous Items	15%	\$993,869.00		
Design Engineering	15%	\$993,869.00		
Construction Management	10%	\$662,579.00		
Overhead and Administration	5%	\$331,290.00		
Contingencies	30%	\$1,987,738.00		
Estimated Project Cost				\$11,595,137.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 14
Project Location: Marsh Rd from Bay Rd to Scott Dr
Project Name: Marsh Rd Bicycle Network Improvement

Project Tasks				
Bay Rd to Florence St: Establish Class II Buffered Bicycle Lanes in both directions	Unit	Unit Cost	Qty	Cost
Install Class II Buffered Bicycle Lane	LF	\$17	1,640	\$27,880
Sub Total				\$27,880
Parking removal on the north side of street	Unit	Unit Cost	Qty	Cost
Remove Sign Panel From Existing Pole	EA	\$200	13	\$2,500
Furnish Single Sheet Aluminum Sign	SQ FT	\$13	38	\$488
Install Sign (Strap & Saddle Bracket)	EA	\$217	5	\$1,085
Sub Total				\$4,073
Florence St to Scott Dr: Establish Class II Buffered Bicycle Lanes in both directions.	Unit	Unit Cost	Qty	Cost
Install Class II Buffered Bicycle Lane	LF	\$17	2,300	\$39,100
Sub Total				\$39,100
Remove or modify existing median to allow the eastbound bike lane to be transitioned to the left to the right-most eastbound through lane at Scott Dr	Unit	Unit Cost	Qty	Cost
Remove Concrete Median and Gutter	SQFT	\$22	13,500	\$297,000
Mill & Resurface Roadway	FT/LANE	\$219	900	\$197,088
Construct Concrete Curb & Gutter	LF	\$27	900	\$23,850
Complexity Factor: Curb & Gtter	LS	10%	297,000	\$29,700
Sub Total				\$547,638
Repave this segment of Marsh	Unit	Unit Cost	Qty	Cost
Pave Lane with Asphalt Pavement	FT/LANE	\$6	7,500	\$46,875
Sub Total				\$46,875
Project Subtotal:				\$665,566
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$99,835.00
SWPPP/WPC	3%			\$19,967.00
Mobilization	10%			\$66,557.00
Construction Subtotal				\$851,924.57
	% of Construction Subtotal			
Miscellaneous Items	15%			\$127,789.00
Design Engineering	15%			\$127,789.00
Construction Management	10%			\$85,192.00
Overhead and Administration	5%			\$42,596.00
Contingencies	30%			\$255,577.00
Estimated Project Cost				\$1,490,868.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 16
Project Location: Constitution Dr & Chrysler Dr
Project Name: Menlo Gateway Mitigation

Project Tasks				
Install westbound Chrysler Dr left turn lane (widening of Chrysler Dr west of Constitution Dr may be required pending final design)	Unit	Unit Cost	Qty	Cost
Mill & Resurface Roadway	FT/LANE	\$219	150	\$32,848
Remove Concrete Curb & Gutter	LF	\$31	150	\$4,650
Construct Concrete Curb & Gutter	LF	\$27	150	\$3,975
Complexity Factor: Curb & Gutter, Utilities relocation	LS	20%	41,473	\$8,295
Sub Total				\$49,768
Install crosswalks across all legs	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	220	\$24,640
Construct Curb Ramp with Truncated domes	EA	5000	8	\$40,000
Sub Total				\$64,640
			Project Subtotal:	\$114,408
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$17,161.00
SWPPP/WPC	3%			\$3,432.00
Mobilization	10%			\$11,441.00
Construction Subtotal				\$146,441.61
	% of Construction Subtotal			
Miscellaneous Items	15%			\$21,966.00
Design Engineering	15%			\$21,966.00
Construction Management	10%			\$14,644.00
Overhead and Administration	5%			\$7,322.00
Contingencies	30%			\$43,932.00
			Estimated Project Cost	\$256,272.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 17
Project Location: Chrysler Dr & Jefferson Dr
Project Name: Menlo Gateway Mitigation

Project Tasks				
Install traffic signal	Unit	Unit Cost	Qty	Cost
Install Traffic Signal	EA	\$400,000	1	\$400,000
Paint High Visibility Crosswalk	LF	\$112	180	\$20,160
Install Class II Bicycle Lane	LF	\$20	600	\$12,000
Construct Curb Ramp with Truncated domes	EA	\$5,000	3	\$15,000
Sub Total				\$447,160
Project Subtotal:				\$447,160
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$67,074.00
SWPPP/WPC	3%			\$13,415.00
Mobilization	10%			\$44,716.00
Construction Subtotal				\$572,365.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$85,855.00
Design Engineering	15%			\$85,855.00
Construction Management	10%			\$57,237.00
Overhead and Administration	5%			\$28,618.00
Contingencies	30%			\$171,710.00
Estimated Project Cost				\$1,001,640.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 18
Project Location: Chrysler Dr & Independence Dr
Project Name: Chrysler Dr Intersection Improvements

Project Tasks				
Install traffic signal	Unit	Unit Cost	Qty	Cost
Install Traffic Signal	EA	\$400,000	1	\$400,000
Paint High Visibility Crosswalk	LF	\$112	150	\$16,800
Install Class II Bicycle Lane	LF	\$20	1200	\$24,000
Construct Curb Ramp with Truncated domes	EA	\$5,000	6	\$30,000
Sub Total				\$470,800
Project Subtotal:				\$470,800
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$70,620.00
SWPPP/WPC	3%			\$14,124.00
Mobilization	10%			\$47,080.00
Construction Subtotal				\$602,624.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$90,394.00
Design Engineering	15%			\$90,394.00
Construction Management	10%			\$60,262.00
Overhead and Administration	5%			\$30,131.00
Contingencies	30%			\$180,787.00
Estimated Project Cost				\$1,054,592.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 19

Project Location: Constitution Dr from Independence Dr to Chilco St
 Project Name: Constitution Dr Pedestrian Network Improvement

Project Tasks				
Install sidewalk on both sides of the roadway, to be completed in phases as the properties on Constitution Dr are redeveloped	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	32,700	\$326,019
Complexity Factor: Landscaping, Outreach, Curb & Gutter	LS	25%	326,019	\$81,505
Sub Total				\$407,524
Project Estimate:				\$407,524
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$61,129.00
SWPPP/WPC	3%			\$12,226.00
Mobilization	10%			\$40,752.00
Construction Subtotal				\$521,630.75
	% of Contruction Subtotal			
Miscellaneous Items	15%			\$78,245.00
Design Engineering	15%			\$78,245.00
Construction Management	10%			\$52,163.00
Overhead and Administration	5%			\$26,082.00
Contingencies	30%			\$156,489.00
Estimated Project Cost				\$912,855.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 20

Project Location: Jefferson Dr from Chrysler Dr to Constitution Dr
 Project Name: Jefferson Dr Multimodal Network Improvement

Project Tasks				
Install Sidewalk on both sides of the roadway, to be completed in phases as the properties on Jefferson Dr are redeveloped	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	11,850	\$118,145
Complexity Factor: Landscaping, Public Outreach, Curb & Gutter	LS	25%	118,145	\$29,536
Sub Total				\$147,681
Establish Class II Bicycle Lanes	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	4,400	\$88,000
Sub Total				\$88,000
Removal of On street Parking	Unit	Unit Cost	Qty	Cost
Install Sign (Strap & Saddle Bracket)	EA	\$217	29	\$6,365
Furnish Single Sheet Aluminum Sign	SQ FT	\$13	44	\$572
Sub Total				\$6,937
Project Estimate:				\$242,618
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$36,393.00
SWPPP/WPC	3%			\$7,279.00
Mobilization	10%			\$24,262.00
Construction Subtotal				\$310,551.96
	% of Construction Subtotal			
Miscellaneous Items	15%			\$46,583.00
Design Engineering	15%			\$46,583.00
Construction Management	10%			\$31,055.00
Overhead and Administration	5%			\$15,528.00
Contingencies	30%			\$93,166.00
Estimated Project Cost				\$543,466.96

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 25

Project Location: Ivy Dr from Willow Rd to Market Pl
Project Name: Belle Haven Bicycle Network Improvement Project

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	3,570	\$17,850
Sub Total				\$17,850
Project Subtotal:				\$35,700
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$5,355.00
SWPPP/WPC	3%			\$1,071.00
Mobilization	10%			\$3,570.00
Construction Subtotal				\$45,696.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$6,854.00
Design Engineering	15%			\$6,854.00
Construction Management	10%			\$4,570.00
Overhead and Administration	5%			\$2,285.00
Contingencies	30%			\$13,709.00
Estimated Project Cost				\$79,968.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 27
Project Location: Ivy Dr from Willow Rd to Chilco St
Project Name: Ivy Dr Pedestrian Network Improvement

Project Tasks				
Widen sidewalks on both sides of Ivy Dr and narrow existing median	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	24,000	\$239,280
Remove Concrete Curb & Gutter	LF	\$31	4,000	\$124,000
Construct Concrete Curb & Gutter	LF	\$27	4,000	\$106,000
Mill & Resurface Roadway	FT/LANE	\$219	2,000	\$437,973
Complexity Factor: Curb & Gutter	LS	10%	469,280	\$46,928
Sub Total				\$954,181
Coordinate with San Francisco Public Utilities Commission				
Coordinate with SF PUC			1	0
Sub Total				0
Project Subtotal:				\$954,181
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$143,127.00
SWPPP/WPC	3%			\$28,625.00
Mobilization	10%			\$95,418.00
Construction Subtotal				\$1,221,351.48
	% of Construction Subtotal			
Miscellaneous Items	15%			\$183,203.00
Design Engineering	15%			\$183,203.00
Construction Management	10%			\$122,135.00
Overhead and Administration	5%			\$61,068.00
Contingencies	30%			\$366,405.00
Estimated Project Cost				\$2,137,365.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 28

Project Location: Newbridge St from Market Pl to Carlton Ave
Project Name: Newbridge St Pedestrian Network Improvement

Project Tasks				
Widen sidewalks on both sides of the roadway by narrowing the travel lanes	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	10	16,800	\$167,496
Remove Concrete Curb & Gutter	LF	31	2,800	\$86,800
Construct Concrete Curb & Gutter	LF	27	2,800	\$74,200
Complexity Factor: Curb & Gutter	LS	10%	167,496	\$16,750
Sub Total				\$345,246
Project Subtotal:				\$345,246
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$51,787.00
SWPPP/WPC	3%			\$10,357.00
Mobilization	10%			\$34,525.00
Construction Subtotal				\$441,914.60
	% of Construction Subtotal			
Miscellaneous Items	15%			\$66,287.00
Design Engineering	15%			\$66,287.00
Construction Management	10%			\$44,191.00
Overhead and Administration	5%			\$22,096.00
Contingencies	30%			\$132,574.00
Estimated Project Cost				\$773,350.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 30

Project Location: Adams Dr from O'Brien Dr to University Ave

Project Name: Adams Dr Pedestrian and Bicycle Network Improvement

Project Tasks	Unit	Unit Cost	Qty	Cost
Install sidewalk on both sides of the roadway, to be completed in phases, as the properties are redeveloped				
Acquire Public ROW	SQFT	200	24,000	\$4,800,000
Construct Concrete Sidewalk	SQFT	\$10	24,000	\$239,280
Complexity Factor: Landscaping	LS	10%	239,280	\$23,928
Sub Total				\$5,063,208
Establish Class II Bicycle Lanes				
Install Class II Bicycle Lane	LF	\$20	2,000	\$40,000
Sub Total				\$40,000
			Project Estimate:	\$5,103,208

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 31

Project Location: University Ave & Adams Dr
Project Name: University Ave & Adams Dr Intersection Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install Traffic Signal				
Install Traffic Signal	EA	\$400,000	1	\$400,000
Sub Total				\$400,000
Coordinate with City of East Palo Alto and Caltrans				
Coordinate with City of East Palo Alto	LS	0	1	0
Sub Total				0
Project Subtotal:				\$400,000
Construction Costs				
		% of Proj. Subtotal		
Traffic Control		15%		\$60,000.00
SWPPP/WPC		3%		\$12,000.00
Mobilization		10%		\$40,000.00
Construction Subtotal				\$512,000.00
		% of Construction Subtotal		
Miscellaneous Items		15%		\$76,800.00
Design Engineering		15%		\$76,800.00
Construction Management		10%		\$51,200.00
Overhead and Administration		5%		\$25,600.00
Contingencies		30%		\$153,600.00
Estimated Project Cost:				\$896,000.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update

Date: January 13, 2020

Project Number: 32

Project Location: O'Brien Dr from Willow Rd to University Ave

Project Name: O'Brien Dr Pedestrian Network Improvement

Project Tasks				
Install sidewalk on both sides of the roadway, to be completed in phases, as the properties on O'Brien Dr are redeveloped	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	50,100	\$499,497
Complexity Factor: Landscaping, Utilities, Coordination, Curb & Gutter	LS	25%	499,497	\$124,874
Sub Total				\$624,371
Establish Class II Bicycle Lanes (requires removal of on-street parking)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	4,425	\$88,500
Sub Total				\$88,500
Project Estimate:				\$712,871

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 36

Project Location: Willow Rd b/w Bayfront Expy & US 101
 Project Name: Willow Rd Corridor Improvement Project - Alternative B

Project Tasks				
Buses allowed to use existing right turn lane at O'Brien location for queue jump with TSP	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	1,040	\$14,560
Furnish & Install Transit Signal Priority (TSP)	EA	\$30,000	1	\$30,000
Sub Total				\$44,560
Bicycle lanes would remain	Unit	Unit Cost	Qty	Cost
			0	0
Sub Total				0
Provide primary access to potential future development sites east of the proposed Mixed-Use Collector that would intersect Willow Road between Hamilton Avenue and O'Brien Drive.				
Sub Total				
Implement peak hour turn restriction signs from Constitution Drive to southbound Chilco Street.	Unit	Unit Cost	Qty	Cost
Furnish & Install LED Sign	EA	\$16,000	1	\$16,000
Furnish Single Sheet Aluminum Sign	SQ FT	\$13	4	\$52
Install Sign (Strap & Saddle Bracket)	EA	\$217	2	\$434
Sub Total				\$16,486
Project Estimate:				\$89,120
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%	\$13,368.00		
SWPPP/WPC	3%	\$2,674.00		
Mobilization	10%	\$8,912.00		
Construction Subtotal				\$114,074.00
	% of Construction Subtotal			
Miscellaneous Items	15%	\$17,111.00		
Design Engineering	15%	\$17,111.00		
Construction Management	10%	\$11,407.00		
Overhead and Administration	5%	\$5,704.00		
Contingencies	30%	\$34,222.00		
Estimated Project Cost				\$199,629.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 37

Project Location: Willow Rd b/w Bayfront Expy & US 101
 Project Name: Willow Rd Corridor Improvement Project – Alternative C

Project Tasks				
Install eastbound Willow Rd one-way Class IV separated bikeway between Hamilton Ave and US 101 Willow Rd interchange	Unit	Unit Cost	Qty	Cost
Install Class IV Separated Bikeway	LF	\$35	4,150	\$145,250
Construct Pedestrian/Bike Bulb Out	SQFT	40	400	\$16,000
Sub Total				\$161,250
Install westbound Willow Rd one-way Class IV separated bikeway between Dumbarton Rail Corridor and US 101 Willow Rd interchange	Unit	Unit Cost	Qty	Cost
Install Class IV Separated Bikeway	LF	\$35	4,450	\$155,750
Construct Pedestrian/Bike Bulb Out	SQFT	40	300	\$12,000
Sub Total				\$167,750
Install conflict striping at intersection of Willow Rd and Facebook Wy WB	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	125	\$1,750
Sub Total				\$1,750
Install conflict striping at intersection of Willow Rd and Facebook Wy WB	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	125	\$1,750
Sub Total				\$1,750
Project Estimate:				\$399,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$59,850.00
SWPPP/WPC	3%			\$11,970.00
Mobilization	10%			\$39,900.00
Construction Subtotal				\$510,720.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$76,608.00
Design Engineering	15%			\$76,608.00
Construction Management	10%			\$51,072.00
Overhead and Administration	5%			\$25,536.00
Contingencies	30%			\$153,216.00
Estimated Project Cost				\$893,760.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 38

Project Location: Willow Rd & Hamilton Ave

Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
Modify southbound Hamilton Ave to shared left-thru lane and time of day right turn lane	Unit	Unit Cost	Qty	Cost
Install Stencil Paint Marking	EA	\$385	10	\$3,850
Install 6" Thermoplastic Stripe	LF	\$4	100	\$400
Install Sign (Mastarm Mount)	EA	\$316	2	\$632
Sub Total				\$4,882
Implement evening peak period parking restriction on west side of southbound Hamilton Ave for 400 feet to increase right-turn storage	Unit	Unit Cost	Qty	Cost
Install 6" Thermoplastic Stripe	LF	\$4	400	\$1,600
Install Sign (Strap & Saddle Bracket)	EA	\$217	3	\$579
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	3	\$667
Sub Total				\$2,845
Modify northbound and southbound Hamilton Ave to split phase	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Project Subtotal:				\$82,727
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$12,409.00
SWPPP/WPC	3%			\$2,482.00
Mobilization	10%			\$8,273.00
Construction Subtotal				\$105,891.33
	% of Construction Subtotal			
Miscellaneous Items	15%			\$15,884.00
Design Engineering	15%			\$15,884.00
Construction Management	10%			\$10,589.00
Overhead and Administration	5%			\$5,295.00
Contingencies	30%			\$31,767.00
Estimated Project Cost				\$185,310.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 39
Project Location: Willow Rd & Ivy Dr
Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
Install right-turn overlap on southbound Ivy Dr and restrict eastbound Willow Rd U-turns	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Widen pedestrian refuge island to match crosswalk width on east Willow Rd leg	Unit	Unit Cost	Qty	Cost
Remove Concrete	SQFT	\$22	113	\$2,475
Construct Asphalt Sidewalk	LF	\$16	100	\$1,600
Complexity Factor	LF	10%	4,075	\$408
Sub Total				\$4,483
Convert existing crosswalks to high-visibility crosswalks	Unit	Unit Cost	Qty	Cost
Remove Thermoplastic Traffic Markings	LF	\$3	500	\$1,500
Paint High Visibility Crosswalk	LF	\$112	300	\$33,600
Sub Total				\$35,100
Extend pedestrian crossing time	Unit	Unit Cost	Qty	Cost
Extend Pedestrian Crossing Time	EA Intersection	\$5,000.00	1	\$5,000.00
Sub Total				\$5,000.00
Project Estimate:				\$119,583
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$17,937.00
SWPPP/WPC	3%			\$3,587.00
Mobilization	10%			\$11,958.00
Construction Subtotal				\$153,064.50
	% of Construction Subtotal			
Miscellaneous Items	15%			\$22,960.00
Design Engineering	15%			\$22,960.00
Construction Management	10%			\$15,306.00
Overhead and Administration	5%			\$7,653.00
Contingencies	30%			\$45,919.00
Estimated Project Cost				\$267,863.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 40

Project Location: Willow Rd & O'Brien Dr

Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install curb ramps at all corners of intersection				
Construct Curb Ramp with Truncated domes	EA	\$5,000	6	\$30,000
Sub Total				\$30,000
Install high-visibility crosswalks on all legs and add pedestrian signals (including new crosswalks crossing Willow Rd)				
Paint High Visibility Crosswalk	LF	\$112	250	\$28,000
Furnish & Install Pedestrian Countdown Signal Heads	EA	\$540	6	\$3,240
Sub Total				\$31,240
Install bulb-outs into O'Brien Dr on southwest and southeast corners				
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	428	\$17,120
New Storm Drain Inlet	EA	\$3,500	1	\$3,500
Sub Total				\$20,620
Extend pedestrian crossing time				
Extend Pedestrian Crossing Time	EA Intersection	\$5,000.00	1	\$5,000.00
Sub Total				\$5,000.00
Project Estimate:				\$86,860
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$13,029.00
SWPPP/WPC	3%			\$2,606.00
Mobilization	10%			\$8,686.00
Construction Subtotal				\$111,181.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$16,677.00
Design Engineering	15%			\$16,677.00
Construction Management	10%			\$11,118.00
Overhead and Administration	5%			\$5,559.00
Contingencies	30%			\$33,354.00
Estimated Project Cost				\$194,566.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 41
Project Location: Willow Rd & Newbridge St
Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Convert existing crosswalks to high-visibility crosswalks				
Remove Thermoplastic Traffic Markings	LF	\$3	762	\$2,286
Install 6" Thermoplastic Stripe	LF	\$4	5,334	\$21,336
Sub Total				\$23,622
Modify signal timing to lead-lag operation on Newbridge St with the leading left-turn phase on the southbound Newbridge St approach and lagging left-turn phase on the northbound Newbridge St approach				
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Project Subtotal:				\$98,622
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$14,793.00
SWPPP/WPC	3%			\$2,959.00
Mobilization	10%			\$9,862.00
Construction Subtotal				\$126,236.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$18,935.00
Design Engineering	15%			\$18,935.00
Construction Management	10%			\$12,624.00
Overhead and Administration	5%			\$6,312.00
Contingencies	30%			\$37,871.00
Estimated Project Cost				\$220,913.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 43

Project Location: Willow Rd & Bay Rd
Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Modify southbound Bay Rd to two left turn lanes and a right-turn lane				
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Remove Thermoplastic Traffic Markings	LF	\$3	250	\$750
Install Sign (Mastarm Mount)	EA	\$316	2	\$632
Install 6" Thermoplastic Stripe	LF	\$4	250	\$1,000
Install Stencil Paint Marking	EA	\$385	4	\$1,540
Sub Total				\$78,922
Narrow existing median on north Bay Rd leg				
Remove Concrete	SQFT	\$22	300	\$6,600
Remove Concrete Curb & Gutter	LF	\$31	75	\$2,325
Pave Lane with Asphalt Pavement	FT/LANE	\$6	300	\$1,875
Construct Concrete Curb & Gutter	LF	\$27	75	\$1,988
Curb and Gutter Complexity	LS	10%	12,788	\$1,279
Sub Total				\$14,066
Install westbound Willow Rd right-turn lane				
Install 6" Thermoplastic Stripe	LF	\$4	150	\$600
Paint Large Arrows	EA	\$294	2	\$588
Sub Total				\$1,188
Install high-visibility crosswalk on east Willow Rd leg with curb ramps				
Paint High Visibility Crosswalk	LF	\$112	110	\$12,320
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Sub Total				\$22,320
Install pedestrian signals				
Furnish & Install Pedestrian Countdown Signal Heads	EA	\$540	2	\$1,080
Furnish & Install Pedestrian/Bike Call Button	EA	\$889	2	\$1,778
Sub Total				\$2,858
Project Subtotal:				\$119,354
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$17,903.00
SWPPP/WPC	3%			\$3,581.00
Mobilization	10%			\$11,935.00
Construction Subtotal				\$152,773.25
	% of Construction Subtotal			
Miscellaneous Items	15%			\$22,916.00
Design Engineering	15%			\$22,916.00
Construction Management	10%			\$15,277.00
Overhead and Administration	5%			\$7,639.00
Contingencies	30%			\$45,832.00
Estimated Project Cost				\$267,353.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 44

Project Location: Willow Rd from Bay Rd to O'Keefe St
 Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
Establish Class II Bicycle Lane on eastbound Willow Rd from O'Keefe St to Bay Rd, connecting to US 101 Willow Rd interchange bicycle facilities				
	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	1,150	\$23,000
Sub Total				\$23,000
Establish Class II Bicycle Lane on westbound Willow Rd from Bay Rd to Durham St				
	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	750	\$15,000
Sub Total				\$15,000
Remove or Reconstruct existing median to allow for Class II Bicycle Lanes where right-of-way is insufficient				
	Unit	Unit Cost	Qty	Cost
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	1,920	\$38,400
Construct Concrete Curb & Gutter	LF	\$27	240	\$6,360
Mill & Resurface Roadway	FT/LANE	\$219	240	\$52,557
Modify Traffic Signal	LS	\$75,000	2	\$150,000
Remove Street Light Foundation, Pole and Luminaire	EA	\$800	4	\$3,200
Furnish & Install Roadway Lighting Fixture	EA	\$85,000	8	\$680,000
Curb and Gutter Complexity Factor	0	10%	97,317	\$9,732
Sub Total				\$940,249
Project Subtotal:				\$978,249
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$146,737.00
SWPPP/WPC	3%			\$29,347.00
Mobilization	10%			\$97,825.00
Construction Subtotal				\$1,252,157.50
	% of Construction Subtotal			
Miscellaneous Items	15%			\$187,824.00
Design Engineering	15%			\$187,824.00
Construction Management	10%			\$125,216.00
Overhead and Administration	5%			\$62,608.00
Contingencies	30%			\$375,647.00
Estimated Project Cost				\$2,191,277.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 45

Project Location: Willow Rd & Coleman Ave
 Project Name: Willow RdCorridorImprovementProject

Project Tasks				
Install right-turn lane on southbound Coleman Ave approach (requires removal of on-street parking for 150 feet along the west side of Coleman Ave)				
Install Sign (Strap & Saddle Bracket)	Unit	Unit Cost	Qty	Cost
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$217	1	\$217
Install Thermoplastic Pavement Markings	EA	\$250	1	\$250
Install Sharrow Marking	LF	\$4	100	\$400
Sub Total				\$620
				\$1,487
Refresh decorative crosswalk	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	2025.00	\$28,350
Sub Total				\$28,350
Install bike detection on the southbound Coleman Ave approach	Unit	Unit Cost	Qty	Cost
Reconfigure Video Detection Zone For Bikes	EA Intersection	\$1,000	1	\$1,000
Sub Total				\$1,000
Evaluate protected-permitted left-turn phasing on Willow Road	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Project Subtotal:				\$105,837
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$15,876.00
SWPPP/WPC	3%			\$3,175.00
Mobilization	10%			\$10,584.00
Construction Subtotal				\$135,472.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$20,321.00
Design Engineering	15%			\$20,321.00
Construction Management	10%			\$13,547.00
Overhead and Administration	5%			\$6,774.00
Contingencies	30%			\$40,642.00
Estimated Project Cost				\$237,077.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 46
Project Location: Willow Rd & Gilbert Ave
Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
Install a painted median and vertical traffic control device (e.g. planters, bollards) around heritage oak on Gilbert Ave 150 feet north of Willow Rd				
	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Pavement Markings	LF	\$4	100	\$400
Furnish & Install Vertical Traffic Control Devices	EA	\$55	10	\$550
Install 6" Thermoplastic Stripe	LF	\$4	100	\$400
Sub Total				\$1,350
Prohibit parking for a distance of 40 feet to the north and south of the oak tree on the east side of Gilbert Ave				
	Unit	Unit Cost	Qty	Cost
Install Sign (Strap & Saddle Bracket)	EA	\$217	5	\$1,085
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	5	\$1,250
Sub Total				\$2,335
Restrict on-street parking on Gilbert Ave South of Willows Rd during school hours				
	Unit	Unit Cost	Qty	Cost
Install Sign (Strap & Saddle Bracket)	EA	\$217	3	\$579
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	3	\$667
Sub Total				\$1,245
Evaluate protected-permitted left-turn phasing on Willow Road				
	Unit	Unit Cost	Qty	Cost
Evaluate Protected-Permitted Left Turn Phasing Intersection	EA	\$500.00	1	\$500.00
Sub Total				\$500.00
Project Estimate:				\$10,861
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$1,629.00
SWPPP/WPC	3%			\$326.00
Mobilization	10%			\$1,086.00
Construction Subtotal				\$13,901.67
	% of Construction Subtotal			
Miscellaneous Items	15%			\$2,085.00
Design Engineering	15%			\$2,085.00
Construction Management	10%			\$1,390.00
Overhead and Administration	5%			\$695.00
Contingencies	30%			\$4,171.00
Estimated Project Cost				\$24,328.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 47

Project Location: Willow Rd & Middlefield Rd

Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
Remove westbound Willow Rd channelized right turn, and modify signal to include westbound right-turn overlap	Unit	Unit Cost	Qty	Cost
Remove Concrete Curb & Gutter	LF	\$31	60	\$1,860
Remove Concrete	SQFT	\$22	20	\$440
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$77,300
Modify traffic signal to included protected northbound and southbound left-turn phasing.	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Restripe northbound Middlefield Rd approach to include one left-turn lane, one through lane, one bike lane, and one right-turn lane.	Unit	Unit Cost	Qty	Cost
Remove Thermoplastic Traffic Markings	LF	\$3	300	\$900
Install 6" Thermoplastic Stripe	LF	\$4	300	\$1,200
Sub Total				\$2,100
Restripe southbound Middlefield Rd approach to include one left-turn lane, one through lane, one through-right turn lane, and one bike lane.	Unit	Unit Cost	Qty	Cost
Remove Thermoplastic Traffic Markings	LF	\$3	300	\$900
Install 6" Thermoplastic Stripe	LF	\$4	300	\$1,200
Sub Total				\$2,100
Extend bike box on northbound Middlefield Rd approach to encompass both the left-turn lane and the through lane.	Unit	Unit Cost	Qty	Cost
Install Bicycle Box	EA Box	\$5,000	1	\$5,000
Sub Total				\$5,000
Install bike boxes on the eastbound and westbound Willow Rd approaches.	Unit	Unit Cost	Qty	Cost
Install Bicycle Box	EA Box	\$5,000	2	\$10,000
Sub Total				\$10,000
Construct pedestrian facilities on east side of Middlefield Rd between Woodland Ave and Willow Rd	Unit	Unit Cost	Qty	Cost
Acquire Public ROW	SQFT	\$200	1750	\$350,000
Construct Concrete Sidewalk	SQFT	\$10	1,050	\$10,469
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Complexity Factor: Curb and Gutter/AC, Outreach	LS	25%	\$ 360,469	\$90,117
Sub Total				\$460,586
Project Estimate:				\$632,086
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$94,813.00
SWPPP/WPC	3%			\$18,963.00
Mobilization	10%			\$63,209.00
Construction Subtotal				\$809,070.63
	% of Construction Subtotal			
Miscellaneous Items	15%			\$121,361.00
Design Engineering	15%			\$121,361.00
Construction Management	10%			\$80,907.00
Overhead and Administration	5%			\$40,454.00
Contingencies	30%			\$242,721.00
Estimated Project Cost				\$1,415,875.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 48

Project Location: Willow Rd b/w Durham St/Hospital Pz & Middlefield Rd

Project Name: Willow Rd Corridor Improvement Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Construct at-grade reversible bus lane in the median without widening Willow Rd				
Install 6" Thermoplastic Stripe	LF	\$4	8,700	\$34,800
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	52,200	\$730,800
Install Stencil Paint Marking	EA	\$385	17	\$6,699
Sub Total				\$772,299
Remove existing median, retain Class II Bicycle Lanes				
Remove Concrete Curb & Gutter	LF	\$31	2,320	\$71,920
Remove Concrete	SQFT	\$22	4,400	\$96,800
Pave Lane with Asphalt Pavement	FT/LANE	\$6	2,320	\$14,500
Complexity Factor: Curb & Gutter/AC	LS	10%	168,720	\$16,872
Sub Total				\$200,092
Expand existing side islands				
Construct Curb Ramp with Truncated domes	EA	\$5,000	22	\$110,000
Sub Total				\$110,000
Evaluate protected-permitted left-turn phasing on Willow Road				
Evaluate Protected-Permitted Left Turn Phasing	EA Intersection	\$500.00	1	\$500.00
Sub Total				\$500.00
Project Estimate:				\$1,082,891

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 49
Project Location: Willow Rd
Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
Install new green bike paint treatments from Bayfront Expy to Bay Rd and refresh existing green bike paint treatments from Bay Rd to Middlefield Rd at interaction zones on Willow Rd	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	4,689	\$65,641
Install Bicycle Box	EA Box	\$5,000	5	\$25,000
Paint "jughandle" Bicycle left turn	EA Box	\$1,000	3	\$3,000
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	2,250	\$31,500
Sub Total				\$125,141
Project Estimate:				\$125,141
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$18,771.00
SWPPP/WPC	3%			\$3,754.00
Mobilization	10%			\$12,514.00
Construction Subtotal				\$160,179.96
	% of Construction Subtotal			
Miscellaneous Items	15%			\$24,027.00
Design Engineering	15%			\$24,027.00
Construction Management	10%			\$16,018.00
Overhead and Administration	5%			\$8,009.00
Contingencies	30%			\$48,054.00
Estimated Project Cost				\$280,315.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 50

Project Location: Willow Rd between Bayfront Expy & Newbridge St

Project Name: Willow Rd Corridor Improvement Project

Project Tasks				
Work with Caltrans to modify signal timing at Caltrans intersections to include All-Red clearance time	Unit	Unit Cost	Qty	Cost
Coordinate with Caltrans	LS	0	1	\$0
Modify Caltrans Intersections to Include All-Red Time	EA Intersection	\$5,000.00	1	\$5,000
Sub Total				\$5,000
Project Estimate:				\$5,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$750.00
SWPPP/WPC	3%			\$150.00
Mobilization	10%			\$500.00
Construction Subtotal				\$6,400.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$960.00
Design Engineering	15%			\$960.00
Construction Management	10%			\$640.00
Overhead and Administration	5%			\$320.00
Contingencies	30%			\$1,920.00
Estimated Project Cost				\$11,200.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update

Date: January 13, 2020

Project Number: 51

Project Location: Bay Rd from Del Norte Aveto Ringwood Ave

Project Name: Flood Park Triangle Improvement Project

Project Tasks				
Install sidewalk along east side of Bay Rd to provide access to Flood County Park	Unit	Unit Cost	Qty	Cost
Install Sidewalk & Curb	LF	\$170.00	700	\$119,000.00
Complexity Factor: Utilities, Landscaping, Public Outreach, Curb & Gutter	LS	100%	\$119,000	\$119,000.00
Sub Total				\$238,000.00
Project Subtotal:				\$238,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$35,700.00
SWPPP/WPC	3%			\$7,140.00
Mobilization	10%			\$23,800.00
Construction Subtotal				\$304,640.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$45,696.00
Design Engineering	15%			\$45,696.00
Construction Management	10%			\$30,464.00
Overhead and Administration	5%			\$15,232.00
Contingencies	30%			\$91,392.00
Estimated Project Cost				\$533,120.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 52

Project Location: Sonoma Ave & Oakwood PI

Project Name: Flood Park Triangle Improvement Project

Project Tasks				
Install compact roundabout or neighborhood traffic circle (or other vertical delineator) around existing tree to increase visibility	Unit	Unit Cost	Qty	Cost
Construct Concrete Curb & Gutter	LF	\$27	104	\$2,747
Construct Concrete Sidewalk	SQFT	\$10	334	\$3,328
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	856	\$34,240
Furnish & Install Retroreflective Sign	EA	\$430	10	\$4,300
Install Thermoplastic Pavement Markings	LF	\$4	402	\$1,608
Paint Small Arrows	EA	\$105	18	\$1,890
Sub Total				\$48,113
Project Estimate:				\$48,113

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 53

Project Location: Bay Rd & Ringwood Ave-Sonoma Ave
 Project Name: Flood Park Triangle Improvement Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Convert the east legs Sonoma Ave and Ringwood Ave to one-way couplets with Ringwood Ave serving eastbound traffic and Sonoma Ave serving westbound traffic				
Install 6" Thermoplastic Stripe	LF	\$4	1,500	\$6,000
Install Sharrow Marking	EA	\$310	2	\$620
Install Bicycle Box	EA Box	\$5,000	1	\$5,000
Install Class III Bike Route	LF	\$5	1,000	\$5,000
Sub Total				\$16,620
Add left-turn lanes, as deemed necessary during design phase, on eastbound Ringwood Ave and northbound Bay Rd legs approaches (requires full use of public right-of-way and this would require the removal of existing landscaping and the relocation of existing utilities)				
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	300	\$6,000
Full depth AC for southwest corner	FT/LANE	\$1,000	300	\$300,000
Relocate Existing Utilities	LS	100%	\$499,580	\$499,580
Remove Existing Landscaping	LS	5%	\$499,580	\$24,979
Sub Total				\$830,559
Install traffic signal				
Install Traffic Signal	EA	\$400,000	1	\$400,000
Construct Curb Ramp with Truncated domes	EA	\$5,000	4	\$20,000
Install Sidewalk & Curb	LF	170	80	\$13,600
Complexity Factor: Curb & Gutter/AC	LS	10%	433,600	\$43,360
Sub Total				\$476,960
Project Subtotal:				\$1,324,139
Construction Costs				
Traffic Control	% of Proj. Subtotal			
	15%			\$198,621.00
SWPPP/WPC	3%			\$39,724.00
Mobilization	10%			\$132,414.00
Construction Subtotal				\$1,694,898.00
Miscellaneous Items	% of Construction Subtotal			
	15%			\$254,235.00
Design Engineering	15%			\$254,235.00
Construction Management	10%			\$169,490.00
Overhead and Administration	5%			\$84,745.00
Contingencies	30%			\$508,469.00
Estimated Project Cost				\$2,966,072.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Fee Update
Date: January 13, 2020
Project Number: 54

Project Location: Ringwood Ave from Bay Rd to Van Buren Rd

Project Name: Flood Park Triangle Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Designate Class III Bicycle Route				
Install Class III Bike Route	LF	\$5	1,300	\$6,500
Sub Total				\$6,500
Implement Bicycle Boulevard design features				
Furnish & Install Bicycle Blvd Design Features	LF	\$35	1,300	\$45,500
Sub Total				\$45,500
Project Subtotal:				\$52,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$7,800.00
SWPPP/WPC	3%			\$1,560.00
Mobilization	10%			\$5,200.00
Construction Subtotal				\$66,560.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$9,984.00
Design Engineering	15%			\$9,984.00
Construction Management	10%			\$6,656.00
Overhead and Administration	5%			\$3,328.00
Contingencies	30%			\$19,968.00
Estimated Project Cost				\$116,480.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 55

Project Location: Van Buren Rd from Iris Ln to Bay Rd
Project Name: Flood Park Triangle Improvement Project

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	3,800	\$19,000
Sub Total				\$19,000
Project Subtotal:				\$38,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$5,700.00
SWPPP/WPC	3%			\$1,140.00
Mobilization	10%			\$3,800.00
Construction Subtotal				\$48,640.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$7,296.00
Design Engineering	15%			\$7,296.00
Construction Management	10%			\$4,864.00
Overhead and Administration	5%			\$2,432.00
Contingencies	30%			\$14,592.00
Estimated Project Cost				\$85,120.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 56

Project Location: Bay Rd from Van Buren Rd to Willow Rd
 Project Name: Flood Park Triangle Improvement Project

Project Tasks				
Upgrade existing off-street path to Class I Multi-Use Path along west side of Bay Rd and integrate into proposed bicycle improvements on Willow Rd				
	Unit	Unit Cost	Qty	Cost
Construct Class I - Multiuse Path	LF	\$355	1,200	\$426,000
Sub Total				\$426,000
Medical Center				
	Unit	Unit Cost	Qty	Cost
Coordinate with Veterans Administration Medical Center	LS	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Subtotal:				\$426,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$63,900.00
SWPPP/WPC	3%			\$12,780.00
Mobilization	10%			\$42,600.00
Construction Subtotal				\$545,280.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$81,792.00
Design Engineering	15%			\$81,792.00
Construction Management	10%			\$54,528.00
Overhead and Administration	5%			\$27,264.00
Contingencies	30%			\$163,584.00
Estimated Project Cost				\$954,240.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 57

Project Location: Menalto Ave from US 101 to O'Keefe St
Project Name: The Willows Bicycle Network Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Designate Class III Bicycle Route				
Install Class III Bike Route	LF	\$5	1,200	\$6,000
Sub Total				\$6,000
Implement Bicycle Boulevard design features				
Furnish & Install Bicycle Blvd Design Features	LF	\$35	1,200	\$42,000
Sub Total				\$42,000
Project Subtotal:				\$96,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$14,400.00
SWPPP/WPC	3%			\$2,880.00
Mobilization	10%			\$9,600.00
Construction Subtotal				\$122,880.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$18,432.00
Design Engineering	15%			\$18,432.00
Construction Management	10%			\$12,288.00
Overhead and Administration	5%			\$6,144.00
Contingencies	30%			\$36,864.00
Estimated Project Cost				\$215,040.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 59
Project Location: The Willows
Project Name: The Willows Bicycle Network Improvement Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Designate Class III Bicycle Route				
Install Class III Bike Route	LF	\$5	7,500	\$37,500
Sub Total				\$37,500
Implement Bicycle Boulevard design features on Gilbert Ave, Pope St, Walnut/O'Connor streets, O'Keefe St, and O'Connor St				
Furnish & Install Bicycle Blvd Design Features	LF	\$35	7,500	\$262,500
Sub Total				\$262,500
Oaks Park to Pope Street (coordinate with				
Construct Class I - Multiuse Path	LF	\$355	500	\$177,500
Coordinate with Ravenswood School District	LS	0	1	\$0
Complexity Factor: Outreach	LS	5%	177,500	\$8,875
Sub Total				\$186,375
Project Subtotal:				\$486,375
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$72,956.00
SWPPP/WPC	3%			\$14,591.00
Mobilization	10%			\$48,638.00
Construction Subtotal				\$622,560.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$93,384.00
Design Engineering	15%			\$93,384.00
Construction Management	10%			\$62,256.00
Overhead and Administration	5%			\$31,128.00
Contingencies	30%			\$186,768.00
Estimated Project Cost				\$1,089,480.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 61

Project Location: Coleman Ave from Ringwood Ave to Willow Rd
 Project Name: Menlo Oaks Bicycle Network Improvement

Project Tasks				
Establish Class II Bicycle Lanes from Willow Rd to City Limits (requires removal of parking on one side of the street)				
	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	5,000	\$100,000
Sub Total				\$100,000
Coordinate with San Mateo County between City Limits and Ringwood Ave regarding bicycle facilities				
	Unit	Unit Cost	Qty	Cost
Coordinate with San Mateo County	LS	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Subtotal:				\$100,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$15,000.00
SWPPP/WPC	3%			\$3,000.00
Mobilization	10%			\$10,000.00
Construction Subtotal				\$128,000.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$19,200.00
Design Engineering	15%			\$19,200.00
Construction Management	10%			\$12,800.00
Overhead and Administration	5%			\$6,400.00
Contingencies	30%			\$38,400.00
Estimated Project Cost				\$224,000.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 62

Project Location: Seminary Dr from Middlefield Rd to Santa Monica Ave

Project Name: Menlo Oaks Bicycle Network Improvement

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	3,500	\$17,500
Sub Total				\$17,500
Project Subtotal:				\$35,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$5,250.00
SWPPP/WPC	3%			\$1,050.00
Mobilization	10%			\$3,500.00
Construction Subtotal				\$44,800.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$6,720.00
Design Engineering	15%			\$6,720.00
Construction Management	10%			\$4,480.00
Overhead and Administration	5%			\$2,240.00
Contingencies	30%			\$13,440.00
Estimated Project Cost				\$78,400.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 63

Project Location: Middlefield Rd & Ravenswood Ave
 Project Name: Menlo-Atherton High School Safe Routes to School

Project Tasks				
Remove eastbound Ravenswood Ave channelized right-turn lane, install right-turn overlap phase, modify signal timing	Unit	Unit Cost	Qty	Cost
Remove Concrete Curb & Gutter	LF	\$31	50	\$1,550
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	63	\$1,250
Pave Lane with Asphalt Pavement	FT/LANE	\$6	100	\$625
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Install Green Infrastructure	LS	\$20,000	1	\$20,000
Complexity Factor: Curb & Gutter	LS	25%	23,425	\$5,856
Sub Total				\$104,281
Install crosswalk and cross-bike markings on north Middlefield Rd leg, install bike signal				
Install crosswalk and cross-bike markings on north Middlefield Rd leg, install bike signal	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	80	\$8,960
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	1,100	\$15,400
Furnish & Install Bicycle Signal Head	EA	\$1,000	2	\$2,000
Sub Total				\$26,360
Construct "jughandle" bicycle left-turn on east side of Middlefield Road to allow bicycle leftturns onto Ravenswood Ave				
Construct "jughandle" bicycle left-turn on east side of Middlefield Road to allow bicycle leftturns onto Ravenswood Ave	Unit	Unit Cost	Qty	Cost
Paint "jughandle" Bicycle left turn	EA Box	\$1,000	1	\$1,000
Sub Total				\$1,000
Install "bicycle leaning rail" with push button for bicycles to initiate crossing phase on "jughandle" left-turn				
Install "bicycle leaning rail" with push button for bicycles to initiate crossing phase on "jughandle" left-turn	Unit	Unit Cost	Qty	Cost
Install Sign (Two Post)	EA	\$978	1	\$978
Sub Total				\$978
Coordinate with Town of Atherton				
Coordinate with Town of Atherton	Unit	Unit Cost	Qty	Cost
Coordinate with Town of Atherton	LS	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Estimate:				\$132,619
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$19,893.00
SWPPP/WPC	3%			\$3,979.00
Mobilization	10%			\$13,262.00
Construction Subtotal				\$169,753.25
	% of Construction Subtotal			
Miscellaneous Items	15%			\$25,463.00
Design Engineering	15%			\$25,463.00
Construction Management	10%			\$16,975.00
Overhead and Administration	5%			\$8,488.00
Contingencies	30%			\$50,926.00
Estimated Project Cost				\$297,068.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 64

Project Location: Middlefield Rd & Ringwood Ave-D St
 Project Name: Menlo-Atherton High School Safe Routes to School

Project Tasks	Unit	Unit Cost	Qty	Cost
Remove southbound Middlefield Rd channelized right turn				
Remove Concrete Curb & Gutter	LF	\$31	60	\$1,860
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	50	\$1,000
Pave Lane with Asphalt Pavement	FT/LANE	\$6	10	\$63
Complexity Factor: Curb & Gutter/AC	LS	25%	2,923	\$731
Sub Total				\$3,653
Reconstruct curb ramp and reduce curb radius on northwest corner				
Remove Concrete Curb & Gutter	LF	\$31	50	\$1,550
Remove Concrete	SQFT	\$22	200	\$4,400
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Install Green Infrastructure	LS	\$20,000	1	\$20,000
Complexity Factor: Curb & Gutter/AC	LS	10%	35,950	\$3,595
Sub Total				\$39,545
Replace crosswalks on north and west legs				
Paint High Visibility Crosswalk	LF	\$112	175	\$19,600
Sub Total				\$19,600
Install Two-Stage Left-Turn Queue Boxes for cyclists traveling from Middlefield Rd to Ringwood Ave				
Paint "jughandle" Bicycle left turn	EA Box	\$1,000	2	\$2,000
Sub Total				\$2,000
Project Subtotal:				\$64,798
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$9,720.00
SWPPP/WPC	3%			\$1,944.00
Mobilization	10%			\$6,480.00
Construction Subtotal				\$82,942.13
	% of Construction Subtotal			
Miscellaneous Items	15%			\$12,441.00
Design Engineering	15%			\$12,441.00
Construction Management	10%			\$8,294.00
Overhead and Administration	5%			\$4,147.00
Contingencies	30%			\$24,883.00
Estimated Project Cost				\$145,148.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 65

Project Location: Middlefield Rd & Linfield Dr-Santa Monica Ave
 Project Name: Middlefield Rd Safety Improvements

Project Tasks				
Install Pedestrian Hybrid Beacon (HAWK) or traffic signal with emergency pre-emption on Middlefield Rd at Linfield Dr-Santa Monica Ave				
Furnish & Install Hybrid Beacon (HAWK)	Unit	Unit Cost	Qty	Cost
	EA	\$180,000	1	\$180,000
Furnish & Install EVP Intersection	EA	\$15,000	1	\$15,000
Sub Total				\$195,000
Install "Keep Clear" striping at Menlo Fire Protection District Station No. 1				
Paint 8' Letters	Unit	Unit Cost	Qty	Cost
	EA	\$60	18	\$1,080
Install Thermoplastic Pavement Markings	LF	\$4	1,500	\$6,000
Paint High Visibility Crosswalk	LF	\$112	160	\$17,920
Sub Total				\$25,000
Close sidewalk/pathway gap on eastern side of Middlefield Rd between Linfield Dr and Santa Monica Ave				
Construct Concrete Sidewalk	Unit	Unit Cost	Qty	Cost
	SQFT	\$10	1,600	\$15,952
Construct Curb Ramp with Truncated domes	EA	\$5,000	1	\$5,000
Complexity Factor: Curb and Gutter/AC	LS	10%	20,952	\$2,095
Sub Total				\$23,047
Coordinate with Menlo Fire Protection District				
Coordinate with Menlo Fire Protection District	Unit	Unit Cost	Qty	Cost
	N/A	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Subtotal:				\$243,047
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$36,457.00
SWPPP/WPC	3%			\$7,291.00
Mobilization	10%			\$24,305.00
Construction Subtotal				\$311,100.20
	% of Construction Subtotal			
Miscellaneous Items	15%			\$46,665.00
Design Engineering	15%			\$46,665.00
Construction Management	10%			\$31,110.00
Overhead and Administration	5%			\$15,555.00
Contingencies	30%			\$93,330.00
Estimated Project Cost				\$544,425.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 66

Project Location: Santa Monica Ave from Middlefield Rd to Nash Ave
 Project Name: Santa Monica Ave Pedestrian Network Improvement

Project Tasks				
Install sidewalk or asphalt pathway on the north side of Santa Monica Ave	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	7,800	\$77,766
Complexity Factor: Utilities, Landscaping, Coordination	LS	100%	77,766	\$77,766
Sub Total				\$155,532
Project Estimate:				\$155,532
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$23,330.00
SWPPP/WPC	3%			\$4,666.00
Mobilization	10%			\$15,553.00
Construction Subtotal				\$199,081.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$29,862.00
Design Engineering	15%			\$29,862.00
Construction Management	10%			\$19,908.00
Overhead and Administration	5%			\$9,954.00
Contingencies	30%			\$59,724.00
Estimated Project Cost				\$348,391.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 67

Project Location: Santa Monica Ave from Coleman Ave to Middlefield Rd

Project Name: Santa Monica Ave Bicycle Network Improvement

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	2,600	\$13,000
Sub Total				\$13,000
Project Subtotal:				\$26,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$3,900.00
SWPPP/WPC	3%			\$780.00
Mobilization	10%			\$2,600.00
Construction Subtotal				\$33,280.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$4,992.00
Design Engineering	15%			\$4,992.00
Construction Management	10%			\$3,328.00
Overhead and Administration	5%			\$1,664.00
Contingencies	30%			\$9,984.00
Estimated Project Cost				\$58,240.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 68

Project Location: Linfield Dr from Waverley St to Laurel St
Project Name: Linfield Oaks Bicycle Network Improvements

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	1,100	\$5,500
Sub Total				\$5,500
Project Subtotal:				\$11,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$1,650.00
SWPPP/WPC	3%			\$330.00
Mobilization	10%			\$1,100.00
Construction Subtotal				\$14,080.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$2,112.00
Design Engineering	15%			\$2,112.00
Construction Management	10%			\$1,408.00
Overhead and Administration	5%			\$704.00
Contingencies	30%			\$4,224.00
Estimated Project Cost				\$24,640.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 69

Project Location: Middlefield Rd from Willow Rd to Palo Alto Ave
 Project Name: Middlefield Rd Multimodal Improvements

Project Tasks				
Establish Class II Bicycle Lanes (City has a plan line to allow for widening as properties are redeveloped)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	2,000	\$40,000
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	350	\$4,900
Sub Total				\$44,900
Coordinate with future potential Peninsula Bikeway planning efforts	Unit	Unit Cost	Qty	Cost
Coordinate with future potential peninsula bikeway planning efforts	LS	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Estimate:				\$89,800
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$13,470.00
SWPPP/WPC	3%			\$2,694.00
Mobilization	10%			\$8,980.00
Construction Subtotal				\$114,944.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$17,242.00
Design Engineering	15%			\$17,242.00
Construction Management	10%			\$11,494.00
Overhead and Administration	5%			\$5,747.00
Contingencies	30%			\$34,483.00
Estimated Project Cost				\$201,152.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Fee Update
 Date: January 13, 2020
 Project Number: 70

Project Location: Middlefield Rd & Woodland Ave
 Project Name: Middlefield Rd Multimodal Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install a traffic signal				
Install Traffic Signal	EA	\$400,000	1	\$400,000
Sub Total				\$400,000
Install crosswalks on all intersection approaches				
Paint High Visibility Crosswalk	LF	\$112	240	\$26,880
Sub Total				\$26,880
Install bicycle crossing improvements to connect Woodland Ave, Middlefield Rd, and Palo Alto Ave				
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	500	\$7,000
Install Bicycle Box	EA Box	\$5,000	2	\$10,000
Sub Total				\$17,000
Project Subtotal:				\$443,880
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$66,582.00
SWPPP/WPC	3%			\$13,316.00
Mobilization	10%			\$44,388.00
Construction Subtotal				\$568,166.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$85,225.00
Design Engineering	15%			\$85,225.00
Construction Management	10%			\$56,817.00
Overhead and Administration	5%			\$28,408.00
Contingencies	30%			\$170,450.00
Estimated Project Cost				\$994,291.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 71

Project Location: Laurel St from Encinal Ave to Glenwood Ave
 Project Name: Laurel St Corridor Improvement Project

Project Tasks				
Install sidewalk or asphalt pathway on western side of Laurel St	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	9,600	\$95,712
Construct Concrete Curb & Gutter	LF	\$27	2,400	\$63,600
Remove Existing Landscaping	LS	5%	7,966	\$398
Complexity Factor for Utilities, New Landscaping, Outreach	LS	100%	159,710	\$159,710
Sub Total				\$319,421
Project Subtotal:				\$319,421
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$47,913.00
SWPPP/WPC	3%			\$9,583.00
Mobilization	10%			\$31,942.00
Construction Subtotal				\$408,858.56
	% of Construction Subtotal			
Miscellaneous Items	15%			\$61,329.00
Design Engineering	15%			\$61,329.00
Construction Management	10%			\$40,886.00
Overhead and Administration	5%			\$20,443.00
Contingencies	30%			\$122,658.00
Estimated Project Cost				\$715,504.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Fee Update
Date: January 13, 2020
Project Number: 72

Project Location: Laurel St & Glenwood Ave
Project Name: Laurel St Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install traffic signal				
Install Traffic Signal	EA	\$400,000	1	\$400,000
Sub Total				\$400,000
Coordinate with Town of Atherton				
Coordinate with Town of Atherton	LS	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Subtotal:				\$400,000
Construction Costs				
		% of Proj. Subtotal		
Traffic Control		15%		\$60,000.00
SWPPP/WPC		3%		\$12,000.00
Mobilization		10%		\$40,000.00
Construction Subtotal				\$512,000.00
		% of Construction Subtotal		
Miscellaneous Items		15%		\$76,800.00
Design Engineering		15%		\$76,800.00
Construction Management		10%		\$51,200.00
Overhead and Administration		5%		\$25,600.00
Contingencies		30%		\$153,600.00
Estimated Project Cost				\$896,000.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020

Project Number: 74
 Project Location: Ravenswood Ave & Laurel St
 Project Name: Laurel St Corridor Improvement Project

Project Tasks				
Remove parking south of Ravenswood Ave on west side of Laurel St for a distance of 150 feet and shift northbound Laurel St lanes to add bicycle lane to the left of right-turn lane				
	Unit	Unit Cost	Qty	Cost
Remove Thermoplastic Traffic Markings	LF	\$3	500	\$1,500
Install 6" Thermoplastic Stripe	LF	\$4	100	\$400
Install Class II Bicycle Lane	LF	20	100	\$2,000
Sub Total				\$3,900
Modify eastbound Ravenswood Ave to shared thru-left lane and a right turn lane with the bicycle lane transitioning to the left of the right turn lane				
	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Upgrade existing crosswalks to high-visibility				
	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	272	\$30,464
Sub Total				\$30,464
Project Subtotal:				\$109,364
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$16,405.00
SWPPP/WPC	3%			\$3,281.00
Mobilization	10%			\$10,936.00
Construction Subtotal				\$139,986.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$20,998.00
Design Engineering	15%			\$20,998.00
Construction Management	10%			\$13,999.00
Overhead and Administration	5%			\$6,999.00
Contingencies	30%			\$41,996.00
Estimated Project Cost				\$244,976.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 75
Project Location: Laurel St from Burgess St to Willow Rd
Project Name: Laurel St Corridor Improvement Project

Project Tasks				
Establish Class II Bicycle Lanes (requires removal of parking on both sides of the street)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	1,400	\$28,000
Sub Total				\$28,000
Project Subtotal:				\$56,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,400.00
SWPPP/WPC	3%			\$1,680.00
Mobilization	10%			\$5,600.00
Construction Subtotal				\$71,680.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$10,752.00
Design Engineering	15%			\$10,752.00
Construction Management	10%			\$7,168.00
Overhead and Administration	5%			\$3,584.00
Contingencies	30%			\$21,504.00
Estimated Project Cost				\$125,440.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 77

Project Location: Alma St from Oak Grove Ave to Ravenswood Ave
 Project Name: Downtown Mobility Improvements

Project Tasks				
Convert angled on-street parking on both sides of street to parallel parking, designate some parking spaces as passenger loading zones only from 6:30 a.m. to 7:30 p.m. weekdays, 9 a.m. to 4 p.m. Saturdays and Sundays, unrestricted time limit parking otherwise, with at least three unrestricted ADA spaces				
	Unit	Unit Cost	Qty	Cost
Remove Thermoplastic Traffic Markings	LF	\$3	3,429	\$10,286
Install 6" Thermoplastic Stripe	LF	\$4	3,429	\$13,714
Install Sign (Strap & Saddle Bracket)	EA	\$217	20	\$4,340
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	20	\$5,000
Paint Handicap Legends	EA	\$350	3	\$1,050
Install Green Infrastructure	LS	\$20,000	2	\$40,000
Complexity Factor: Curb & Gutter	LS	10%	40,000	\$4,000
Sub Total				\$78,390
Remove duplicate driveway curb cuts				
	Unit	Unit Cost	Qty	Cost
Remove Concrete	SQFT	\$22	1,500	\$33,000
Construct Concrete Curb & Gutter	LF	\$27	190	\$5,035
Construct Concrete Sidewalk	SQFT	\$10	1520	\$15,154
Complexity Factor: Curb & Gutter	LS	10%	53,189	\$5,319
Sub Total				\$58,508
Designate Class III Bicycle Route				
	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	2,400	\$12,000
Sub Total				\$12,000
Project Subtotal:				\$148,898
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$22,335.00
SWPPP/WPC	3%			\$4,467.00
Mobilization	10%			\$14,890.00
Construction Subtotal				\$190,590.34
	% of Construction Subtotal			
Miscellaneous Items	15%			\$28,589.00
Design Engineering	15%			\$28,589.00
Construction Management	10%			\$19,059.00
Overhead and Administration	5%			\$9,530.00
Contingencies	30%			\$57,177.00
Estimated Project Cost				\$333,534.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 78
Project Location: Ravenswood Caltrain Crossing
Project Name: Downtown Mobility Improvements

Project Tasks				
Safety improvement to separate Ravenswood Ave from Caltrain tracks and Alma St to eliminate at-grade vehicle, pedestrian, and bicycle crossings	Unit	Unit Cost	Qty	Cost
Alternative A, which would bring Ravenswood Ave below the Caltrain tracks, was selected as the preferred alternative, though additional study is being conducted to explore other options	Unit	Unit Cost	Qty	Cost
Establish Class II Bicycle Lanes from Caltrain Railroad tracks to Noel Drive	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	N/A	N/A
Coordinate with future potential Peninsula Bikeway planning efforts	Unit	Unit Cost	Qty	Cost
Coordinate with future potential peninsula bikeway planning efforts	LS	N/A	N/A	N/A
Project Subtotal:				\$380,000,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$57,000,000.00
SWPPP/WPC	3%			\$11,400,000.00
Mobilization	10%			\$38,000,000.00
Construction Subtotal				\$486,400,000.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$72,960,000.00
Design Engineering	15%			\$72,960,000.00
Construction Management	10%			\$48,640,000.00
Overhead and Administration	5%			\$24,320,000.00
Contingencies	30%			\$145,920,000.00
Estimated Project Cost				\$851,200,000.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 79

Project Location: Alma St from Ravenswood Ave to Burgess Dr
 Project Name: Downtown Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Park path				
Construct Concrete Sidewalk	SQFT	\$10	600	\$5,982
Complexity Factor: Curb & Gutter	LS	10%	5,982	\$598
Sub Total				\$6,580
Upgrade crosswalks to high-visibility				
Paint High Visibility Crosswalk	LF	\$112	100	\$11,200
Sub Total				\$11,200
Ensure project is consistent and provides connectivity to Middle Ave Pedestrian and Bicycle Rail Crossing				
Furnish & Install Bicycle Blvd Design Features	LF	\$35	500	\$17,500
Sub Total				\$17,500
Construct green infrastructure				
Install Green Infrastructure	LS	\$20,000	2	\$40,000
Sub Total				\$40,000
Project Subtotal:				\$75,280
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$11,292.00
SWPPP/WPC	3%			\$2,258.00
Mobilization	10%			\$7,528.00
Construction Subtotal				\$96,358.20
	% of Construction Subtotal			
Miscellaneous Items	15%			\$14,454.00
Design Engineering	15%			\$14,454.00
Construction Management	10%			\$9,636.00
Overhead and Administration	5%			\$4,818.00
Contingencies	30%			\$28,907.00
Estimated Project Cost				\$168,627.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 80
Project Location: Burgess Park
Project Name: Downtown Mobility Improvements

Project Tasks				
Widen existing path to meet current Class I Multi-Use Path design standards	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	6,000	\$59,820
Complexity Factor: Curb & Gutter	LS	10%	59,820	\$5,982
Sub Total				\$65,802
Project Subtotal:				\$65,802
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$9,870.00
SWPPP/WPC	3%			\$1,974.00
Mobilization	10%			\$6,580.00
Construction Subtotal				\$84,226.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$12,634.00
Design Engineering	15%			\$12,634.00
Construction Management	10%			\$8,423.00
Overhead and Administration	5%			\$4,211.00
Contingencies	30%			\$25,268.00
Estimated Project Cost				\$147,396.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Fee Update

Date: January 13, 2020

Project Number: 81

Project Location: Middle Ave Caltrain Crossing

Project Name: Downtown Mobility Improvements

Project Tasks	Unit	Unit Cost	Qty	Cost
Construct pedestrian and bicycle crossing at El Camino Real/Middle Ave intersection	Unit	Unit Cost	Qty	Cost
Connect to future plaza, to be funded and constructed via private development (Middle Plaza)	Unit	Unit Cost	Qty	Cost
Install pedestrian crossing improvements across Alma St from Caltrain Crossing to Burgess Park	Unit	Unit Cost	Qty	Cost
Project Subtotal:				\$18,000,000

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 82

Project Location: Encinal Ave from Garwood Wy to El Camino Real
 Project Name: Downtown Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes (requires removal of parking on both sides of the street)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	900	\$18,000
Sub Total				\$18,000
Project Estimate:				\$36,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$5,400.00
SWPPP/WPC	3%			\$1,080.00
Mobilization	10%			\$3,600.00
Construction Subtotal				\$46,080.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$6,912.00
Design Engineering	15%			\$6,912.00
Construction Management	10%			\$4,608.00
Overhead and Administration	5%			\$2,304.00
Contingencies	30%			\$13,824.00
Estimated Project Cost				\$80,640.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 83

Project Location: Merrill St from Ravenswood Ave to Oak Grove Ave

Project Name: Downtown Mobility Improvements

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	1,000	\$5,000
Sub Total				\$5,000
Project Subtotal:				\$10,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$1,500.00
SWPPP/WPC	3%			\$300.00
Mobilization	10%			\$1,000.00
Construction Subtotal				\$12,800.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$1,920.00
Design Engineering	15%			\$1,920.00
Construction Management	10%			\$1,280.00
Overhead and Administration	5%			\$640.00
Contingencies	30%			\$3,840.00
Estimated Project Cost				\$22,400.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Fee Update
 Date: January 13, 2020
 Project Number: 84
 Project Location: El Camino Real within City Limits
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
ESTABLISH CLASS II BUFFERED BIKE LANE WITH PAINTED BUFFER AREA				
in each direction by removing onstreet parking, where necessary, and incorporating pedestrian crossing improvements at				
Install Class II Bicycle Lane	LF	\$20	4,800	\$96,000
Sub Total				\$96,000
Encinal Ave to Valparaiso Ave-Glenwood Ave: Remove parking along east side of El Camino Real. Remove rightmost southbound travel lane on El Camino Real, no parking lane present				
Remove Thermoplastic Traffic Markings	LF	\$3	300	\$900
Remove Pavement Marker	EA	\$5	15	\$375
Sub Total				\$1,275
Valparaiso Ave-Glenwood Ave to Oak Grove Ave: Remove parking along both sides of El Camino Real.				
Remove Thermoplastic Traffic Markings	LF	\$3	400	\$1,200
Sub Total				\$1,200
Oak Grove Ave to Santa Cruz Ave: Remove parking along both sides of El Camino Real.				
Remove Thermoplastic Traffic Markings	LF	\$3	267	\$800
Sub Total				\$800
Santa Cruz Ave to Ravenswood Ave-Menlo Ave: Remove parking along west side of El Camino Real. Designate Class III Bicycle Route northbound along segment due to right-of-way constraints in lieu of Class II Buffered Bicycle Lane.				
Remove Thermoplastic Traffic Markings	LF	\$3	111	\$333
Install Class III Bike Route	LF	\$5	500	\$2,500
Sub Total				\$2,833
Ravenswood Ave-Menlo Ave to Roble Ave: Remove median for entire length of segment. Widen sidewalk facility on east side of El Camino Real to 15 feet for a Class I Multi-Use Path in lieu of Class II Buffered Bicycle Lane.				
Remove Concrete Curb & Gutter	LF	\$31	1,300	\$40,300
Remove Concrete	SOFT	\$22	4,300	\$94,600
Construct Concrete Sidewalk	SOFT	\$10	6,400	\$63,808
Complexity Factor for Utilities, Landscaping, Outreach	LS	75%	198,708	\$149,031
Sub Total				\$347,739
Roble Ave to Middle Ave: Remove parking along east side of El Camino Real.				
Remove Thermoplastic Traffic Markings	LF	\$3	167	\$500
Sub Total				\$500
Middle Ave to Cambridge Ave: Remove parking along both sides of El Camino Real.				
Remove Thermoplastic Traffic Markings	LF	\$3	444	\$1,333
Sub Total				\$1,333
Creek Dr to Sand Hill Rd: Widen existing bridge over San Fransquito Creek or construct a pedestrian and bicycle bridge to install a Class I Multi-Use Path west of El Camino Real to connect from Sand Hill Rd to Creek Dr.				
Construct Pedestrian & Bicycle Bridge	EA	1,000,000	1	\$1,000,000
Complexity Factor: Structural Engineering Effort, Design, etc.	LS	100%	1,000,000	\$1,000,000
Sub Total				\$2,000,000
Coordinate with future potential Peninsula Bikeway planning efforts				
Coordinate with future potential peninsula bikeway planning efforts		\$0.00	1	\$0.00
Sub Total				\$0.00
Menlo College/Encinal to Valparaiso Improvements				
Signing and Marking	LS	\$10,000	1	\$10,000
Install 6" Thermoplastic Stripe	LF	\$4	5,610	\$22,440
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	20	\$400
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Construct Curb Ramp with Truncated domes	EA	\$5,000	10	\$50,000
Sub Total				\$157,840
Valparaiso/Glenwood to Oakgrove Improvements				
Signing and Marking	LS	\$10,000	1	\$10,000
Install 6" Thermoplastic Stripe	LF	\$4	7,110	\$28,440
Paint High Visibility Crosswalk	LF	\$112	178	\$19,880
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	491	\$9,817
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Construct Curb Ramp with Truncated domes	EA	\$5,000	8	\$40,000
Sub Total				\$183,137
Oak Grove to Santa Cruz to Ravenswood				
Signing and Marking	LS	\$10,000	1	\$10,000
Install 6" Thermoplastic Stripe	LF	\$4	6,480	\$25,920
Paint High Visibility Crosswalk	LF	\$112	349	\$39,130
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	982	\$19,635
Modify Traffic Signal	LS	\$75,000	2	\$150,000
Construct Curb Ramp with Truncated domes	EA	\$5,000	8	\$40,000
Sub Total				\$284,685
Menlo/Ravenswood to Roble				
Signing and Marking	LS	\$10,000	2	\$20,000
Install 6" Thermoplastic Stripe	LF	\$4	5,200	\$20,800
Paint High Visibility Crosswalk	LF	\$112	216,875	\$24,290
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	1,730	\$34,600
Remove Existing Landscaping	LS	5%	\$39,690	\$4,985
Complexity Factor: Utilities, Existing Infrastructure, Misc. Removal	LS	100%	300,000	\$300,000
Modify Traffic Signal	LS	\$75,000	2	\$150,000
Construct Curb Ramp with Truncated domes	EA	\$5,000	5	\$25,000
Construct Concrete Sidewalk	SOFT	\$10	2,530	\$25,224
Mill & Resurface Roadway	FT/LANE	\$219	203	\$44,345
Pave Lane with Asphalt Pavement	FT/LANE	\$6	203	\$1,266
Major Roadway Improvements	LS	\$100,000	1	\$100,000
Landscaping	SF	\$25	2,400	\$60,000
Construct Concrete Curb & Gutter	LF	\$27	390	\$10,335
Sub Total				\$820,844
Roble to Middle (including Both intersections)				
Signing and Marking	LS	\$10,000	2	\$20,000
Install 6" Thermoplastic Stripe	LF	\$4	6,750	\$27,000
Paint High Visibility Crosswalk	LF	\$112	150,625	\$16,870
Modify Traffic Signal	LS	\$75,000	2	\$150,000
Sub Total				\$213,870
Curb Ramp update within City Limits along El Camino Real				
Construct Curb Ramp with Truncated domes	EA	\$5,000	52	\$260,000
Project Estimate:				\$4,112,057
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$616,809.00
SWPPP/WPC	3%			\$123,362.00
Mobilization	10%			\$411,206.00
Construction Subtotal				\$5,263,434.14
	% of Construction Subtotal			
Miscellaneous Items	15%			\$789,515.00
Design Engineering	15%			\$789,515.00
Construction Management	10%			\$526,343.00
Overhead and Administration	5%			\$263,172.00
Contingencies	30%			\$1,579,030.00
Estimated Project Cost				\$9,211,009.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 85

Project Location: El Camino Real & Encinal Ave
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Transition bicycle lane into bicycle route and install green-backed sharrows on right-turn lane and green conflict striping approaching the right-turn lane				
Install Sharrow Marking	EA	\$310	4	\$1,240
Furnish & Install Bicycle Blvd Design Features	LF	\$35	250	\$8,750
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	200	\$2,800
Sub Total				\$12,790
Install crosswalk on south El Camino Real leg				
Paint High Visibility Crosswalk	LF	\$112	110	\$12,320
Sub Total				\$12,320
Upgrade all crosswalks to high-visibility				
Construct Class I - Multiuse Path	LF	\$5,000	8	\$40,000
Paint High Visibility Crosswalk	LF	\$112	260	\$29,120
Construct Curb Ramp with Truncated domes	EA	\$5,000	8	\$40,000
Sub Total				\$69,120
Replace existing southbound El Camino Real shared thru-right turn lane with right-turn lane				
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Project Estimate:				\$169,230
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$25,385.00
SWPPP/WPC	3%			\$5,077.00
Mobilization	10%			\$16,923.00
Construction Subtotal				\$216,615.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$32,492.00
Design Engineering	15%			\$32,492.00
Construction Management	10%			\$21,662.00
Overhead and Administration	5%			\$10,831.00
Contingencies	30%			\$64,985.00
Estimated Project Cost				\$379,077.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 86

Project Location: El Camino Real & Glenwood Ave-Valparaiso Ave
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Restripe crosswalk on south El Camino Real leg to straighten				
Remove Thermoplastic Traffic Markings	LF	\$3	110	\$330
Paint High Visibility Crosswalk	LF	\$112	110	\$12,320
Construct Curb Ramp with Truncated domes	EA	\$5,000	8	\$40,000
Sub Total				\$52,650
Upgrade all crosswalks to high visibility				
Paint High Visibility Crosswalk	LF	\$112	255	\$28,560
Sub Total				\$28,560
Transition bicycle lane into bicycle route and install green-backed sharrows in right-turn lane and green conflict striping approaching the right-turn lane on northbound El Camino Real				
Install Sharrow Marking	EA	\$310	4	\$1,240
Furnish & Install Bicycle Blvd Design Features	LF	\$35	250	\$8,750
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	200	\$2,800
Sub Total				\$12,790
Remove median on north El Camino Real leg for a distance of approximately 300 feet				
Remove Concrete Curb & Gutter	LF	\$31	600	\$18,600
Remove Concrete	SQFT	\$22	2,025	\$44,550
Mill & Resurface Roadway	FT/LANE	\$219	300	\$65,696
Complexity Factor: Curb & Gutter	LS	10%	128,846	\$12,885
Sub Total				\$141,731
Install bicycle lane line extensions through intersection in the eastbound Valparaiso Ave and westbound Glenwood Ave directions				
Paint Dashed Thermoplastic Traffic Stripe	LF	\$3	560	\$1,680
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	14	512	\$7,168
Sub Total				\$8,848
Project Subtotal:				\$244,579
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$36,687.00
SWPPP/WPC	3%			\$7,337.00
Mobilization	10%			\$24,458.00
Construction Subtotal				\$313,060.63
	% of Construction Subtotal			
Miscellaneous Items	15%			\$46,959.00
Design Engineering	15%			\$46,959.00
Construction Management	10%			\$31,306.00
Overhead and Administration	5%			\$15,653.00
Contingencies	30%			\$93,918.00
Estimated Project Cost				\$547,856.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 87

Project Location: El Camino Real & Oak Grove Ave
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
Lengthen existing medians to install pedestrian refuge islands on El Camino Real legs	Unit	Unit Cost	Qty	Cost
Construct Concrete Curb & Gutter	LF	\$27	70	\$1,855
Construct Concrete Sidewalk	SQFT	\$10	150	\$1,496
Sub Total				\$3,351
Upgrade crosswalks on all legs to high-visibility	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	340	\$38,080
Construct Curb Ramp with Truncated domes	EA	\$5,000	8	\$40,000
Sub Total				\$78,080
Transition bicycle lane into bicycle route and install green-backed sharrows on right-turn lane and green conflict striping approaching the right-turn lane on northbound and southbound El Camino Real	Unit	Unit Cost	Qty	Cost
Install Sharrow Marking	EA	\$310	4	\$1,240
Furnish & Install Bicycle Blvd Design Features	LF	\$35	500	\$17,500
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	400	\$5,600
Sub Total				\$24,340
Project Estimate:				\$105,771
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$15,866.00
SWPPP/WPC	3%			\$3,173.00
Mobilization	10%			\$10,577.00
Construction Subtotal				\$135,386.50
	% of Construction Subtotal			
Miscellaneous Items	15%			\$20,308.00
Design Engineering	15%			\$20,308.00
Construction Management	10%			\$13,539.00
Overhead and Administration	5%			\$6,769.00
Contingencies	30%			\$40,616.00
Estimated Project Cost				\$236,927.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020

Project Number: 88
 Project Location: El Camino Real & Santa Cruz Ave
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Transition bicycle lane into bicycle route and install green-backed sharrows on right-turn lane and green conflict striping approaching the right-turn lane on southbound El Camino Real				
Install Sharrow Marking	EA	\$310	1	\$310
Furnish & Install Bicycle Blvd Design Features	LF	\$35	250	\$8,750
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	40	\$560
Sub Total				\$9,620
Install green-backed sharrows on right-turn lane on northbound El Camino Real				
Install Sharrow Marking	EA	\$310	2	\$620
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	14	80	\$1,120
Sub Total				\$1,740
Install high-visibility crosswalk across all legs				
Construct Curb Ramp with Truncated domes	EA	\$5,000	306	\$1,530,000
Paint High Visibility Crosswalk	LF	\$112	300	\$33,600
Sub Total				\$1,563,600
Project Estimate:				\$22,720
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$3,408.00
SWPPP/WPC	3%			\$682.00
Mobilization	10%			\$2,272.00
Construction Subtotal				\$29,082.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$4,362.00
Design Engineering	15%			\$4,362.00
Construction Management	10%			\$2,908.00
Overhead and Administration	5%			\$1,454.00
Contingencies	30%			\$8,725.00
Estimated Project Cost				\$50,893.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 89

Project Location: El Camino Real & Ravenswood Ave-Menlo Ave

Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Widen sidewalk facility to 15 feet to provide a Class I Multi-Use Path on east side of El Camino Real				
Construct Class I - Multiuse Path	LF	\$355	365	\$129,575
Remove Existing Landscaping	LS	5%	129,575	\$6,479
Complexity Factor: Trees, Utilities, Concrete Removal, Outreach	LS	40%	136,054	\$54,422
Sub Total				\$190,475
Install northbound El Camino Real right-turn overlap and bike signal and prohibit right-turn on red movements				
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Furnish & Install Bicycle Signal Head	EA	\$1,000	3	\$3,000
Sub Total				\$78,000
Remove median on south leg of El Camino Real and install an additional northbound El Camino Real right-turn lane				
Remove Concrete Curb & Gutter	LF	\$31	700	\$21,700
Remove Concrete	SQFT	\$22	1,750	\$38,500
Mill & Resurface Roadway	FT/LANE	\$219	350	\$76,645
Install 6" Thermoplastic Stripe	LF	\$4	350	\$1,400
Paint 8' Letters	EA	\$60	2	\$120
Complexity Factor: Concrete Removal	LS	10%	60,200	\$6,020
Sub Total				\$144,385
Transition bicycle lane into bicycle route and install green-backed sharrows on right-turn lane and green conflict striping approaching the right-turn lane on southbound El Camino Real				
Install Sharrow Marking	EA	\$310	4	\$1,240
Furnish & Install Bicycle Blvd Design Features	LF	\$35	250	\$8,750
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	200	\$2,800
Sub Total				\$12,790
Establish Class II Bicycle Lanes on westbound Ravenswood Ave approach (requires fire hydrant relocation and widening)				
Install Class II Bicycle Lane	LF	\$20	250	\$5,000
Relocate Fire Hydrant	EA	\$50,000	1	\$50,000
Remove Concrete Curb & Gutter	LF	\$31	250	\$7,750
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	750	\$15,000
Construct Concrete Curb & Gutter	LF	\$27	250	\$6,625
Mill & Resurface Roadway	FT/LANE	\$219	250	\$54,747
Complexity Factor: Trees, Utilities, Concrete Removal, MPFD	LS	60%	79,375	\$47,625
Sub Total				\$186,747
Install high-visibility crosswalk across all legs				
Construct Curb Ramp with Truncated domes	EA	\$5,000	8	\$40,000
Paint High Visibility Crosswalk	LF	\$112	300	\$33,600
Sub Total				\$73,600
				\$685,997
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$102,900.00
SWPPP/WPC	3%			\$20,580.00
Mobilization	10%			\$68,600.00
Construction Subtotal				\$878,077.30
	% of Construction Subtotal			
Miscellaneous Items	15%			\$131,712.00
Design Engineering	15%			\$131,712.00
Construction Management	10%			\$87,808.00
Overhead and Administration	5%			\$43,904.00
Contingencies	30%			\$263,423.00
Estimated Project Cost				\$1,536,636.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 90

Project Location: El Camino Real & Live Oak Ave
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
Install bicycle lane line extensions through intersection in the southbound El Camino Real directions	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	512	\$7,168
Sub Total				\$7,168
Install high-visibility crosswalk across Live Oak Ave	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	75	\$8,400
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Sub Total				\$18,400
			Project Subtotal:	\$51,136
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$7,670.00
SWPPP/WPC	3%			\$1,534.00
Mobilization	10%			\$5,114.00
Construction Subtotal				\$65,454.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$9,818.00
Design Engineering	15%			\$9,818.00
Construction Management	10%			\$6,545.00
Overhead and Administration	5%			\$3,273.00
Contingencies	30%			\$19,636.00
			Estimated Project Cost	\$114,544.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 91
Project Location: El Camino Real & Roble Ave
Project Name: El Camino Real Corridor Improvement Project

Project Tasks

Install bicycle lane line extensions through intersection in the northbound and southbound El Camino Real directions

	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Paint (Bike or Bus Lane Colored Paint)	SQ FT	\$14	1,024	\$14,336
Sub Total				\$14,336

Install high-visibility crosswalk on north El Camino Real leg

	Unit	Unit Cost	Qty	Cost
Construct Curb Ramp with Truncated domes	EA	\$5,000	6	\$30,000
Paint High Visibility Crosswalk	LF	\$112	60	\$6,720
Sub Total				\$36,720

Project Subtotal: \$51,056

Construction Costs

	% of Proj. Subtotal	
Traffic Control	15%	\$7,658.00
SWPPP/WPC	3%	\$1,532.00
Mobilization	10%	\$5,106.00
Construction Subtotal		\$65,352.00

	% of Construction Subtotal	
Miscellaneous Items	15%	\$9,803.00
Design Engineering	15%	\$9,803.00
Construction Management	10%	\$6,535.00
Overhead and Administration	5%	\$3,268.00
Contingencies	30%	\$19,606.00

Estimated Project Cost \$114,367.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 93
Project Location: El Camino Real & College Ave
Project Name: El Camino Real Corridor Improvement Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Install high-visibility crosswalk across College Ave				
Paint High Visibility Crosswalk	LF	\$112	112	\$12,544
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Sub Total				\$12,544
Project Subtotal:				\$25,088
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$3,763.00
SWPPP/WPC	3%			\$753.00
Mobilization	10%			\$2,509.00
Construction Subtotal				\$32,113.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$4,817.00
Design Engineering	15%			\$4,817.00
Construction Management	10%			\$3,211.00
Overhead and Administration	5%			\$1,606.00
Contingencies	30%			\$9,634.00
Estimated Project Cost				\$56,198.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 94

Project Location: El Camino Real & Partridge Ave
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
Install high-visibility crosswalk across Partridge Ave	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	50	\$5,600
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Sub Total				\$5,600
Project Estimate:				\$11,200
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$1,680.00
SWPPP/WPC	3%			\$336.00
Mobilization	10%			\$1,120.00
Construction Subtotal				\$14,336.00
	% of Contruction Subtotal			
Miscellaneous Items	15%			\$2,150.00
Design Engineering	15%			\$2,150.00
Construction Management	10%			\$1,434.00
Overhead and Administration	5%			\$717.00
Contingencies	30%			\$4,301.00
Estimated Project Cost				\$25,088.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 96
Project Location: El Camino Real & Harvard Ave
Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
Install high-visibility crosswalk across Harvard Ave				
	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	60	\$6,720
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Sub Total				\$6,720
Project Estimate:				\$13,440
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$2,016.00
SWPPP/WPC	3%			\$403.00
Mobilization	10%			\$1,344.00
Construction Subtotal				\$17,203.00
	% of Contruction Subtotal			
Miscellaneous Items	15%			\$2,580.00
Design Engineering	15%			\$2,580.00
Construction Management	10%			\$1,720.00
Overhead and Administration	5%			\$860.00
Contingencies	30%			\$5,161.00
Estimated Project Cost				\$30,104.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 97

Project Location: El Camino Real & Creek Dr

Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
Install "bulb-outs" and curb ramps on northwest and southwest corners of intersection	Unit	Unit Cost	Qty	Cost
Construct Pedestrian Bulbout on both sides of Creek Drive	SQFT	\$40	150	\$6,000
Install Storm Drain Inlet	EA	\$3,500	2	\$7,000
Construct Curb Ramp with Truncated Domes on both sides of Creek Drive	EA	\$5,000	2	\$10,000
Complexity Factor: Creek Protection, Grading for Stormwater Flow, Landscaping	LS	250%	23,000	\$57,500
Sub Total				\$80,500
Install high-visibility crosswalk on west Creek Dr leg	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	50	\$5,600
Sub Total				\$5,600
Install ADA compliant curb ramp for southeast corner	Unit	Unit Cost	Qty	Cost
Remove Street Light Foundation, Pole and Luminaire	EA	800	1	\$800
Relocate Existing Utilities	LS	10%	\$800	\$80
Complexity Factor: Design, Landscaping, Outreach, Drainage	LS	100%	880	\$880
Sub Total				\$1,760
Project Subtotal:				\$175,720
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$26,358.00
SWPPP/WPC	3%			\$5,272.00
Mobilization	10%			\$17,572.00
Construction Subtotal				\$224,922.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$33,738.00
Design Engineering	15%			\$33,738.00
Construction Management	10%			\$22,492.00
Overhead and Administration	5%			\$11,246.00
Contingencies	30%			\$67,477.00
Estimated Project Cost				\$393,613.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 107

Project Location: Oak Grove Ave from Crane St to University Dr
 Project Name: Downtown Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes on Oak Grove Ave between Crane St and University Dr (requires parking removal on the north side of the street)				
	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	600	\$12,000
Sub Total				\$12,000
Project Subtotal:				\$24,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$3,600.00
SWPPP/WPC	3%			\$720.00
Mobilization	10%			\$2,400.00
Construction Subtotal				\$30,720.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$4,608.00
Design Engineering	15%			\$4,608.00
Construction Management	10%			\$3,072.00
Overhead and Administration	5%			\$1,536.00
Contingencies	30%			\$9,216.00
Estimated Project Cost				\$53,760.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 108

Project Location: Oak Grove Ave from Crane St to University Dr
 Project Name: Downtown Mobility Improvements

Project Tasks	Unit	Unit Cost	Qty	Cost
Remove on-street parking space located on Oak Grove Ave in the middle of the intersection on the south side of Oak Grove Ave				
Remove Thermoplastic Traffic Markings	LF	\$3	250	\$750
Sub Total				\$750
Install high-visibility crosswalk on north Hoover St leg				
Paint High Visibility Crosswalk	LF	\$112	60	\$6,720
Construct Curb Ramp with Truncated domes	EA	\$5,000	4	\$20,000
Sub Total				\$26,720
Project Subtotal:				\$54,940
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,241.00
SWPPP/WPC	3%			\$1,648.00
Mobilization	10%			\$5,494.00
Construction Subtotal				\$70,323.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$10,548.00
Design Engineering	15%			\$10,548.00
Construction Management	10%			\$7,032.00
Overhead and Administration	5%			\$3,516.00
Contingencies	30%			\$21,097.00
Estimated Project Cost				\$123,064.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 109
Project Location: Oak Grove Ave & Chestnut St
Project Name: Downtown Mobility Improvements

Project Tasks				
Install high-visibility crosswalk across south Chestnut St leg	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	60	\$6,720
Construct Curb Ramp with Truncated domes	EA	\$5,000	1	\$5,000
Sub Total				\$11,720
Project Subtotal:				\$23,440
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$3,516.00
SWPPP/WPC	3%			\$703.00
Mobilization	10%			\$2,344.00
Construction Subtotal				\$30,003.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$4,500.00
Design Engineering	15%			\$4,500.00
Construction Management	10%			\$3,000.00
Overhead and Administration	5%			\$1,500.00
Contingencies	30%			\$9,001.00
Estimated Project Cost				\$52,504.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 110
Project Location: Oak Grove Ave & University Dr
Project Name: Downtown Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Grove Ave left turn lane during Bicycle Lane				
Install Thermoplastic Pavement Markings	LF	\$4	100	\$400
Sub Total				\$400
Install high-visibility crosswalks on all three legs of intersection				
Paint High Visibility Crosswalk	LF	\$112	160	\$17,920
Construct Curb Ramp with Truncated domes	EA	\$5,000	4	\$20,000
Relocate Existing Utilities	LS	10%	37,920	\$3,792
Sub Total				\$41,712
Project Subtotal:				\$84,224
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$12,634.00
SWPPP/WPC	3%			\$2,527.00
Mobilization	10%			\$8,422.00
Construction Subtotal				\$107,807.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$16,171.00
Design Engineering	15%			\$16,171.00
Construction Management	10%			\$10,781.00
Overhead and Administration	5%			\$5,390.00
Contingencies	30%			\$32,342.00
Estimated Project Cost				\$188,662.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 111

Project Location: Santa Cruz Ave between El Camino Real and University Dr
 Project Name: Downtown Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Convert all angled parking to parallel on-street parking				
Remove Thermoplastic Traffic Markings	LF	\$3	1,270	\$3,810
Install Thermoplastic Pavement Markings	LF	\$4	147	\$589
Sub Total				\$4,399
Install parklets on each block				
Construct Parklet	EA	\$15,000	5	\$75,000
Sub Total				\$75,000
Designate at least 60 feet toward flexible curb use on each block face for passenger loading and commercial loading with complementary time restrictions for each activity				
Install 6" Thermoplastic Stripe	LF	\$4	600	\$2,400
Paint Curb	LF	\$5	480	\$2,400
Install Sign (Strap & Saddle Bracket)	EA	\$217	20	\$4,340
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	20	\$5,000
Sub Total				\$14,140
Widen sidewalks and update streetscape design standards				
Construct Concrete Sidewalk	SQFT	\$10	6,400	\$63,808
Sub Total				\$63,808
Project Subtotal				\$314,695
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$47,204.00
SWPPP/WPC	3%			\$9,441.00
Mobilization	10%			\$31,469.00
Construction Subtotal				\$402,808.67
	% of Construction Subtotal			
Miscellaneous Items	15%			\$60,421.00
Design Engineering	15%			\$60,421.00
Construction Management	10%			\$40,281.00
Overhead and Administration	5%			\$20,140.00
Contingencies	30%			\$120,843.00
Estimated Project Cost				\$704,915.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 112

Project Location: Santa Cruz Ave & University Dr (North)

Project Name: Downtown Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install traffic signal				
Install Traffic Signal	EA	\$400,000	1	\$400,000
Sub Total				\$400,000
Install a bike boxes on the north and west legs				
Install Bicycle Box	EA Box	\$5,000	2	\$10,000
Sub Total				\$10,000
Project Subtotal:				\$410,000
Construction Costs				
		% of Proj. Subtotal		
Traffic Control		15%		\$61,500.00
SWPPP/WPC		3%		\$12,300.00
Mobilization		10%		\$41,000.00
Construction Subtotal				\$524,800.00
		% of Construction Subtotal		
Miscellaneous Items		15%		\$78,720.00
Design Engineering		15%		\$78,720.00
Construction Management		10%		\$52,480.00
Overhead and Administration		5%		\$26,240.00
Contingencies		30%		\$157,440.00
Estimated Project Cost				\$918,400.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 113
Project Location: University Dr & Menlo Ave (South)
Project Name: Downtown Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Remove westbound Menlo Ave right turn lane				
Remove Pavement Marker	EA	\$5	15	\$75
Remove Thermoplastic Traffic Markings	LF	\$3	125	\$375
Paint Pavement Marker (Retroreflective)	EA	\$11	15	\$165
Sub Total				\$615
Install bulb-out at northeast corner into Menlo Ave				
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	100	\$4,000
Install Storm Drain Inlet and Connection Pipe	LS	\$20,000	1	\$20,000
Sub Total				\$24,000
Replace crosswalk with straightened crossing				
Remove Thermoplastic Traffic Markings	LF	\$3	262	\$786
Paint High Visibility Crosswalk	LF	\$112	35	\$3,920
Sub Total				\$4,706
Project Subtotal:				\$58,642
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,796.00
SWPPP/WPC	3%			\$1,759.00
Mobilization	10%			\$5,864.00
Construction Subtotal				\$75,061.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$11,259.00
Design Engineering	15%			\$11,259.00
Construction Management	10%			\$7,506.00
Overhead and Administration	5%			\$3,753.00
Contingencies	30%			\$22,518.00
Estimated Project Cost				\$131,356.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 114
Project Location: University Dr & Valparaiso Ave
Project Name: Downtown Mobility Improvements

Project Tasks				
Convert existing crosswalks to high-visibility crosswalks	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	120	\$13,440
Sub Total				\$13,440
Project Subtotal:				\$26,880
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$4,032.00
SWPPP/WPC	3%			\$806.00
Mobilization	10%			\$2,688.00
Construction Subtotal				\$34,406.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$5,161.00
Design Engineering	15%			\$5,161.00
Construction Management	10%			\$3,441.00
Overhead and Administration	5%			\$1,720.00
Contingencies	30%			\$10,322.00
Estimated Project Cost				\$60,211.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 115
Project Location: University Dr & Florence Ln
Project Name: Downtown Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install high-visibility crosswalk				
Paint High Visibility Crosswalk	LF	\$112	50	\$5,600
Sub Total				\$5,600
Project Subtotal:				\$11,200
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$1,680.00
SWPPP/WPC	3%			\$336.00
Mobilization	10%			\$1,120.00
Construction Subtotal				\$14,336.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$2,150.00
Design Engineering	15%			\$2,150.00
Construction Management	10%			\$1,434.00
Overhead and Administration	5%			\$717.00
Contingencies	30%			\$4,301.00
Estimated Project Cost				\$25,088.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 116
Project Location: University Dr & Middle Ave
Project Name: Downtown Mobility Improvements

Project Tasks				
Convert existing crosswalks to high-visibility crosswalks	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	180	\$20,160
Sub Total				\$20,160
Project Subtotal:				\$40,320
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$6,048.00
SWPPP/WPC	3%			\$1,210.00
Mobilization	10%			\$4,032.00
Construction Subtotal				\$51,610.00
	% of Contruction Subtotal			
Miscellaneous Items	15%			\$7,742.00
Design Engineering	15%			\$7,742.00
Construction Management	10%			\$5,161.00
Overhead and Administration	5%			\$2,581.00
Contingencies	30%			\$15,483.00
Estimated Project Cost				\$90,319.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 118

Project Location: Middle Ave from University Dr to Olive St
 Project Name: Middle Ave Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes (requires removal of on-street parking on one side of the street)				
	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	4,000	\$80,000
Sub Total				\$80,000
Install new sidewalk or replace existing asphalt pathway on both sides of Middle Ave, to be completed in phases as properties are redeveloped				
	Unit	Unit Cost	Qty	Cost
Construct Asphalt Sidewalk	LF	\$16	2,535	\$40,560
Complexity Factor: Landscaping, Public Outreach, Utilities	LS	50%	40,560	\$20,280
Sub Total				\$60,840
Project Subtotal:				\$140,840
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%		\$21,126.00	
SWPPP/WPC	3%		\$4,225.00	
Mobilization	10%		\$14,084.00	
Construction Subtotal			\$180,275.00	
	% of Construction Subtotal			
Miscellaneous Items	15%		\$27,041.00	
Design Engineering	15%		\$27,041.00	
Construction Management	10%		\$18,028.00	
Overhead and Administration	5%		\$9,014.00	
Contingencies	30%		\$54,083.00	
Estimated Project Cost			\$315,482.00	

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 120

Project Location: Blake St from Middle Ave to College Ave
Project Name: Allied Arts Neighborhood Project

Project Tasks				
Install sidewalk or asphalt pathway on at least one side of Blake St	Unit	Unit Cost	Qty	Cost
Construct Asphalt Sidewalk	LF	\$16	420	\$6,720
Construct Concrete Curb & Gutter	LF	\$27	420	\$11,130
Complexity Factor: Utilities, Landscaping, Curb & Gutter, Public Outreach	LS	50%	\$17,850	\$8,925
Sub Total				\$26,775
Project Subtotal:				\$53,550
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,033.00
SWPPP/WPC	3%			\$1,607.00
Mobilization	10%			\$5,355.00
Construction Subtotal				\$68,545.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$10,282.00
Design Engineering	15%			\$10,282.00
Construction Management	10%			\$6,855.00
Overhead and Administration	5%			\$3,427.00
Contingencies	30%			\$20,564.00
Estimated Project Cost				\$119,955.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 123

Project Location: Arbor Rd from Valparaiso Ave to Santa Cruz Ave

Project Name: West Menlo Mobility Improvements

Project Tasks				
Install asphalt pathway on the north side of Arbor Rd	Unit	Unit Cost	Qty	Cost
Acquire Public ROW	SQFT	\$200	12,600	\$2,520,000
Construct Asphalt Sidewalk	LF	\$16	2,100	\$33,600
Complexity Factor: Utilities, Landscaping, Curb & Gutter, Public Outreach	LS	100%	2,553,600	\$2,553,600
Sub Total				\$5,107,200
Project Subtotal:				\$5,107,200
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$766,080.00
SWPPP/WPC	3%			\$153,216.00
Mobilization	10%			\$510,720.00
Construction Subtotal				\$6,537,216.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$980,582.00
Design Engineering	15%			\$980,582.00
Construction Management	10%			\$653,722.00
Overhead and Administration	5%			\$326,861.00
Contingencies	30%			\$1,961,165.00
Estimated Project Cost				\$11,440,128.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 124

Project Location: San Mateo Dr from Valparaiso Ave to City Limit

Project Name: West Menlo Mobility Improvements

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	5,808	\$29,040
Sub Total				\$29,040
Project Subtotal:				\$58,080
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,712.00
SWPPP/WPC	3%			\$1,742.00
Mobilization	10%			\$5,808.00
Construction Subtotal				\$74,342.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$11,151.00
Design Engineering	15%			\$11,151.00
Construction Management	10%			\$7,434.00
Overhead and Administration	5%			\$3,717.00
Contingencies	30%			\$22,303.00
Estimated Project Cost				\$130,098.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 125
Project Location: Santa Cruz Ave & San Mateo Dr
Project Name: West Menlo Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install more prominent wayfinding signage for bike bridge				
Furnish & Install Wayfinding Sign	EA	\$150	4	\$600
Sub Total				\$600
Install bulb-out on southwest corner into San Mateo Dr				
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	500	\$20,000
Install Storm Drain Inlet	EA	\$3,500	1	\$3,500
Sub Total				\$23,500
Install high-visibility crosswalk on south San Mateo Dr leg				
Paint High Visibility Crosswalk	LF	\$112	60	\$6,720
Sub Total				\$6,720
Project Subtotal:				\$61,640
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$9,246.00
SWPPP/WPC	3%			\$1,849.00
Mobilization	10%			\$6,164.00
Construction Subtotal				\$78,899.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$11,835.00
Design Engineering	15%			\$11,835.00
Construction Management	10%			\$7,890.00
Overhead and Administration	5%			\$3,945.00
Contingencies	30%			\$23,670.00
Estimated Project Cost				\$138,074.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 126

Project Location: Wallea Dr from San Mateo Dr to San Mateo Dr

Project Name: West Menlo Mobility Improvements

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	1,600	\$8,000
Sub Total				\$8,000
Project Subtotal:				\$16,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$2,400.00
SWPPP/WPC	3%			\$480.00
Mobilization	10%			\$1,600.00
Construction Subtotal				\$20,480.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$3,072.00
Design Engineering	15%			\$3,072.00
Construction Management	10%			\$2,048.00
Overhead and Administration	5%			\$1,024.00
Contingencies	30%			\$6,144.00
Estimated Project Cost				\$35,840.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 127
Project Location: San Mateo Dr & Middle Ave
Project Name: West Menlo Mobility Improvements

Project Tasks	Unit	Unit Cost	Qty	Cost
Install bulb-outs on the northwest and Southwest corners into Middle Ave				
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	640	\$25,600
Sub Total				\$25,600
Install a high visibility crosswalk across the east leg				
Paint High Visibility Crosswalk	LF	\$112	70	\$7,840
Sub Total				\$7,840
Install curb ramps all corners				
Construct Curb Ramp with Truncated domes	EA	\$5,000	4	\$20,000
Install Storm Drain Inlet	EA	\$3,500	1	\$3,500
Sub Total				\$23,500
Move existing curb ramp into extended area. Restripe existing high-visibility crosswalk to reduce crossing distance				
Construct Curb Ramp with Truncated domes	EA	\$5,000	1	\$5,000
Sub Total				\$5,000
Project Subtotal:				\$61,940
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$9,291.00
SWPPP/WPC	3%			\$1,858.00
Mobilization	10%			\$6,194.00
Construction Subtotal				\$79,283.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$11,892.00
Design Engineering	15%			\$11,892.00
Construction Management	10%			\$7,928.00
Overhead and Administration	5%			\$3,964.00
Contingencies	30%			\$23,785.00
Estimated Project Cost				\$138,744.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 128

Project Location: Elder Ave from Valparaiso Ave to Elder Ct
 Project Name: West Menlo Mobility Improvements

Project Tasks				
Restrict on-street parking on the north side of Elder Ave during school hours to provide a clear walkway	Unit	Unit Cost	Qty	Cost
Install Sign (Strap & Saddle Bracket)	EA	\$217	13	\$2,893
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	13	\$3,333
Sub Total				\$6,227
Project Subtotal:				\$12,453
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$1,868.00
SWPPP/WPC	3%			\$374.00
Mobilization	10%			\$1,245.00
Construction Subtotal				\$15,940.33
	% of Construction Subtotal			
Miscellaneous Items	15%			\$2,391.00
Design Engineering	15%			\$2,391.00
Construction Management	10%			\$1,594.00
Overhead and Administration	5%			\$797.00
Contingencies	30%			\$4,782.00
Estimated Project Cost				\$27,895.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 129

Project Location: Olive St from Oak Ave to Santa Cruz Ave
 Project Name: West Menlo Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes between Santa Cruz Ave and Middle Ave (requires parking removal on at least one side of the street)				
	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	2,100	\$42,000
Sub Total				\$42,000
Designate Class III Bicycle Route between Middle Ave and Oak Ave				
	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	550	\$2,750
Sub Total				\$2,750
Implement Bicycle Boulevard design features				
	Unit	Unit Cost	Qty	Cost
Furnish & Install Bicycle Blvd Design Features	LF	\$35	2,550	\$89,250
Sub Total				\$89,250
Install High visibility crosswalk across the north leg of the intersection at Stanford Ave and Olive Ave				
	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	60	\$6,720
Sub Total				\$6,720
Project Subtotal:				\$140,720
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$21,108.00
SWPPP/WPC	3%			\$4,222.00
Mobilization	10%			\$14,072.00
Construction Subtotal				\$180,122.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$27,018.00
Design Engineering	15%			\$27,018.00
Construction Management	10%			\$18,012.00
Overhead and Administration	5%			\$9,006.00
Contingencies	30%			\$54,037.00
Estimated Project Cost				\$315,213.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 130

Project Location: Santa Cruz Ave & Sharon Rd-Oakdell Dr

Project Name: West Menlo Mobility Improvements

Project Tasks	Unit	Unit Cost	Qty	Cost
Evaluate relocation of existing crosswalk	LS	\$ 8,000	1	\$8,000
Sub Total				\$8,000
Project Subtotal:				\$16,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$2,400.00
SWPPP/WPC	3%			\$480.00
Mobilization	10%			\$1,600.00
Construction Subtotal				\$20,480.00
	% of Contruction Subtotal			
Miscellaneous Items	15%			\$3,072.00
Design Engineering	15%			\$3,072.00
Construction Management	10%			\$2,048.00
Overhead and Administration	5%			\$1,024.00
Contingencies	30%			\$6,144.00
Estimated Project Cost				\$35,840.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 131

Project Location: Oakdell Dr from Olive St to Santa Cruz Ave

Project Name: West Menlo Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Designate Class III Bicycle Route				
Install Class III Bike Route	LF	\$5	3,400	\$17,000
Sub Total				\$17,000
Implement Bicycle Boulevard design features				
Furnish & Install Bicycle Blvd Design Features	LF	\$35	3,400	\$119,000
Sub Total				\$119,000
Project Subtotal:				\$136,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$20,400.00
SWPPP/WPC	3%			\$4,080.00
Mobilization	10%			\$13,600.00
Construction Subtotal				\$174,080.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$26,112.00
Design Engineering	15%			\$26,112.00
Construction Management	10%			\$17,408.00
Overhead and Administration	5%			\$8,704.00
Contingencies	30%			\$52,224.00
Estimated Project Cost				\$304,640.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 132

Project Location: Santa Cruz Ave from Olive St to Orange Ave
 Project Name: West Menlo Mobility Improvements

Project Tasks				
Install new sidewalk or replace existing asphalt pathway on both sides of Santa Cruz Ave, to be completed in phases as properties are redeveloped	Unit	Unit Cost	Qty	Cost
Acquire Public ROW	SQFT	200	0	\$0
Construct Asphalt Sidewalk	LF	\$16	850	\$13,600
Complexity Factor: Utilites, Landscaping, Public Outreach	LS	75%	13,600	\$10,200
Sub Total				\$23,800
Project Subtotal:				\$47,600
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$7,140.00
SWPPP/WPC	3%			\$1,428.00
Mobilization	10%			\$4,760.00
Construction Subtotal				\$60,928.00
	% of Contruction Subtotal			
Miscellaneous Items	15%			\$9,139.00
Design Engineering	15%			\$9,139.00
Construction Management	10%			\$6,093.00
Overhead and Administration	5%			\$3,046.00
Contingencies	30%			\$18,278.00
Estimated Project Cost				\$106,623.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Fee Update
Date: January 13, 2020
Project Number: 133

Project Location: Santa Cruz Ave & Orange Ave-Avy Ave
Project Name: West Menlo Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install traffic signal				
Install Traffic Signal	EA	\$400,000	1	\$400,000
Sub Total				\$400,000
Reduce curb radius at southeast corner of intersection				
Relocate Existing Utilities	LS	10%	400,000	\$40,000
Construct Concrete Curb & Gutter	LF	\$27	75	\$1,988
Complexity Factor: Curb & Gutter	LS	10%	400,000	\$40,000
Sub Total				\$81,988
Bring bicycle lane to the left of the northbound Santa Cruz Ave right-turn lane				
Remove Thermoplastic Traffic Markings	LF	\$3	250	\$750
Install Thermoplastic Pavement Markings	LF	\$4	250	\$1,000
Sub Total				\$1,750
Project Subtotal:				\$483,738
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$72,561.00
SWPPP/WPC	3%			\$14,512.00
Mobilization	10%			\$48,374.00
Construction Subtotal				\$619,184.50
	% of Construction Subtotal			
Miscellaneous Items	15%			\$92,878.00
Design Engineering	15%			\$92,878.00
Construction Management	10%			\$61,918.00
Overhead and Administration	5%			\$30,959.00
Contingencies	30%			\$185,755.00
Estimated Project Cost				\$1,083,573.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Fee Update
Date: January 13, 2020
Project Number: 134

Project Location: Avy Ave from Santa Cruz Ave to Monte Rosa Dr

Project Name: West Menlo Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes (parking removal required)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	3,700	\$74,000
Sub Total				\$74,000
Coordinate with County on bicycle facility connectivity				
Coordinate with San Mateo County	LS	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Subtotal:				\$74,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$11,100.00
SWPPP/WPC	3%			\$2,220.00
Mobilization	10%			\$7,400.00
Construction Subtotal				\$94,720.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$14,208.00
Design Engineering	15%			\$14,208.00
Construction Management	10%			\$9,472.00
Overhead and Administration	5%			\$4,736.00
Contingencies	30%			\$28,416.00
Estimated Project Cost				\$165,760.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 135

Project Location: Harkins Ave from Altschul Ave to 170 feet east of Altschul Ave
 Project Name: West Menlo Mobility Improvements

Project Tasks				
Close pedestrian infrastructure gap on northern side of Harkins Ave with sidewalk or asphalt pathway	Unit	Unit Cost	Qty	Cost
Construct Asphalt Sidewalk	LF	\$16	375	\$6,000
Complexity Factor: Curb & Gutter	LS	10%	6,000	\$600
Acquire Public ROW	SQFT	\$200	2,250	\$450,000
Sub Total				\$456,600
Project Subtotal:				\$456,600
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$68,490.00
SWPPP/WPC	3%			\$13,698.00
Mobilization	10%			\$45,660.00
Construction Subtotal				\$584,448.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$87,667.00
Design Engineering	15%			\$87,667.00
Construction Management	10%			\$58,445.00
Overhead and Administration	5%			\$29,222.00
Contingencies	30%			\$175,334.00
Estimated Project Cost				\$1,022,783.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 136

Project Location: Sharon Rd from Altschul Ave to Alameda de las Pulgas

Project Name: West Menlo Mobility Improvements

Project Tasks	Unit	Unit Cost	Qty	Cost
Install sidewalk on the north side of Sharon Rd (requires parking removal on one side of the street)				
Acquire Public ROW	SQFT	200	0	\$0
Construct Concrete Sidewalk	SQFT	\$10	4,200	\$41,874
Complexity Factor: Utility, Landscaping, Curb & Gutter, Outreach	LS	50%	41,874	\$20,937
Sub Total				\$62,811
Project Estimate:				\$62,811

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 137
Project Location: Altschul Ave & Harkins Ave
Project Name: West Menlo Mobility Improvements

Project Tasks				
Install curb ramp at southeast corner with extended curb into Altschul Ave				
	Unit	Unit Cost	Qty	Cost
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	240	\$9,600
Drainage Improvements	LS	\$5,000	1	\$5,000
Complexity Factor: Utilities	LS	100%	14,600	\$14,600
Sub Total				\$29,200
Extend curb into Altschul Ave at existing ramp at southwest corner such that resulting path of travel is 24 feet across south leg of Altschul Ave				
	Unit	Unit Cost	Qty	Cost
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	96	\$3,840
Drainage Improvements	LS	\$5,000	1	\$5,000
Complexity Factor: Utilities	LS	100%	8,840	\$8,840
Sub Total				\$17,680
Project Subtotal:				\$93,760
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%	\$14,064.00		
SWPPP/WPC	3%	\$2,813.00		
Mobilization	10%	\$9,376.00		
Construction Subtotal				\$120,013.00
	% of Construction Subtotal			
Miscellaneous Items	15%	\$18,002.00		
Design Engineering	15%	\$18,002.00		
Construction Management	10%	\$12,001.00		
Overhead and Administration	5%	\$6,001.00		
Contingencies	30%	\$36,004.00		
Estimated Project Cost				\$210,023.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Fee Update
 Date: January 13, 2020
 Project Number: 138

Project Location: Altschul Ave from Avy Ave to Sharon Rd
 Project Name: West Menlo Mobility Improvements

Project Tasks				
Designate southbound Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	1,000	\$5,000
Sub Total				\$5,000
Establish contraflow Class II Bicycle Lane northbound (may require additional pavement)				
	Unit	Unit Cost	Qty	Cost
Install Class IV Separated Bikeway	LF	\$35	1,000	\$35,000
Acquire Public ROW	SQFT	\$200	0	\$0
Mill & Resurface Roadway	FT/LANE	\$219	1,000	\$218,987
Sub Total				\$253,987
Project Subtotal:				\$258,987
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%		\$38,848.00	
SWPPP/WPC	3%		\$7,770.00	
Mobilization	10%		\$25,899.00	
Construction Subtotal			\$331,503.74	
	% of Construction Subtotal			
Miscellaneous Items	15%			\$49,726.00
Design Engineering	15%			\$49,726.00
Construction Management	10%			\$33,150.00
Overhead and Administration	5%			\$16,575.00
Contingencies	30%			\$99,451.00
Estimated Project Cost				\$580,132.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 139

Project Location: Sharon Rd from Sharon Park Dr to Alameda de las Pulgas

Project Name: West Menlo Mobility Improvements

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	2,900	\$14,500
Sub Total				\$14,500
Project Subtotal:				\$29,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$4,350.00
SWPPP/WPC	3%			\$870.00
Mobilization	10%			\$2,900.00
Construction Subtotal				\$37,120.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$5,568.00
Design Engineering	15%			\$5,568.00
Construction Management	10%			\$3,712.00
Overhead and Administration	5%			\$1,856.00
Contingencies	30%			\$11,136.00
Estimated Project Cost				\$64,960.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 140

Project Location: Sharon Park Dr from Klamath Dr to Eastridge Ave
 Project Name: West Menlo Mobility Improvements

Project Tasks				
Restrict on-street parking on Sharon Park Dr during school hours to provide a clear walkway	Unit	Unit Cost	Qty	Cost
Install Sign (Strap & Saddle Bracket)	EA	\$217	37	\$8,101
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	37	\$9,333
Sub Total				\$17,435
Project Subtotal:				\$34,869
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$5,230.00
SWPPP/WPC	3%			\$1,046.00
Mobilization	10%			\$3,487.00
Construction Subtotal				\$44,632.33
	% of Construction Subtotal			
Miscellaneous Items	15%			\$6,695.00
Design Engineering	15%			\$6,695.00
Construction Management	10%			\$4,463.00
Overhead and Administration	5%			\$2,232.00
Contingencies	30%			\$13,390.00
Estimated Project Cost				\$78,107.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 141

Project Location: Monte Rosa Dr from Avy Ave to Sharon Park Dr

Project Name: West Menlo Mobility Improvements

Project Tasks				
Designate Class III Bicycle Route	Unit	Unit Cost	Qty	Cost
Install Class III Bike Route	LF	\$5	4,000	\$20,000
Sub Total				\$20,000
Project Subtotal:				\$40,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$6,000.00
SWPPP/WPC	3%			\$1,200.00
Mobilization	10%			\$4,000.00
Construction Subtotal				\$51,200.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$7,680.00
Design Engineering	15%			\$7,680.00
Construction Management	10%			\$5,120.00
Overhead and Administration	5%			\$2,560.00
Contingencies	30%			\$15,360.00
Estimated Project Cost				\$89,600.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 142

Project Location: Oak Ave from Oak Knoll Ln to Sand Hill Rd
 Project Name: West Menlo Mobility Improvements

Project Tasks				
Restrict on-street parking on the east side of Oak Ave during school hours to provide a clear walkway	Unit	Unit Cost	Qty	Cost
Install Sign (Strap & Saddle Bracket)	EA	\$217	9	\$2,025
Furnish Single Sheet Sign (ie. Parking or Signing Sign)	EA	\$250	9	\$2,333
Sub Total				\$4,359
Project Subtotal:				\$8,717
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$1,308.00
SWPPP/WPC	3%			\$262.00
Mobilization	10%			\$872.00
Construction Subtotal				\$11,159.33
	% of Construction Subtotal			
Miscellaneous Items	15%			\$1,674.00
Design Engineering	15%			\$1,674.00
Construction Management	10%			\$1,116.00
Overhead and Administration	5%			\$558.00
Contingencies	30%			\$3,348.00
Estimated Project Cost				\$19,529.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 143
Project Location: Sand Hill Rd & Oak Ave
Project Name: Sand Hill Rd Corridor Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Reconstruct northwest corner and move pedestrian signal pole and signal pole for westbound traffic to meet ADA requirements				
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Install Push Button Post	EA	\$1,000	1	\$1,000
Sub Total				\$11,000
Increase pedestrian crossing time				
Extend Pedestrian Crossing Time	EA Intersection	\$5,000.00	1	\$5,000.00
Sub Total				\$5,000.00
Convert existing north Oak Ave leg crosswalk to high-visibility				
Paint High Visibility Crosswalk	LF	\$112	70	\$7,840
Sub Total				\$7,840
Install wayfinding signage to trail				
Furnish & Install Wayfinding Sign	EA	\$150	4	\$600
Sub Total				\$600
Install high-visibility crosswalks on west and east Sand Hill Rd legs				
Paint High Visibility Crosswalk	LF	\$112	160	\$17,920
Sub Total				\$17,920
Remove finger median located within intersection				
Remove Concrete Curb & Gutter	LF	\$31	90	\$2,790
Remove Concrete	SQFT	\$22	100	\$2,200
Sub Total				\$4,990
Install two-stage left-turn boxes on westbound Sand Hill Rd and southbound Oak Ave				
Paint "jughandle" Bicycle left turn	EA Box	\$1,000	1	\$1,000
Sub Total				\$1,000
Install two-way bicycle signals on northwest and southwest corners				
Furnish & Install Bicycle Signal Head	EA	\$1,000	2	\$2,000
Sub Total				\$2,000
Prohibit southbound Oak Ave and westbound Sand Hill Rd right-turns on red				
Modify Traffic Signal	LS	\$75,000	1	\$75,000
Sub Total				\$75,000
Project Subtotal:				\$125,350
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$18,803.00
SWPPP/WPC	3%			\$3,761.00
Mobilization	10%			\$12,535.00
Construction Subtotal				\$160,449.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$24,067.00
Design Engineering	15%			\$24,067.00
Construction Management	10%			\$16,045.00
Overhead and Administration	5%			\$8,022.00
Contingencies	30%			\$48,135.00
Estimated Project Cost				\$280,785.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 144
Project Location: Sand Hill Rd & Santa Cruz Ave
Project Name: Sand Hill Rd Corridor Project

Project Tasks	Unit	Unit Cost	Qty	Cost
Install high-visibility crosswalks				
Paint High Visibility Crosswalk	LF	\$112	460	\$51,520
Sub Total				\$51,520
Install LED sign for southbound Santa Cruz Ave right-turn on red restriction				
Furnish & Install LED Sign	EA	\$16,000	1	\$16,000
Sub Total				\$16,000
Coordinate with San Mateo County				
Coordinate with San Mateo County	LS	\$0.00	1	\$0.00
Sub Total				\$0.00
Project Subtotal:				\$67,520
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$10,128.00
SWPPP/WPC	3%			\$2,026.00
Mobilization	10%			\$6,752.00
Construction Subtotal				\$86,426.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$12,964.00
Design Engineering	15%			\$12,964.00
Construction Management	10%			\$8,643.00
Overhead and Administration	5%			\$4,321.00
Contingencies	30%			\$25,928.00
Estimated Project Cost				\$151,246.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 145

Project Location: Sand Hill Rd & Santa Cruz Ave Pedestrian Network Improvements
 Project Name: Sand Hill Rd Corridor Project

Project Tasks				
Repair existing asphalt path along the south side of Sand Hill Rd for a length of 400 feet west of Santa Cruz Ave	Unit	Unit Cost	Qty	Cost
Construct Asphalt Sidewalk	LF	\$16	400	\$6,400
Sub Total				\$6,400
Reconstruct path east of Santa Cruz Ave, south of Sand Hill Rd to meet current Class I Multi-Use Path design standards	Unit	Unit Cost	Qty	Cost
Construct Class I - Multiuse Path	LF	\$355	1,750	\$621,250
Install Green Infrastructure	LS	\$20,000	5	\$100,000
Sub Total				\$721,250
Project Subtotal:				\$727,650
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$109,148.00
SWPPP/WPC	3%			\$21,830.00
Mobilization	10%			\$72,765.00
Construction Subtotal				\$931,393.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$139,709.00
Design Engineering	15%			\$139,709.00
Construction Management	10%			\$93,139.00
Overhead and Administration	5%			\$46,570.00
Contingencies	30%			\$279,418.00
Estimated Project Cost				\$1,629,938.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 146
Project Location: Sand Hill Rd & Sharon Park Dr
Project Name: Sand Hill Rd Corridor Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Upgrade existing crosswalks to high-visibility				
Paint High Visibility Crosswalk	LF	\$112	191	\$21,392
Sub Total				\$21,392
Install high-visibility crosswalk and pedestrian signal heads on west leg of Sand Hill Rd				
Paint High Visibility Crosswalk	LF	\$112	120	\$13,440
Furnish & Install Pedestrian Countdown Signal Heads	EA	\$540	2	\$1,080
Sub Total				\$14,520
Would require construction of curb ramps and reconstruction of existing median on west Sand Hill Rd leg				
Construct Curb Ramp with Truncated domes	EA	\$5,000	6	\$30,000
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	100	\$2,000
Sub Total				\$32,000
Reconstruct nose in front of traffic signal on east Sand Hill Rd leg to provide clear crosswalk				
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	10	\$200
Construct Concrete Curb & Gutter	LF	\$27	10	\$265
Sub Total				\$465
Project Subtotal:				\$68,377
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$10,257.00
SWPPP/WPC	3%			\$2,051.00
Mobilization	10%			\$6,838.00
Construction Subtotal				\$87,523.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$13,128.00
Design Engineering	15%			\$13,128.00
Construction Management	10%			\$8,752.00
Overhead and Administration	5%			\$4,376.00
Contingencies	30%			\$26,257.00
Estimated Project Cost				\$153,164.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 147
Project Location: Sand Hill Rd & Branner Dr
Project Name: Sand Hill Rd Corridor Project

Project Tasks				
Widen pedestrian refuge islands to match crosswalk widths on north and south Branner Dr legs	Unit	Unit Cost	Qty	Cost
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	48	\$960
Construct Concrete Curb & Gutter	LF	\$27	24	\$636
Sub Total				\$1,596
Reconstruct nose in front of traffic signal on east Sand Hill Rd leg to provide clear crosswalk	Unit	Unit Cost	Qty	Cost
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	12	\$240
Construct Concrete Curb & Gutter	LF	\$27	10	\$265
Sub Total				\$505
Upgrade crosswalks to high-visibility	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	300	\$33,600
Sub Total				\$33,600
Project Subtotal:				\$71,402
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$10,710.00
SWPPP/WPC	3%			\$2,142.00
Mobilization	10%			\$7,140.00
Construction Subtotal				\$91,394.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$13,709.00
Design Engineering	15%			\$13,709.00
Construction Management	10%			\$9,139.00
Overhead and Administration	5%			\$4,570.00
Contingencies	30%			\$27,418.00
Estimated Project Cost				\$159,939.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 148
Project Location: Sand Hill Rd & Saga Wy
Project Name: Sand Hill Rd Corridor Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Widen pedestrian refuge islands to match crosswalk widths on north and south Saga Wy legs				
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	28	\$560
Construct Concrete Curb & Gutter	LF	\$27	16	\$424
Sub Total				\$984
Reconstruct nose in front of traffic signal on west Sand Hill Rd leg to provide clear crosswalk				
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	8	\$160
Construct Concrete Curb & Gutter	LF	\$27	4	\$106
Sub Total				\$266
Reduce curb radius of southwest and southeast corners and reconstruct curb ramps				
Remove Concrete Curb & Gutter	LF	\$31	100	\$3,100
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	264	\$5,280
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Complexity Factor: Curb & Gutter	LS	10%	18,380	\$1,838
Sub Total				\$20,218
Upgrade existing crosswalks to high-visibility				
Paint High Visibility Crosswalk	LF	\$112	300	\$33,600
Sub Total				\$33,600
Project Subtotal:				\$55,068
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,260.00
SWPPP/WPC	3%			\$1,652.00
Mobilization	10%			\$5,507.00
Construction Subtotal				\$70,487.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$10,573.00
Design Engineering	15%			\$10,573.00
Construction Management	10%			\$7,049.00
Overhead and Administration	5%			\$3,524.00
Contingencies	30%			\$21,146.00
Estimated Project Cost				\$123,352.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 149
Project Location: Sand Hill Rd & Monte Rosa Wy
Project Name: Sand Hill Rd Corridor Project

Project Tasks				
Reconstruct channelizing island to match pedestrian refuge area to width of crosswalk on Monte Rosa Dr leg	Unit	Unit Cost	Qty	Cost
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	71	\$1,420
Remove Concrete Curb & Gutter	LF	\$31	47	\$1,457
Construct Concrete Curb & Gutter	LF	\$27	31	\$822
Sub Total				\$3,699
Upgrade crosswalks to high-visibility	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	100	\$11,200
Sub Total				\$11,200
Project Subtotal:				\$29,797
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$4,470.00
SWPPP/WPC	3%			\$894.00
Mobilization	10%			\$2,980.00
Construction Subtotal				\$38,141.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$5,721.00
Design Engineering	15%			\$5,721.00
Construction Management	10%			\$3,814.00
Overhead and Administration	5%			\$1,907.00
Contingencies	30%			\$11,442.00
Estimated Project Cost				\$66,746.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 150

Project Location: Sand Hill Rd & 2725-2775 Sand Hill Rd

Project Name: Sand Hill Rd Corridor Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Upgrade crosswalks to high-visibility				
Paint High Visibility Crosswalk	LF	\$112	325	\$36,400
Sub Total				\$36,400
Project Subtotal:				\$72,800
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$10,920.00
SWPPP/WPC	3%			\$2,184.00
Mobilization	10%			\$7,280.00
Construction Subtotal				\$93,184.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$13,978.00
Design Engineering	15%			\$13,978.00
Construction Management	10%			\$9,318.00
Overhead and Administration	5%			\$4,659.00
Contingencies	30%			\$27,955.00
Estimated Project Cost				\$163,072.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 151

Project Location: Sand Hill Rd & 2882-2884 Sand Hill Rd

Project Name: Sand Hill Rd Corridor Project

Project Tasks				
Upgrade crosswalks to high-visibility	Unit	Unit Cost	Qty	Cost
Paint High Visibility Crosswalk	LF	\$112	165	\$18,480
Sub Total				\$18,480
Project Subtotal:				\$36,960
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$5,544.00
SWPPP/WPC	3%			\$1,109.00
Mobilization	10%			\$3,696.00
Construction Subtotal				\$47,309.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$7,096.00
Design Engineering	15%			\$7,096.00
Construction Management	10%			\$4,731.00
Overhead and Administration	5%			\$2,365.00
Contingencies	30%			\$14,193.00
Estimated Project Cost				\$82,790.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 152

Project Location: Sand Hill Rd & I-280 Northbound Ramps

Project Name: Sand Hill Rd Corridor Project

Project Tasks

Modify the signal-timing plan during the p.m. peak hour to increase the maximum allocation of green time to the westbound Sand Hill Rd approach	Unit	Unit Cost	Qty	Cost
Modify Signal Timing	EA Intersection	\$5,000.00	1	\$5,000.00
Sub Total				\$5,000.00
Add northbound right-turn lane on the I-280 northbound off-ramp				
	Unit	Unit Cost	Qty	Cost
Remove Concrete Curb & Gutter	LF	\$31	350	\$10,850
Mill & Resurface Roadway	FT/LANE	\$219	350	\$76,645
Install 6" Thermoplastic Stripe	LF	\$4	2,000	\$8,000
Paint Large Arrows	EA	\$294	3	\$882
Complexity Factor: Curb & Gutter	LF	\$27	350	\$9,275
Sub Total				\$105,652

Project Subtotal: \$110,652

Construction Costs

	% of Proj. Subtotal	
Traffic Control	15%	\$16,598.00
SWPPP/WPC	3%	\$3,320.00
Mobilization	10%	\$11,065.00
Construction Subtotal		\$141,635.36
	% of Construction Subtotal	
Miscellaneous Items	15%	\$21,245.00
Design Engineering	15%	\$21,245.00
Construction Management	10%	\$14,164.00
Overhead and Administration	5%	\$7,082.00
Contingencies	30%	\$42,491.00
Estimated Project Cost		\$247,862.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 178

Project Location: Marsh Rd between Independence Dr to Scott Dr
Project Name: Marsh Road Corridor Mobility Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Establish Class II Bike Lanes				
Install Class II Bicycle Lane	LF	\$20	2,250	\$45,000
Sub Total				\$45,000
Support Caltrans District 4 Bike Plan Project Number SM-101-X14 that calls for the construction of an additional bicycle and pedestrian bridge over US 101 north of Marsh Road.				
Support Caltrans Bike/Ped Bridge Project	LS	\$0.00	1	\$13,500,000.00
Sub Total				\$13,500,000.00
Project Subtotal:				\$13,545,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$2,031,750.00
SWPPP/WPC	3%			\$406,350.00
Mobilization	10%			\$1,354,500.00
Construction Subtotal				\$17,337,600.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$2,600,640.00
Design Engineering	15%			\$2,600,640.00
Construction Management	10%			\$1,733,760.00
Overhead and Administration	5%			\$866,880.00
Contingencies	30%			\$5,201,280.00
Estimated Project Cost				\$30,340,800.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 179

Project Location: Encinal Ave between Middlefield Ave and Train Tracks
 Project Name: Encinal Ave Corridor Mobility Project

Project Tasks				
Install sidewalk or pathway on the north side of the street (requires removal of parking and landscaping)	Unit	Unit Cost	Qty	Cost
Acquire Public ROW	SQFT	200	0	\$0
Construct Asphalt Sidewalk	LF	\$16	1,700	\$27,200
Complexity Factor: Utilities, Landscaping, Outreach	LS	100%	27,200	\$27,200
Sub Total				\$54,400
Project Subtotal:				\$54,400
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,160.00
SWPPP/WPC	3%			\$1,632.00
Mobilization	10%			\$5,440.00
Construction Subtotal				\$69,632.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$10,445.00
Design Engineering	15%			\$10,445.00
Construction Management	10%			\$6,963.00
Overhead and Administration	5%			\$3,482.00
Contingencies	30%			\$20,890.00
Estimated Project Cost				\$121,857.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 180
Project Location: Encinal Ave & Laurel Way
Project Name: Encinal Ave Corridor Mobility Project

Project Tasks				
Install a bulb-out on the southwest corner extending into Encinal Ave	Unit	Unit Cost	Qty	Cost
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	66	\$2,640
Install Storm Drain Inlet	EA	\$3,500	1	\$3,500
Complexity Factor	LS	50%	6,140	\$3,070
Sub Total				\$9,210
Project Subtotal:				\$18,420
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$2,763.00
SWPPP/WPC	3%			\$553.00
Mobilization	10%			\$1,842.00
Construction Subtotal				\$23,578.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$3,537.00
Design Engineering	15%			\$3,537.00
Construction Management	10%			\$2,358.00
Overhead and Administration	5%			\$1,179.00
Contingencies	30%			\$7,073.00
Estimated Project Cost				\$41,262.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 181

Project Location: Santa Cruz Ave & University Ave (South)

Project Name: Santa Cruz Ave Corridor Mobility Project

Project Tasks				
Add a leading pedestrian phase at the intersection	Unit	Unit Cost	Qty	Cost
Add Leading Pedestrian Phase	Intersection	\$5,000.00	1	\$5,000.00
Sub Total				\$5,000.00
Project Subtotal:				\$10,000
Construction Costs				
		% of Proj. Subtotal		
Traffic Control		15%		\$1,500.00
SWPPP/WPC		3%		\$300.00
Mobilization		10%		\$1,000.00
Construction Subtotal				\$12,800.00
		% of Construction Subtotal		
Miscellaneous Items		15%		\$1,920.00
Design Engineering		15%		\$1,920.00
Construction Management		10%		\$1,280.00
Overhead and Administration		5%		\$640.00
Contingencies		30%		\$3,840.00
Estimated Project Cost				\$22,400.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 182
Project Location: Sharon Rd & Eastridge Ave
Project Name: Sharon Road Corridor Mobility Project

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Stripe east curb face red				
Paint Curb	LF	\$5	80	\$400
Sub Total				\$400
Install bulb-out on northeast corner extending into Sharon Rd				
Construct Pedestrian/Bike Bulb Out	SQFT	\$40	60	\$2,400
Install Storm Drain Inlet	EA	\$3,500	1	\$3,500
Complexity Factor: Utilities	LS	100%	5,900	\$5,900
Sub Total				\$11,800
Install high visibility crosswalk across the west leg				
Paint High Visibility Crosswalk	LF	\$112	60	\$6,720
Sub Total				\$6,720
Project Subtotal:				\$37,840
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$5,676.00
SWPPP/WPC	3%			\$1,135.00
Mobilization	10%			\$3,784.00
Construction Subtotal				\$48,435.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$7,265.00
Design Engineering	15%			\$7,265.00
Construction Management	10%			\$4,844.00
Overhead and Administration	5%			\$2,422.00
Contingencies	30%			\$14,531.00
Estimated Project Cost				\$84,762.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 183
Project Location: Sharon Rd & Sharon Park Dr
Project Name: West Menlo Mobility Improvements

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install high visibility crosswalks on all legs				
Paint High Visibility Crosswalk	LF	\$112	270	\$30,240
Sub Total				\$30,240
Install curb ramps at all corners				
Construct Curb Ramp with Truncated domes	EA	\$5,000	8	\$40,000
Sub Total				\$40,000
Project Subtotal:				\$70,240
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$10,536.00
SWPPP/WPC	3%			\$2,107.00
Mobilization	10%			\$7,024.00
Construction Subtotal				\$89,907.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$13,486.00
Design Engineering	15%			\$13,486.00
Construction Management	10%			\$8,991.00
Overhead and Administration	5%			\$4,495.00
Contingencies	30%			\$26,972.00
Estimated Project Cost				\$157,337.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 184

Project Location: Marsh Rd between Page St and Florence St
 Project Name: Marsh Rd Pedestrian Network Improvement

Project Tasks				
Install sidewalk on north side of Marsh Rd (requires the removal of parking and existing landscaping.	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	6,800	\$67,796
Complexity Factor: Curb & Gutter	LS	10%	67,796	\$6,780
Sub Total				\$74,576
Project Subtotal:				\$74,576
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$11,186.00
SWPPP/WPC	3%			\$2,237.00
Mobilization	10%			\$7,458.00
Construction Subtotal				\$95,456.60
	% of Construction Subtotal			
Miscellaneous Items	15%			\$14,318.00
Design Engineering	15%			\$14,318.00
Construction Management	10%			\$9,546.00
Overhead and Administration	5%			\$4,773.00
Contingencies	30%			\$28,637.00
Estimated Project Cost				\$167,049.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 185
Project Location: Dumbarton Rail Corridor
Project Name: Dumbarton Corridor Project

Project Tasks				
Construct pedestrian and bicycle crossing over the Dumbarton Rail Corridor at the Onetta Harris Community Center from Chilco St to Terminal Ave				
	Unit	Unit Cost	Qty	Cost
Construct Pedestrian & Bicycle Bridge	EA	\$13,500,000	1	\$2,250,000
Complexity Factor: Engineering, Coordination	LS	25%	2,250,000	\$562,500
Sub Total				\$2,812,500
Project Subtotal:				\$2,812,500
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$421,875.00
SWPPP/WPC	3%			\$84,375.00
Mobilization	10%			\$281,250.00
Construction Subtotal				\$3,600,000.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$540,000.00
Design Engineering	15%			\$540,000.00
Construction Management	10%			\$360,000.00
Overhead and Administration	5%			\$180,000.00
Contingencies	30%			\$1,080,000.00
Estimated Project Cost				\$6,300,000.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 186

Project Location: Chrysler Dr between Constitution Dr and Commonwealth Dr

Project Name: Chrysler Dr Bicycle Network Improvement

Project Tasks				
Establish Class II Bicycle Lanes (requires removal of parking)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	1,100	\$22,000
Furnish & Install Bicycle Related Sign	EA	\$700	4	\$2,800
Sub Total				\$24,800
Project Subtotal:				\$49,600
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$7,440.00
SWPPP/WPC	3%			\$1,488.00
Mobilization	10%			\$4,960.00
Construction Subtotal				\$63,488.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$9,523.00
Design Engineering	15%			\$9,523.00
Construction Management	10%			\$6,349.00
Overhead and Administration	5%			\$3,174.00
Contingencies	30%			\$19,046.00
Estimated Project Cost				\$111,103.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 187

Project Location: Ringwood Ave & Arlington Wy
 Project Name: Menlo-Atherton High School Safe Routes to School

Project Tasks	Unit	Unit Cost	Qty	Cost
Ringwood Ave				
Paint High Visibility Crosswalk	LF	\$112	55	\$6,160
Construct Curb Ramp with Truncated domes	EA	\$5,000	2	\$10,000
Furnish & Install Rapid Rectangular Flashing Beacon (RRFB)	EA	\$45,000	1	\$45,000
Sub Total				\$61,160
Project Subtotal:				\$61,160
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$9,174.00
SWPPP/WPC	3%			\$1,835.00
Mobilization	10%			\$6,116.00
Construction Subtotal				\$78,285.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$11,743.00
Design Engineering	15%			\$11,743.00
Construction Management	10%			\$7,829.00
Overhead and Administration	5%			\$3,914.00
Contingencies	30%			\$23,486.00
Estimated Project Cost				\$137,000.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 188

Project Location: El Camino Real between Creek Dr and Cambridge Ave
 Project Name: El Camino Real Corridor Improvement Project

Project Tasks				
Widen existing sidewalk on east side of El Camino Real (requires relocation of existing landscaping)	Unit	Unit Cost	Qty	Cost
Construct Concrete Sidewalk	SQFT	\$10	2,400	\$23,928
Complexity Factor: Landscaping, Coordination Effort	LS	25%	23,928	\$5,982
Sub Total				\$29,910
Project Subtotal:				\$59,820
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$8,973.00
SWPPP/WPC	3%			\$1,795.00
Mobilization	10%			\$5,982.00
Construction Subtotal				\$76,570.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$11,486.00
Design Engineering	15%			\$11,486.00
Construction Management	10%			\$7,657.00
Overhead and Administration	5%			\$3,829.00
Contingencies	30%			\$22,971.00
Estimated Project Cost				\$133,999.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 189

Project Location: University Dr between Oak Grove Ave and Santa Cruz Ave
 Project Name: Downtown Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes on University Dr (requires removal of parking on at least one side of University Dr)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	1,100	\$22,000
Remove Thermoplastic Traffic Markings	LF	\$3	344	\$1,032
Sub Total				\$23,032
Project Subtotal:				\$46,064
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$6,910.00
SWPPP/WPC	3%			\$1,382.00
Mobilization	10%			\$4,606.00
Construction Subtotal				\$58,962.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$8,844.00
Design Engineering	15%			\$8,844.00
Construction Management	10%			\$5,896.00
Overhead and Administration	5%			\$2,948.00
Contingencies	30%			\$17,689.00
Estimated Project Cost				\$103,183.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 190

Project Location: O'Connor St between Elliot Dr and City Limits

Project Name: The Willows Pedestrian Network Improvement Project

Project Tasks				
Construct sidewalk on the east and west side of O'Connor St (requires removal of parking and landscaping)	Unit	Unit Cost	Qty	Cost
Acquire Public ROW	SQFT	200	7,116	\$1,423,200
Construct Concrete Sidewalk	SQFT	\$10	13,400	\$133,598
Complexity Factor: Utilities, Landscaping, Public Outreach	LS	100%	1,556,798	\$1,556,798
Sub Total				\$3,113,596
Project Subtotal:				\$3,113,596
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$467,039.00
SWPPP/WPC	3%			\$93,408.00
Mobilization	10%			\$311,360.00
Construction Subtotal				\$3,985,403.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$597,810.00
Design Engineering	15%			\$597,810.00
Construction Management	10%			\$398,540.00
Overhead and Administration	5%			\$199,270.00
Contingencies	30%			\$1,195,621.00
Estimated Project Cost				\$6,974,454.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 191

Project Location: Menalto Ave between O'Connor St and Haight St
 Project Name: The Willows Pedestrian Network Improvement Project

Project Tasks				
Construct sidewalk on the south side of Menalto Ave (requires removal of parking and landscaping)	Unit	Unit Cost	Qty	Cost
Acquire Public ROW	SQFT	200	0	\$0
Construct Concrete Sidewalk	SQFT	\$10	3,900	\$38,883
Complexity Factor: Utilities, Landscaping, Public Outreach	LS	100%	38,883	\$38,883
Sub Total				\$77,766
Project Subtotal:				\$77,766
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$11,665.00
SWPPP/WPC	3%			\$2,333.00
Mobilization	10%			\$7,777.00
Construction Subtotal				\$99,541.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$14,931.00
Design Engineering	15%			\$14,931.00
Construction Management	10%			\$9,954.00
Overhead and Administration	5%			\$4,977.00
Contingencies	30%			\$29,862.00
Estimated Project Cost				\$174,196.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 192
Project Location: Valparaiso Ave & Politzer Dr
Project Name: West Menlo Mobility Improvements

Project Tasks	Unit	Unit Cost	Qty	Cost
Install high visibility crosswalk on Valparaiso Ave				
Paint High Visibility Crosswalk	LF	\$112	55	\$6,160
Sub Total				\$6,160
Install RRFB and advanced yield striping				
Furnish & Install Rapid Rectangular Flashing Beacon (RRFB)	EA	\$45,000	1	\$45,000
Install Advanced Yield Striping	EA Intersection	\$535	1	\$535
Sub Total				\$45,535
Project Estimate:				\$51,695

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 193

Project Location: Menlo Ave between University Dr and El Camino Real
 Project Name: Downtown Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes on Menlo Ave (requires the removal of on-street parking on one side of the street)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	3,700	\$74,000
Furnish & Install Bicycle Related Sign	EA	\$700	8	\$5,600
Sub Total				\$79,600
Project Subtotal:				\$79,600
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$11,940.00
SWPPP/WPC	3%			\$2,388.00
Mobilization	10%			\$7,960.00
Construction Subtotal				\$101,888.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$15,283.00
Design Engineering	15%			\$15,283.00
Construction Management	10%			\$10,189.00
Overhead and Administration	5%			\$5,094.00
Contingencies	30%			\$30,566.00
Estimated Project Cost				\$178,303.00

Project Cost Estimate

Agency: City of Menlo Park
 Transportation Impact Free Update
 Date: January 13, 2020
 Project Number: 19XX7

Project Location: University Dr between Menlo Ave and Live Oak Ave
 Project Name: Downtown Mobility Improvements

Project Tasks				
Establish Class II Bicycle Lanes on University Dr (requires the removal of on-street parking on both sides of the street)	Unit	Unit Cost	Qty	Cost
Install Class II Bicycle Lane	LF	\$20	1,000	\$20,000
Furnish & Install Bicycle Related Sign	EA	\$700	4	\$2,545
Sub Total				\$22,545
Project Subtotal:				\$45,091
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$6,764.00
SWPPP/WPC	3%			\$1,353.00
Mobilization	10%			\$4,509.00
Construction Subtotal				\$57,716.91
	% of Construction Subtotal			
Miscellaneous Items	15%			\$8,658.00
Design Engineering	15%			\$8,658.00
Construction Management	10%			\$5,772.00
Overhead and Administration	5%			\$2,886.00
Contingencies	30%			\$17,315.00
Estimated Project Cost				\$101,006.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Fee Update

Date: January 13, 2020

Project Number: 19XX6

Project Location: University Dr between Menlo Ave and Live Oak Ave

Project Name: Menlo Gateway Mitigation

Project Tasks	Unit	Unit Cost	Qty	Cost
Establish Class II Bicycle Lanes on University Dr (requires the removal of on-street parking on both sides of the street)				
Install Class II Bicycle Lane	LF	\$20	900	\$18,000
Furnish & Install Bicycle Related Sign	EA	\$700	3	\$1,938
Sub Total				\$19,938
Project Estimate:				\$39,877

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 19XX1
Project Location: University Ave & Bay Road
Project Name:

Project Tasks	Unit	Unit Cost	Qty	Cost
Realign the eastbound and westbound approaches to allow replacement of the east/west split-phase signal on Bay Street with standard protected signal phases in order to allow eastbound and westbound pedestrian crossings to occur simultaneously.				
Modify Traffic Signal	LS	\$ 75,000	1	\$75,000
SubTotal				\$75,000
Project Subtotal:				\$75,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$11,250.00
SWPPP/WPC	3%			\$2,250.00
Mobilization	10%			\$7,500.00
Construction Subtotal				\$96,000.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$14,400.00
Design Engineering	15%			\$14,400.00
Construction Management	10%			\$9,600.00
Overhead and Administration	5%			\$4,800.00
Contingencies	30%			\$28,800.00
Estimated Project Cost				\$168,000.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 19XX2
Project Location: University Avenue & Donohoe Street
Project Name:

Project Tasks				
Provide additional westbound lane capacity on Donohoe Street, including an extended dual left-turn pocket, dedicated through lane, and dual right-turn lanes;	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$ 75,000	1	\$75,000
SubTotal				\$75,000
Provide a southbound right-turn lane on University Avenue and lengthening the northbound turn pockets.	Unit	Unit Cost	Qty	Cost
Modify Traffic Signal	LS	\$ 75,000	1	\$ 75,000
SubTotal				\$75,000
Project Subtotal:				\$150,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$22,500.00
SWPPP/WPC	3%			\$4,500.00
Mobilization	10%			\$15,000.00
Construction Subtotal				\$192,000.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$28,800.00
Design Engineering	15%			\$28,800.00
Construction Management	10%			\$19,200.00
Overhead and Administration	5%			\$9,600.00
Contingencies	30%			\$57,600.00
Estimated Project Cost				\$336,000.00

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 19XX3
Project Location: University Avenue & US 101 SB Ramps
Project Name:

Project Tasks	Unit	Unit Cost	Qty	Cost
Widen the US 101 southbound off-ramp from 3 to 4 lanes				
Cost Estimate from EPA DIFP	Total Cost	\$1	10,000,000	\$5,000,000
Sub Total				\$5,000,000
Project Estimate:				\$5,000,000

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 19XX4
Project Location: Chilco Street & Constitution Drive
Project Name: Menlo Gateway Mitigation

Project Tasks				
	Unit	Unit Cost	Qty	Cost
Install a traffic signal and signalized crosswalks at the intersection				
Install Traffic Signal	EA	\$ 400,000	1	\$400,000
SubTotal				\$400,000
Construct three westbound lanes on the one-block segment of Chilco Street, between Bayfront Expressway and Constitution Drive, to include two southbound left-turn lanes to accommodate the volume of left-turning vehicles entering the project site.				
	Unit	Unit Cost	Qty	Cost
Earthwork Excavation (ie. Sidewalk Removal)	CY	\$20	1,755	\$35,100
Remove Existing Landscaping	LS	5%	\$ 35,100	\$1,755
Install Thermoplastic Pavement Markings	LF	\$4	900	\$3,600
Paint Small Arrows	EA	\$105	6	\$630
SubTotal				\$41,085
In addition, during the AM peak hour, provide a "split-phase" signal operation on Chilco Street.				
	Unit	Unit Cost	Qty	Cost
Modify Signal Timing	EA Intersection	\$5,000	1	\$5,000
SubTotal				\$5,000
Construct a northbound left-turn lane on Chilco Street approaching Constitution Drive.				
	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Pavement Markings	LF	\$4	300	\$1,200
Paint Small Arrows	EA	\$105	2	\$210
SubTotal				\$1,410
Construct two outbound lanes on Chilco Street between Constitution				
	Unit	Unit Cost	Qty	Cost
Install Thermoplastic Pavement Markings	LF	\$4	825	\$3,300
Paint Small Arrows	EA	105	2	\$210
SubTotal				\$3,510
Project Estimate:				\$451,005

Project Cost Estimate

Agency: City of Menlo Park
Transportation Impact Free Update
Date: January 13, 2020
Project Number: 19XX5
Project Location: Chilco Street & Hamilton
Project Name: Menlo Gateway Mitigation

Project Tasks				
Install a Traffic Signal	Unit	Unit Cost	Qty	Cost
Install Traffic Signal	EA	400000	1	\$400,000
Sub Total				\$400,000
Project Subtotal:				\$400,000
Construction Costs				
	% of Proj. Subtotal			
Traffic Control	15%			\$60,000.00
SWPPP/WPC	3%			\$12,000.00
Mobilization	10%			\$40,000.00
Construction Subtotal				\$512,000.00
	% of Construction Subtotal			
Miscellaneous Items	15%			\$76,800.00
Design Engineering	15%			\$76,800.00
Construction Management	10%			\$51,200.00
Overhead and Administration	5%			\$25,600.00
Contingencies	30%			\$153,600.00
Estimated Project Cost				\$896,000.00

Project Cost Estimate

Agency: City of Menlo Park

Transportation Impact Free Update

Date: January 13, 2020

Project Number: 19XX8

Project Location: Bayfront Expressway & University Ave

Project Name: ConnectMenlo Mitigation Measure

Project Tasks	Unit	Unit Cost	Qty	Cost
Evaluate the potential for grade separation to allow conflicting movements to occur simultaneously. The evaluation must consider traffic improvements, along with potential secondary impacts caused by potential right-of-way acquisition, impacts to adjacent wetlands and the Dumbarton Rail corridor, as well as potential impacts or benefits for multi-modal accommodation.				
Construct Grad Separation	LF	\$55,000,000	1	\$55,075,685
Sub Total				\$55,075,685
Project Estimate:				\$55,075,685