DRAFT Alameda Active Transportation Plan

Appendix A: Active Transportation Project Prioritization

SUMMARY OF PRIORITIZATION PROCESS

The priority projects included in the 2030 Infrastructure Plan list were selected through a two-step process.

First**,** all capital project recommendations from the Pedestrian Network, Bicycle Network and Trails Network chapters were scored and ranked using a data-driven evaluation process, explained in detail further below in this Appendix. The results of this prioritization process are intended to help reveal a project's ability to meet Plan goals, independent of other factors such as cost, coordination with other efforts, etc.

The bicycle project prioritization criteria were applied to both the bicycle and trail recommended projects. The scoring criteria gave the highest weight to safety, creating a connected and low stress network, and equity. Criteria also included trip potential for each project, based on a data-driven evaluation of city streets with the highest potential for bicycle trips.

The pedestrian prioritization criteria were applied differently than that for bicycling since the pedestrian network is the entire city. All public streets were scored, by segment, with the heaviest weight going toward safety, access to schools, and equity. Other criteria included access to transit, parks, libraries and commercial areas.

Almost all of the projects and street segments that ranked "high" through either the bicycle or pedestrian prioritization analyzes have been included in the 2030 Infrastructure Plan list. Other included projects were ranked "medium." In some cases, projects and street segments were ranked high for *both* walking and biking, such as along Park Street and Webster Street, illustrating a strong need for improvements and investments.

Second**,** the resulting high-ranking projects were assessed using more qualitative knowledge and expertise. The overall goals of this planning effort, including creating a connected, low-stress network that eliminates the many gaps in the existing bikeway network, was considered. The City considered the current construction and planning efforts underway that will continue to require staffing and funding resources. Projects that were not evaluated using the data-driven prioritization process were considered, such as the need for maintenance, including trail maintenance, and improving water crossings and access to them. Community priorities were also considered, as they have been expressed throughout this planning process, and others that have occurred over the past three years. Finally, known opportunities, professional judgement, funding and feasibility were layered in, to develop the 2030 Infrastructure Plan.

While a thorough process was conducted, over the next eight years, new opportunities may arise through other processes such as new development, repaving projects, or funding opportunities, and a lower-ranked project may become ripe for implementation.

PRIORITIZATION METHODOLOGY OVERVIEW

A data-driven prioritization process was the first input used to guide the selection of priority bicycle, pedestrian and trail capital projects for investments in the coming years. All projects or street segments were objectively scored and ranked, based on the plan's goals. These prioritization results will continue to be used in the future to help select street or trail segments for prioritization of improvements, such as for pedestrian crossing improvements or trail maintenance. The outputs of these prioritization processes are only one factor that were, or will be, used for final project selection.

The prioritization criteria were categorized by four of the five plan goals: Safety, Equity, Connectivity and Comfort, and Mode Shift. (The Community goal was not included since it addresses programs, and not capital projects.) There is some overlap in what each criterion is measuring. The overall weight for each goal is the highest number of points possible, based on the sum of the criteria scores under that goal. The point values for each criterion are based on weights that reflect the Plan's vision statement, City policies, City staff input, feedback received during public engagement activities completed for the Plan, and those used in other, similar plans from cities in California.

The sections below present the criteria used for the bicycle/trail and pedestrian/trail networks prioritization analysis, maps of the results of the analysis, and detailed project lists with individual project or street rankings.

PEDESTRIAN NETWORK PRIORITIZATION

The criteria in Table 1 were applied to all public street segments in the city of Alameda, which almost all include pedestrian facilities of some type, plus all walkways and shared-use trails. The results of applying these criteria are illustrated, ranked by high, medium and low score ranges, in Figure 1. Those street segments/trails that scored "High" (from 60 to 110 points) are listed in Table 2.

Prioritization criteria for the pedestrian network are shown in Table 1. These criteria were used to prioritize streets for pedestrian improvements since specific pedestrian projects were not identified as part of the Plan. The results of the pedestrian network prioritization approach will be used to identify opportunities for pedestrian crossing improvements and locations where the City can prioritize installing the pedestrian treatments in the treatment matrix.

Table 1. Pedestrian Prioritization Criteria

Criteria	Measure	Description	Points
Goal: Increase Mode Share		**Highest Number of Points Possible**	**10**
Connections to Transit	Within ¼ mile of high-frequency transit corridor or Transbay bus stops, or ferry terminals	Prioritizes projects in close proximity to major transit stops and ferry terminals to help close first-last mile gaps and enable longer trips to be taken using active transportation.[1]	10
Goal: Increase Safety		**Highest Number of Points Possible**	**45**
Pedestrian High Injury Corridor	Street is on a Pedestrian High Injury Corridor	Prioritizes making pedestrian safety improvements along streets identified as a Pedestrian High Injury Corridor. Streets rated as Tier 1 receive 35 points, streets rated as Tier 2 receive 30 points, and streets rated as Tier 3 receive 25 points.	35
High-crash intersections	Street contains intersection(s) with high crash intensity	Prioritizes street segments that intersect with more than one high-crash intersection. Defined by Vision Zero Crash Analysis. Only includes crashes involving pedestrians.	10
		Prioritizes streets that intersect with one high-crash intersection. Defined by Vision Zero Crash Analysis. Only includes crashes involving pedestrians.	5
Goal: Increase Connectivity and Comfort		**Highest Number of Points Possible**	**35**
Proximity to Schools	Street, trail, or walkway is within 600 feet of the edge of school property	Prioritizes walking facilities that connect to schools.	15
Proximity to other Community Destinations	Street has a *Community Destinations Overlay*, per the Pedestrian Street Typology	Prioritizes streets along the perimeters of parks, libraries, hospitals, senior centers, and colleges.	10
Commercial Area	Street is a *Business Main Street*, per Pedestrian Street Typology	Prioritizes walking facilities within commercial areas.	10
Goal: Increase Equity		**Highest Number of Points Possible**	**20**

[1] As of May 2022 when the criteria were developed, these Transbay routes included Line O (Santa Clara – Encinal Transbay); OX (Bay Farm – Park St. Transbay); and W (High – South Shore Transbay). High-frequency corridors are those with fixed route bus service with service intervals no longer than 15 minutes during peak weekday commute hours.

Criteria	Measure	Description	Points
Community Vulnerability Level	Street meets one of above criteria (i.e., has greater than zero points) and is within the "highest" or "high" level of community vulnerability	Further prioritizes streets, trails and walkways within areas identified as having a high share of vulnerable communities, as defined by the San Francisco Bay Conservation and Development Commission (BCDC).[2]	20
TOTAL POINTS POSSIBLE			**110**

[2] The City formalized its use of this BCDC map for assessing community vulnerability in May 2022 at the Transportation Commission meeting.

Figure 1. Pedestrian Network (Streets & Trails) Prioritization Results

Table 2. Pedestrian Network with High Prioritization Ranking

Street Name	From Extent	To Extent	Complete Streets Potential Project[3]
Central Av	Webster St	Sixth St	No
Grand St	Shoreline Dr	Otis Dr	No
Lincoln Av	Park St/Tilden Wy	Oak St	Yes
Oak St	Buena Vista Av	Lincoln Av	Yes
Oak St	Santa Clara Ave	Encinal Av	Yes
Otis Dr	Rock Isle	Park Av	No
Otis Dr	Mound St	Court St	No
Park St	Blanding Av	Shoreline Dr	Yes
Shoreline Dr	Sunset Rd	Kittyhawk Rd	No
Webster St	Willie Stargell Av	Atlantic Av	No
Webster St	Atlantic Av	Central Av	Yes

[3] Segments flagged as Complete Streets indicate street segments that ranked "High" in both the bicycle and pedestrian prioritization analyses.

BICYCLE NETWORK PRIORITIZATION

The criteria in Table 3 were applied to all of the proposed bicycle facilities included as part of the Bicycle Vision Network, including shared-used trails. Refer to *Chapter 5: Bicycle Network* in the Active Transportation Plan (ATP) for a map of the network. The results of applying these criteria are illustrated, ranked by high, medium and low score ranges, in Figure 2. All of the proposed bicycle projects included in the Bicycle Vision Network are listed in Table 4, with their Prioritization Ranking, proposed bikeway type, estimated cost and lead agency.

Note that existing bikeways and projects planned for construction by 2024 were not scored using this prioritization analysis, since they are completed or funded and underway. In addition, water crossing projects (e.g., bridges) are a high priority for the City because of the important regional connections these facilities provide, regardless of the prioritization score these projects received during this phase of the analysis.

Table 3. Bicycle Network Prioritization Criteria

Criteria	Measure	Description	Points
Goal: Increase Mode Share		**Highest Number of Points Possible**	**15**
Bicycle Trip Potential	Projects categorized based on scores generated from the trip potential analysis (see Appendix F)	Trip potential score consists of population and employment density, intersection density, percentage of households living below the poverty line, and transit. Recommended bikeways in areas with higher trip potential score higher. Bikeways were ranked based on their trip potential score derived from an area weighted average. Bikeways that rank within the top 33% receive 10 points, those in the middle receive 5 points, and those that rank below that do not receive any points for this metric.	10
Regional Connections	¼ mile from ferry terminal, high-frequency transit corridor, Transbay bus stop, or existing bridge/tubes	Prioritizes projects in close proximity to major transit stops and estuary crossings to help close first-last mile gaps and enable longer trips to be taken using active transportation.[4]	5
Goal: Increase Safety		**Highest Number of Points Possible**	**30**
Bicycle High Injury Corridor	Project is on the City's Bicycle High Injury Corridor or provides a parallel route within two blocks of the HIC	Prioritizes projects identified as High Injury Corridors for bicyclists or that provide a convenient alternative route.	15
High-crash intersections	Projects contains intersection(s) with high crash intensity	Prioritizes projects that intersect with more than one high-crash intersection. Defined by Vision Zero Crash Analysis. Only includes crashes involving bicyclists.	10
		Prioritizes projects that intersect with one high-crash intersection. Defined by Vision	5

[4] As of May 2022, these Transbay routes include Lines O (Santa Clara – Encinal Transbay); OX (Bay Farm – Park St. Transbay); and W (High – South Shore Transbay). High-frequency corridors are those with fixed route bus service with service intervals no longer than 15 minutes during peak weekday commute hours.

Criteria	Measure	Description	Points
		Zero Crash Analysis. Only includes crashes involving bicyclists.	
Level of Traffic Stress (LTS)	LTS 3 or LTS 4 or provides parallel route within two blocks (see Appendix F for map of LTS)	Prioritizes projects on segments that have higher stress levels or provide a nearby alternative route.	5
Goal: Increase Connectivity and Comfort		**Highest Number of Points Possible**	**35**
Connections to commercial streets	Is adjacent to, within one block of, intersects with or ends at a *Community Mixed-Use land use area*	Prioritizes projects that provide access to commercial corridors and businesses.	10
Direct access to Schools and other Community Destinations	Is adjacent to, within one block of, or intersects with, or ends at a school or Community Destination (e.g., park, library, or senior center)	This measure prioritizes bikeways based on whether they increase access to schools or other Community Destinations. A bikeway that intersects or is within approximately one block of a school receives 10 points. If a bikeway connects to a Community Destination but not a school, it receives 5 points. If a bikeway connects to a school and a Community Destination it receives 10 points. Community Destinations are defined in the Pedestrian Street Typology.	10
Low-stress bikeway[5]	Recommended low-stress bikeway (i.e., Shared use Path, Separated Bike Lane, or Neighborhood Greenway)	Prioritizes all ages and abilities bikeways, with special emphasis on low-stress bikeways.	5
	Recommended low-stress bikeway that connects with existing low-stress bikeway	Prioritizes all ages and abilities bikeways, with special emphasis on low-stress network connectivity.	5
	Recommended low-stress bikeway that runs north-south on main island	Prioritizes low-stress bikeways that improve north-south network connectivity on main island.	5
Goal: Increase Equity		**Highest Number of Points Possible**	**20**
Community Vulnerability Level	Recommended bikeway within the "highest" or "high" level of community vulnerability	Prioritizes projects within areas identified as having a high share of vulnerable communities, as defined by the San Francisco Bay Conservation and Development Commission (BCDC).[6]	20
TOTAL POINTS POSSIBLE			**100**

[5] Low-stress bikeway refers to the specific low-stress bikeways defined as part of the Active Transportation Plan, such as Class I Multi-Use Paths, Class IV Separated Bicycle Lanes, and Class III Neighborhood Greenways. These bikeways will increase ridership among "interested, but concerned" bicyclists.

[6] The City formalized its use of this BCDC map for assessing community vulnerability in May 2022 at the Transportation Commission meeting.

Figure 1. Bicycle Network Prioritization Results.

Table 4. Bicycle Vision Network Project List

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
145	Adelphian Wy	Mecartney Rd	Harbor Bay Pw	Neighborhood Greenway (Class IIIB)	0.12	$64,463	Low	City of Alameda
94	Alameda Av	Walnut St	Benton St/Central Av	Neighborhood Greenway (Class IIIB)	0.84	$469,186	Medium	City of Alameda
12	Alameda Point Trail	Main St Dog Park	Future DePave Park	Shared Use Path (Class I)	4.71	$21,690,042	Medium	City of Alameda
41	Atlantic Av	Constitution Wy	Sherman St/Wind River Wy	Buffered Bike Lane (Class IIB)	0.67	$219,758	Medium	City of Alameda
82	Ballena Bl	Central Av/Fourth St	Cola Ballena	Separated Bike Lane (Class IV)	0.16	$117,650	Low	City of Alameda
98	Ballena Bl	San Francisco Bay	Cola Ballena	Two-way Separated Bike Lane (Class IV)	0.68	$290,429	Low	City of Alameda
148	Bay Edge Rd	Aughinbaugh Wy/Ratto Rd	Harbor Bay Pw	Bike Lane (Class II)	0.11	$26,974	Low	City of Alameda
138	Bayview Dr	Broadway	High St/Otis Dr	Neighborhood Greenway (Class IIIB)	0.46	$258,670	Low	City of Alameda
137	Bayview Dr Connection	Bayview Dr	Bay Trail in Bird Sanctuary	Shared Use Path (Class I)	0.03	$146,714	Low	City of Alameda
140	Bird Sanctuary	Broadway	Bayview Dr Connector Trail	Shared Use Path (Class I)	0.42	$1,922,657	Low	City of Alameda
83	Blanding Av	Oak St	Park St	Separated Bike Lane (Class IV)	0.13	$93,541	High	City of Alameda
95	Blanding Av	Tilden Wy Trail	Fernside Bl/Tilden Wy	Separated Bike Lane (Class IV)	0.01	$8,745	Medium	City of Alameda
93	Blanding Av	Tilden Wy Trail	Broadway	Buffered Bike Lane (Class IIB)	0.08	$25,700	Low	City of Alameda
79+	Blanding Ave	Oak St	Elm St	Bike Lane (Class II)	0.12	$29,991	High	Private Developer
52	Buena Vista Av	Fifth St	Poggi St	Bike Lane (Class II)	0.13	$32,901	Medium	City of Alameda
163	C St Connection	Silva Ln	C St	Shared Use Path (Class I)	0.1	$450,019	Low	City of Alameda
131	Calhoun St	Versailles Av	Court St	Neighborhood Greenway (Class IIIB)	0.16	$88,647	Low	City of Alameda
157	Catalina Av	Holly St	Fontana Dr/Via Alamosa	Neighborhood Greenway (Class IIIB)	0.5	$281,823	Low	City of Alameda
129	Central Av	High St	Fernside Bl	Neighborhood Greenway (Class IIIB)	0.24	$132,042	Low	City of Alameda
76*	Central Av	Ninth St	Main St/Pacific Av/W Pacific Av	Separated Bike Lane (Class IV)	1.33	$970,362	Not Applicable	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
p	Central Av	Ninth St	Sherman St	Bike Lane (Class II)	0.39	$97,745	Not Applicable	City of Alameda
38	Challenger Dr	Marina Village Pw	Atlantic Av/Challenger Dr - Jean Sweeney Park Connection	Buffered Bike Lane (Class IIB)	0.13	$43,852	Low	City of Alameda
42	Challenger Dr - Jean Sweeney Park Connection			Shared Use Path (Class I)	0.09	$398,136	Low	
88	Chestnut St	Clement Av	Clinton Av	Neighborhood Greenway (Class IIIB)	0.8	$448,425	Medium	City of Alameda
59	Clement Av	Grand St	Ohlone St	Separated Bike Lane (Class IV)	0.16	$118,452	Low	City of Alameda
108	Clinton Av	Chestnut St	Walnut St	Neighborhood Greenway (Class IIIB)	0.36	$200,266	Low	City of Alameda
119	Clinton Av	Oak St	Park St	To Be Determined	0.05	To Be Determined	Low	City of Alameda
110	Coral Reef Pl	Sunset Rd	Coral Reef Rd	Neighborhood Greenway (Class IIIB)	0.05	$26,526	Low	City of Alameda
35	Coral Sea St	Poggi St	Willie Stargell Av	Neighborhood Greenway (Class IIIB)	0.37	$208,596	Medium	City of Alameda
37	Coronado St	Pan Am Wy	Coronado Av	Bike Lane (Class II)	0.13	$33,313	Medium	City of Alameda
128	Court St	Calhoun St	Lincoln Av	Neighborhood Greenway (Class IIIB)	0.67	$376,288	Medium	City of Alameda
139	Court St	Bayview Dr	Waterton St	Neighborhood Greenway (Class IIIB)	0.05	$29,249	Low	City of Alameda
49	Cross Alameda Trail	Sherman St	Clement Av/Encinal Basin/Entrance Rd	Separated Bike Lane (Class IV)	0.26	$192,827	Medium	Private Developer
142	Doolittle Dr	Island Dr	Harbor Bay Pw	Separated Bike Lane (Class IV)	0.5	$367,858	Low	City of Alameda
50	Eagle Av	St Charles St	Sherman St	Neighborhood Greenway (Class IIIB)	0.14	$80,162	Medium	City of Alameda
66	Eagle Av	Grand St	Hibbard St	Neighborhood Greenway (Class IIIB)	0.05	$29,979	Low	City of Alameda
85	Eighth Street Connection at Washington Park	Portola Av	Central Av	Shared Use Path (Class I)	0.13	$607,561	Medium	City of Alameda
44	Eight Street - Jean Sweeney Park Connection			Shared Use Path (Class I)	0.04	$195,030	Low	City of Alameda
55	Eighth St	Eight Street - Jean Sweeney Park Connection/Stewart Ct	90 ft southwest of Lincoln Av/Constitution Wy/Eighth St	Neighborhood Greenway (Class IIIB)	0.25	$139,072	High	City of Alameda
91	Eighth St	Westline Dr	Portola Av	Separated Bike Lane (Class IV)	0.18	$133,783	Medium	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
78+	Elm St	Blanding Ave	Clement Av	Bike Lane (Class II)	0.07	$16,820	High	Private Developer
126	Encinal Av	High St	Broadway	Buffered Bike Lane (Class IIB)	0.47	$154,307	Medium	City of Alameda
133	Encinal Av	Eastshore Dr	Fernside Bl	Neighborhood Greenway (Class IIIB)	0.09	$50,750	Medium	City of Alameda
2	Estuary Park Pathway	Mosely Av	Mitchell Ave	Shared Use Path (Class I)	0.05	$250,320	Medium	City of Alameda
118.2	Fernside Bl	High St	Blanding Av/Tilden Wy	Separated Bike Lane (Class IV)	0.49	$355,989	High	City of Alameda
118.1	Fernside Bl	San Jose Av	High St	Separated Bike Lane (Class IV)	0.87	$631,196	Medium	City of Alameda
34	Fifth St	Ralph Appezzato Memorial Pw	Willie Stargell Av	Separated Bike Lane (Class IV)	0.37	$267,607	High	City of Alameda
69	Fifth St	Central Av	Buena Vista Av	Neighborhood Greenway (Class IIIB)	0.4	$223,657	High	City of Alameda
14	Fifth St	Willie Stargell Av	Mitchell Av	Buffered Bike Lane (Class IIB)	0.35	$114,262	Medium	City of Alameda
153	Fir Av	Holly St/Oleander Av	Fir Pl/Marianas Ln	Neighborhood Greenway (Class IIIB)	0.32	$179,943	Low	City of Alameda
154	Fir Pl	Fir Av/Marianas Ln	Catalina Av	Neighborhood Greenway (Class IIIB)	0.17	$94,563	Low	City of Alameda
147	Fontana Dr	Baywood Rd/Mecartney Rd	Catalina Av/Via Alamosa	Neighborhood Greenway (Class IIIB)	0.26	$145,609	Low	City of Alameda
125	Garfield Av	Eastshore Dr/Fernside Bl	High St	Neighborhood Greenway (Class IIIB)	0.24	$132,162	Medium	City of Alameda
106	Gibbons Dr	High St	Lincoln Av	Neighborhood Greenway (Class IIIB)	0.41	$229,109	Medium	City of Alameda
89.3	Grand St	Encinal Av	Grand Marina Trail	Separated Bike Lane (Class IV)	0.74	$536,689	High	City of Alameda
89.1	Grand St	Shoreline Dr	Dayton Av	Separated Bike Lane (Class IV)	0.44	$318,951	Medium	City of Alameda
89.2	Grand St	Dayton Av	Encinal Av	Separated Bike Lane (Class IV)	0.27	$199,246	Medium	City of Alameda
77	Hancock St	W Ticonderoga Av	San Francisco Bay	Bike Lane (Class II)	0.28	$71,029	Medium	City of Alameda
77.1	Hancock St	Central Av/Lincoln Av	W Ticonderoga Av	Bike Lane (Class II)	0.03	$7,615	Low	City of Alameda
146	Harbor Bay Pw	Bay Edge Rd	Adelphian Wy	Neighborhood Greenway (Class IIIB)	0.27	$148,289	Low	City of Alameda
164	Harbor Bay Pw	Ron Cowan Pw	Shoreline Park	Separated Bike Lane (Class IV)	1.34	$976,639	Low	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
155	Harbor Bay Pw	Shoreline Park	Bay Edge Rd	Bike Lane (Class II)	0.32	$80,939	Low	City of Alameda
63	Hibbard St	Clement Av	Eagle Av	Neighborhood Greenway (Class IIIB)	0.07	$38,198	Medium	City of Alameda
113	High St	Lincoln Av	High Street Bridge/Marina Dr	Bike Route (Class III)	0.32	$6,434	Medium	City of Alameda
120	High St	Garfield Av	Lincoln Av	Neighborhood Greenway (Class IIIB)	0.02	$12,080	Low	City of Alameda
158	Holly St	Catalina Av	Fir Av/Oleander Av	Neighborhood Greenway (Class IIIB)	0.15	$85,810	Low	City of Alameda
144	Island Dr	Doolittle Dr	Mecartney Rd	Bike Lane (Class II)	0.83	$206,872	Medium	City of Alameda
152	Island Dr	Mecartney Rd	Catalina Av/N Loop Rd Connection	Buffered Bike Lane (Class IIB)	0.37	$122,391	Low	City of Alameda
116	Kittyhawk Pl	Kittyhawk Rd	Greenbrier Rd/Whitehall Pl	Neighborhood Greenway (Class IIIB)	0.05	$27,074	Medium	City of Alameda
17	Lexington St	Navy Way St/W Red Line Av	W Tower Av	Separated Bike Lane (Class IV)	0.39	$281,720	Medium	City of Alameda
73	Lincoln Av	Fifth St/Marshall Wy	Park St/Tilden Wy	Buffered Bike Lane (Class IIB)	2.41	$795,351	High	City of Alameda
104	Lincoln Av	Park St/Tilden Wy	High St	Neighborhood Greenway (Class IIIB)	0.75	$420,897	High	City of Alameda
136	Lincoln Middle School Connection	Existing Bay Trail	Eastshore Dr	Shared Use Path (Class I)	0.07	$327,119	Medium	City of Alameda
20	Main St	Central Av/Pacific Av/W Pacific Av	Navy Way St	Two-way Separated Bike Lane (Class IV)	1.4	$603,602	High	City of Alameda/ Private Developer
150	Maitland Dr	Corica Park Golf Course	Island Dr	Bike Route (Class III)	0.72	$14,390	Low	City of Alameda
161	Maitland Dr	Harbor Bay Pw	Corica Park Golf Course	Bike Lane (Class II)	0.12	$29,882	Low	City of Alameda
25	Marina Village Pw	Mariner Square Dr/Mariner Square Lp	75 ft southwest of Challenger Dr/Marina Village Pw	Buffered Bike Lane (Class IIB)	0.75	$246,240	Medium	City of Alameda
6	Mariner Square Dr	Marina Village Pw/Mariner Square Lp	Webster Tube	Separated Bike Lane (Class IV)	0.17	$125,841	Medium	City of Alameda
24	Mariner Square Lp	110 ft southwest of E Campus Dr/Mariner Square Lp/Willie Stargell Av	E Campus Dr/Willie Stargell Av	Bike Lane (Class II)	0.02	$5,227	High	City of Alameda
10	Mariner Square Lp	Mitchell Av	Marina Village Pw/Mariner Square Dr	Buffered Bike Lane (Class IIB)	0.09	$30,411	Medium	City of Alameda
62	Marshall Wy	Fifth St/Lincoln Av	Fourth St/Pacific Av	Separated Bike Lane (Class IV)	0.21	$154,206	Medium	City of Alameda
149	Mecartney Rd	Island Dr	Maitland Dr/Melrose Av	Bike Lane (Class II)	0.34	$84,470	Low	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
156	Melrose Av	Hillery Wy/Oleander Av	Maitland Dr/Mecartney Rd	Neighborhood Greenway (Class IIIB)	0.26	$144,506	Low	City of Alameda
92	Miller-Sweeney Bridge			Shared Use Path (Class I)	0.17	$770,358	Medium	City of Alameda
8	Mitchell Av	Mariner Square Lp	Fifth St	Buffered Bike Lane (Class IIB)	0.14	$47,629	Medium	City of Alameda
3	Mitchell Av	Bette St	Main St	Bike Lane (Class II)	0.57	$143,071	Not Applicable	City of Alameda
21	Monarch St	Alameda Point Trail	W Red Line Av	Two-way Separated Bike Lane (Class IV)	0.59	$254,633	Medium	City of Alameda
90	Morton St	San Antonio Av	San Jose Av	Neighborhood Greenway (Class IIIB)	0.08	$42,893	Medium	City of Alameda
28.1[+]	Mosley Av	Ralph Appezzato Memorial Pw	Willie Stargell Av	Neighborhood Greenway (Class IIIB)	0.38	$210,456	High	City of Alameda
16	Mosley Av	Carl Vinson	Singleton Av	Neighborhood Greenway (Class IIIB)	0.01	$3,913	Medium	City of Alameda
28.2[+]	Mosley Av	Willie Stargell Av	Singleton Av	Neighborhood Greenway (Class IIIB)	0.16	$87,670	Medium	Federal
9	Mosley Av	Singleton Av	Estuary Park Pathway/Monterey Ci	Bike Lane (Class II)	0.22	$53,714	Low	City of Alameda
132	Mound St	Calhoun St	Waterton St	Neighborhood Greenway (Class IIIB)	0.15	$81,693	Medium	City of Alameda
162	N Loop Rd	Harbor Bay Pw/S Loop Rd	Harbor Bay Pw	Buffered Bike Lane (Class IIB)	0.76	$252,223	Low	City of Alameda
159	N Loop Rd Connection	Catalina Av/Island Dr	N Loop Rd	Shared Use Path (Class I)	0.06	$288,003	Low	City of Alameda
4	Navy Way St	Lexington St/W Red Line Av	Third St	Separated Bike Lane (Class IV)	0.07	$51,532	Medium	City of Alameda
1	Navy Way St	Third St	Main St	Two-way Separated Bike Lane (Class IV)	0.05	$20,233	Medium	City of Alameda
31	Neptune Park	Webster St	Constitution Av	Shared Use Path (Class I)	0.08	$386,843	Medium	City of Alameda
70	Nineth St	San Antonio Av	Jean Sweeney Park	Neighborhood Greenway (Class IIIB)	0.65	$363,651	Medium	City of Alameda
99[CS]	Oak St	Clinton Av	Blanding Ave	Low Stress Bikeway - Type TBD	0.87	$634,759	High	City of Alameda
122	Oak St	Clinton Av	Park St to Otis Dr Connector/Powell St	Neighborhood Greenway (Class IIIB)	0.19	$103,424	Medium	City of Alameda
127	Oak St to Otis Dr Connector	Oak St/Powell St	Otis Dr/Park St	Shared Use Path (Class I)	0.04	$173,778	Medium	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
160	Oleander Av	Fir Av/Holly St	Magnolia Dr	Neighborhood Greenway (Class IIIB)	0.41	$226,932	Low	City of Alameda
13	Orion St	200 ft south of Orion St/Corpus Christi Rd	Main St	Separated Bike Lane (Class IV)	0.19	$139,918	High	Private Developer
58.1+	Orion St	Oriskany Av	W Atlantic Av	Separated Bike Lane (Class IV)	0.34	$245,347	High	Private Developer
27+	Orion St	140 ft south of Orion St/Coronado Av	W Midway Av	Separated Bike Lane (Class IV)	0.23	$167,776	High	Private Developer
58.2+	Orion St	W Hornet Av	Oriskany Av	Separated Bike Lane (Class IV)	0.23	$164,330	High	Private Developer
64	Oriskany Av	Central Av	Ferry Point	Bike Route (Class III)	0.45	$9,002	Medium	City of Alameda
130	Otis Dr	Broadway	Park St	Buffered Bike Lane (Class IIB)	0.24	$78,207	Medium	City of Alameda
134	Otis Dr	Broadway	Bay Farm Island Bridge/Fernside Bl/Towata Park	Bike Lane (Class II)	0.6	$148,922	Medium	City of Alameda
105	Otis Dr	Grand St	Rosewood Wy	Separated Bike Lane (Class IV)	0.05	$37,073	Medium	City of Alameda
123	Otis Dr	Park St	Willow St	Separated Bike Lane (Class IV)	0.38	$274,701	Medium	City of Alameda
72	Pacific Av	Fourth St/Marshall Wy	Park St	Neighborhood Greenway (Class IIIB)	2.64	$1,480,830	High	City of Alameda
57	Pacific Av	Fourth St/Marshall Wy	Central Av/Main St/W Pacific Av	Separated Bike Lane (Class IV)	0.28	$207,028	High	City of Alameda
33	Pacific Marina	Kingsbury Ct/Triumph Dr	Shoreline Park Connection	Bike Lane (Class II)	0.04	$10,907	Low	City of Alameda
11	Pan Am Wy	W Midway Av	Main St	Separated Bike Lane (Class IV)	0.29	$213,764	Medium	City of Alameda
26.1	Pan Am Wy	Coronado St	W Tower Av	Two-way Separated Bike Lane (Class IV)	0.08	$33,742	Medium	City of Alameda
26.2*	Pan Am Wy	W Tower Av	W Midway Av	Two-way Separated Bike Lane (Class IV)	0.18	$78,569	Not Applicable	City of Alameda
109 CS	Park St	Blanding Av	Shoreline Dr	Low Stress Bikeway - Type TBD	1.33	$971,331	High	City of Alameda
84	Park St Bridge	23rd Av	Blanding Av	Shared Use Path (Class I)	0.13	$592,578	Medium	City of Alameda
47	Poggi St	Coral Sea St	Buena Vista Av	Bike Lane (Class II)	0.18	$44,127	Medium	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
22	Posey Tube to Neptune Park Connection	Willie Stargell Av/Webster St	Posey Tube Entrance	Shared Use Path (Class I)	0.3	$1,360,431	Medium	Alameda CTC
151	Ratto Rd	Aughinbaugh Wy/Bay Edge Rd	195 ft north of Souza Ct/Ratto Rd	Neighborhood Greenway (Class IIIB)	0.44	$245,990	Low	City of Alameda
143	Robert Davey Jr Dr	Bridgeway Rd/Island Dr	Packet Landing Rd	Buffered Bike Lane (Class IIB)	0.11	$35,468	Low	City of Alameda
60	Saint Charles St	Pacific Av/St Charles St	Buena Vista Av/St Charles St	Neighborhood Greenway (Class IIIB)	0.07	$38,057	Medium	City of Alameda
87	San Antonio Av	Nineth St	Morton St	Neighborhood Greenway (Class IIIB)	0.46	$257,088	Medium	City of Alameda
115.1	San Jose Av	Morton St	Broadway	Neighborhood Greenway (Class IIIB)	1.27	$711,992	Medium	City of Alameda
115.2	San Jose Av	Fernside Bl	Broadway	Neighborhood Greenway (Class IIIB)	0.69	$387,478	Medium	City of Alameda
107	Sand Beach Pl	Sand Beach Rd	Harbor Light Rd	Neighborhood Greenway (Class IIIB)	0.05	$26,132	Low	City of Alameda
102	Santa Clara Av	Versailles Av	Park St	Bike Route (Class III)	0.39	$7,791	High	City of Alameda
100	Santa Clara Av	Oak St	Park St	Bike Lane (Class II)	0.09	$22,578	Medium	City of Alameda
67	Santa Clara Av	Pacific Av	Third St	Bike Route (Class III)	0.25	$5,049	Medium	City of Alameda
18.2	Saratoga St	Third St/W Red Line Av	W Midway Av	Separated Bike Lane (Class IV)	0.2	$148,131	Medium	City of Alameda
18.1*	Saratoga St	W Midway Av	W Tower Av	Separated Bike Lane (Class IV)	0.18	$132,801	Not Applicable	City of Alameda
68	Seaplane East	W Pacific Av	W Hornet Av	Separated Bike Lane (Class IV)	0.33	$237,127	Medium	City of Alameda
36	Seaplane North	Monarch St	Pan Am Wy	Two-way Separated Bike Lane (Class IV)	0.56	$242,543	Medium	City of Alameda
40	Seaplane North Trail	(Future) DePave Park	Alameda Waterfront Park	Shared Use Path (Class I)	0.55	$2,548,069	Medium	City of Alameda
103	Shell Gate Pl	Fair Haven Rd	Shell Gate Rd/Shorepoint Ct	Neighborhood Greenway (Class IIIB)	0.05	$26,993	Low	City of Alameda
54	Sherman St	Eagle Av	Buena Vista Av	Bike Lane (Class II)	0.07	$17,097	Medium	City of Alameda
48	Sherman St	Eagle Av	Atlantic Av/Wind River Wy	Buffered Bike Lane (Class IIB)	0.14	$47,177	Low	City of Alameda
32	Shoreline Park Connection			Shared Use Path (Class I)	0.17	$763,248	Medium	City of Alameda
51	St Charles St	Buena Vista Av/Saint Charles St	St Charles St - Jean Sweeney Park Connection	Neighborhood Greenway (Class IIIB)	0.12	$64,500	Medium	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
74	St Charles St	San Antonio Av	Pacific Av/Saint Charles St	Neighborhood Greenway (Class IIIB)	0.46	$257,944	Medium	City of Alameda
46	St Charles St - Jean Sweeney Park Connection			Shared Use Path (Class I)	0.08	$344,973	Low	City of Alameda
61	Third St	Ralph Appezzato Memorial Pw	Central Av/Taylor Av	Neighborhood Greenway (Class IIIB)	0.49	$273,081	High	City of Alameda
5	Third St	Saratoga St/W Red Line Av	Navy Way St	Separated Bike Lane (Class IV)	0.07	$51,314	Medium	City of Alameda
86	Tideway Dr	San Francisco Bay	San Francisco Bay	Bike Route (Class III)	0.26	$5,203	Low	City of Alameda
96	Tilden Wy	Miller-Sweeney Bridge	Lincoln Av/Park St	Separated Bike Lane (Class IV)	0.57	$412,695	Medium	City of Alameda
141	Towata Park Connection			Shared Use Path (Class I)	0.1	$435,630	Medium	City of Alameda
39	Triumph Dr	Kingsbury Ct/Pacific Marina	Atlantic Av/Triumph Dr - Jean Sweeney Park Connection	Bike Lane (Class II)	0.13	$32,299	Low	City of Alameda
43	Triumph Dr - Jean Sweeney Park Connection			Shared Use Path (Class I)	0.07	$321,489	Medium	City of Alameda
114	Versailles Av	Fernside Bl	Calhoun St	Neighborhood Greenway (Class IIIB)	0.95	$529,222	Medium	City of Alameda
15	W Essex Dr	Pan Am Wy	Saratoga St	Buffered Bike Lane (Class IIB)	0.23	$74,699	Medium	City of Alameda
75	W Hornet Av	Hancock St	Seaplane Lagoon East Trail	Separated Bike Lane (Class IV)	0.54	$391,789	Medium	City of Alameda
19.3	W Midway Av	Main St/Willie Stargell Av	Pan Am Wy	Two-way Separated Bike Lane (Class IV)	0.38	$161,598	Medium	City of Alameda
19.1	W Midway Av	Monarch St	Saratoga St	Two-way Separated Bike Lane (Class IV)	0.34	$146,101	Medium	City of Alameda
19.2*	W Midway Av	Pan Am Wy	Saratoga St	Two-way Separated Bike Lane (Class IV)	0.23	$97,031	Not Applicable	City of Alameda
56	W Pacific Av	Ferry Point	Central Av/Main St/Pacific Av	Separated Bike Lane (Class IV)	0.4	$289,211	Medium	City of Alameda
7	W Red Line Av	Barbers Point Rd/Pan Am Wy	Alameda National Wildlife Refuge (future)	Two-way Separated Bike Lane (Class IV)	0.68	$291,934	Medium	City of Alameda
71.2	W Ticonderoga Av	Hancock St	Seaplane East	Bike Lane (Class II)	0.4	$99,361	Medium	City of Alameda
30	W Tower Av	Main St	Pan Am Wy	Bike Lane (Class II)	0.38	$95,339	Medium	City of Alameda
29.1	W Tower Av	Monarch St	Saratoga St	Separated Bike Lane (Class IV)	0.34	$247,617	Medium	City of Alameda

Project ID	Name	From Extent	To Extent	Proposed Bikeway Type	Length (mi)	Estimated Cost	Prioritization Rank	Lead Agency
29.2*	W Tower Av	Saratoga St	Pan Am Wy	Separated Bike Lane (Class IV)	0.23	$164,171	Not Applicable	City of Alameda
101	Walnut St	Encinal Av	Central Av	Bike Route (Class III)	0.14	$2,734	Medium	City of Alameda
111	Walnut St	Clinton Av	San Jose Av	Neighborhood Greenway (Class IIIB)	0.07	$38,047	Medium	City of Alameda
135	Waterton St	Mound St	Court St	Neighborhood Greenway (Class IIIB)	0.06	$30,818	Low	City of Alameda
65[CS]	Webster St	Central Av	Atlantic Av	Separated Bike Lane (Class IV)	0.57	$414,115	High	City of Alameda
97	Westline Dr	Otis Dr	Eighth St	Separated Bike Lane (Class IV)	0.05	$36,951	Medium	City of Alameda
121	Whitehall Pl	Whitehall Rd	Willow St	Neighborhood Greenway (Class IIIB)	0.06	$34,559	Medium	City of Alameda
23	Willie Stargell Av	Main St	Fifth St	Shared Use Path (Class I)	0.54	$2,485,512	Medium	City of Alameda
124	Willow St	Shoreline Dr	Otis Dr	Separated Bike Lane (Class IV)	0.32	$231,580	Medium	City of Alameda
112	Willow St	Clinton Av	Otis Dr	Separated Bike Lane (Class IV)	0.17	$120,416	Low	City of Alameda
53	Wood St	Pacific Av	Wood St - Jean Sweeney Park Connection	Bike Route (Class III)	0.18	$3,655	Low	City of Alameda
45	Wood St - Jean Sweeney Park Connection			Shared Use Path (Class I)	0.08	$351,083	Low	City of Alameda
117	Yorkshire Pl	Whitehall Pl/Yorkshire Rd	Camden Rd/Whitehall Pl	Neighborhood Greenway (Class IIIB)	0.05	$26,956	Medium	City of Alameda
TOTAL					**63.06**	**$64,916,273**		

Table Notes:
* These projects are already planned for construction.
+ These projects will be built by private developers.
CS These projects align with the highest ranking street segments identified in the pedestrian network prioritization process, and therefore have Complete Streets potential.

Cost estimates: The costs listed are high-level estimates, and actual construction costs will vary based on local conditions. The Cost Estimates section and Table 6: Bikeway Cost Estimates, provide a detailed explanation of how estimates were derived, and serve as the basis for these total estimated costs.

TRAIL NETWORK PRIORITIZATION

All of the proposed off-street trail projects included in *Chapter 6: Trails Network and Water Crossings* in the Alameda ATP were ranked, using the bicycle network criteria shown in Table 3. The ranking results are mapped in Figure 2, with the other proposed bikeway projects. The trail projects are listed in Table 5, with their Prioritization Rank, estimated cost and lead agency. Note that these projects are also included in Table 4.

These projects are intended to be constructed either as shared-use paths (Class I) or separate but parallel walking and bicycling paths if there is adequate space and need.

Table 5. Trail Project List – Prioritization

Project ID	Name	Length (mi)	Prioritization Rank (using bicycle criteria)	Estimated Cost	Lead Agency
22	Posey Tube to Neptune Park Connection	0.30	Medium	Not City	Alameda CTC
23	Willie Stargell Av (Main to Fifth)	0.54	Medium	$2,485,512	City of Alameda
84	Park St Bridge	0.13	Medium	$592,578	Alameda County
136	Lincoln Middle School Connection	0.07	Medium	$327,119	City of Alameda
2	Estuary Park Pathway	0.05	Medium	$250,320	City of Alameda
31	Neptune Park	0.08	Medium	$386,843	City of Alameda
32	Shoreline Park Connection	0.17	Medium	$763,248	City of Alameda
43	Triumph Dr - Jean Sweeney Park Connection	0.07	Medium	$321,489	City of Alameda
12	Alameda Point Trail	4.71	Medium	$21,690,042	East Bay Parks/Others TBD
40	Seaplane North Trail	0.55	Medium	$2,548,069	TBD
85	Eighth Street Connector at Washington Park	0.13	Medium	$607,561	City of Alameda
92	Miller-Sweeney Bridge	0.17	Medium	$770,358	Alameda County
127	Park St to Otis Dr Connector	0.04	Medium	$173,778	City of Alameda
141	Towata Park Connection	0.10	Medium	$435,630	City of Alameda
45	Wood St - Jean Sweeney Park Connection	0.08	Low	$351,083	City of Alameda

Project ID	Name	Length (mi)	Prioritization Rank (using bicycle criteria)	Estimated Cost	Lead Agency
46	St Charles St - Jean Sweeney Park Connection	0.08	Low	$344,973	City of Alameda
42	Challenger Dr - Jean Sweeney Park Connection	0.09	Low	$398,136	City of Alameda
44	Eight Street - Jean Sweeney Park Connection	0.04	Low	$195,030	City of Alameda
137	Bayview Dr Connection	0.03	Low	$146,714	City of Alameda
140	Bird Sanctuary	0.42	Low	$1,922,657	City of Alameda
163	C St Connection	0.10	Low	$450,019	City of Alameda
159	N Loop Rd Connection	0.06	Low	$252,223	City of Alameda
TOTAL		**8.01**		**$35,413,382**	

OVERLAPPING PRIORITIES

Five corridors or street segments were ranked high in both the pedestrian and bicycle prioritization analyzes. These locations would benefit from improvements to both the walking and bicycling networks and are therefore good opportunities for Complete Streets projects. Complete Streets are streets designed to enable safe travel for people traveling by any mode, including people walking, bicycling, riding transit or driving. The locations are:

1. Webster Street from Central Avenue to Atlantic Avenue
2. Oak Street from Buena Vista Avenue to Lincoln Avenue
3. Oak Street from Santa Clara Avenue to Encinal Avenue
4. Park Street from Blanding Avenue to Shoreline Drive
5. Lincoln Avenue from Park St to Oak Street.

COST ESTIMATES

Tables 6 and 7 list the estimated per mile costs to install the types of bicycle facilities and pedestrian treatments included in the ATP. These are high-level estimates, and actual costs will vary based on local conditions. Costs are order-of-magnitude, planning-level estimates based on bid tabulations for recent, similar project types. They include soft costs (engineering, surveying, permitting, project management, and inspection) as well as work required for implementation. Planning-level cost estimates do not take into consideration localized specifics of each project such as right-of-way acquisition, significant utility

relocation, etc. They are useful for aggregate-level budget planning, but individual project costs estimates will change as projects advance through further study and design.

These cost estimates will be updated over time to better reflect current cost realities.

Table 6. Bikeway Cost Estimates

Facility Types	Rounded Per-Mile Cost
Shared-Use Path or separate walking and biking facilities (Class I)	$4,602,961
Bike Lanes (Class II) (reconfiguration of total roadway lanes/width)	$250,000
Buffered Bike Lanes (Class II) (reconfiguration of total roadway lanes/width)	$330,000
Bike Routes (Class III) (shared lanes)	$20,000
Neighborhood Greenways (Class III) (shared lanes)	$560,000
Separated Bike Lanes (Class IV; One-Way) (paint/post buffers)	$730,000
Separated Bike Lanes (Class IV; Two-Way) (paint/post buffers)	$430,000
Separated Bike Lanes (Class IV; One-Way) (curb/landscaping buffers)	$5,650,000
Separated Bike Lanes (Class IV; Two-Way) (curb/landscaping buffers)	$3,260,000

Table 7. Pedestrian Treatment Cost Estimates

Treatment	Cost Estimate	Unit
Crossing Treatments		
Curb extension	$20,200 (concrete)	Per curb extension
	>$1,000 (quick build)[7]	Per corner
Median refuge island	$10,000	Each

[7] Assumes 10 bollards, 5 armadillos, 10 gallons of paint, and miscellaneous materials for installation

Treatment	Cost Estimate	Unit
In-street pedestrian crossing sign (paddle sign)	$30	Per sign
Mid-block crossing	Varies depending on context – could include crosswalk striping, signs, and/or median refuge island	
Pedestrian Hybrid Beacon	$110,250	Per unit
Rectangular Rapid Flashing Beacon	$28,000	Per unit
High-visibility crosswalk marking (i.e., ladder- or continental-style markings)	$8	Per sq ft
Raised crossing	$4,500	Each
Crosswalk visibility enhancements (advance yield lines, pedestrian yield sign)	Varies depending on context	
Truck aprons on bulb outs	Site specific	Site specific
Parking prohibition near intersection (paint)	$2,000	Per intersection
Pedestrian signal and leading pedestrian interval (LPI)	$2,750	Each (LPI)
Pedestrian scramble	Site specific	Not applicable
Corridor Treatments		
Street lighting	$20,000, varies	Per spot improvement
Sidewalks	$25	Per sq ft
Vertical traffic calming (e.g., speed humps and cushions)	$10,000	Per speed hump
Horizontal traffic calming	$3550 (chicane)	Each
	$20,000 (neckdown)	Each
Neighborhood traffic circle	$25,300	Each
	$2,500 (quick build)[8]	Each
Lower Speed Limits (20 mph or 15 mph)	$25	Per sign

[8] Assumes 25' traffic circle diameter, two gallons of paint, one tree, four traffic signs, and 10 dura curbs for an 80' circumference.

Treatment	Cost Estimate	Unit
Road Diet (4 lanes to 3 or 2)	$30,000	Varies
Partial traffic diverters (limiting through and left turns)	$3,900	Each
Streetscape Improvements		
Trees/Planter strip	$1,000 per tree	Per unit
Green Infrastructure (e.g., bio-retention areas)	$55	Per square foot
Bus stop amenities (e.g., benches and shelters)	$700 (bench)	Each
	$26,000 (shelter)	Each
	$700 (trash receptable)	Each
Bus bulb-outs (concrete)	$66,000	Per bulb-out
Street furniture (e.g., benches, art, water fountains, and recycling bins)	$700 (bench) $800 (trash bin) Other furniture varies/site specific	Per unit
Pedestrian-scale lighting	$3,000	Per unit
Above-ground planters and potted plants	$100	Per sq yard (2’ wide)
Pedestrian-oriented wayfinding	$500	Per sign and post
Pedestrian plazas and closed streets	Varies	Not applicable