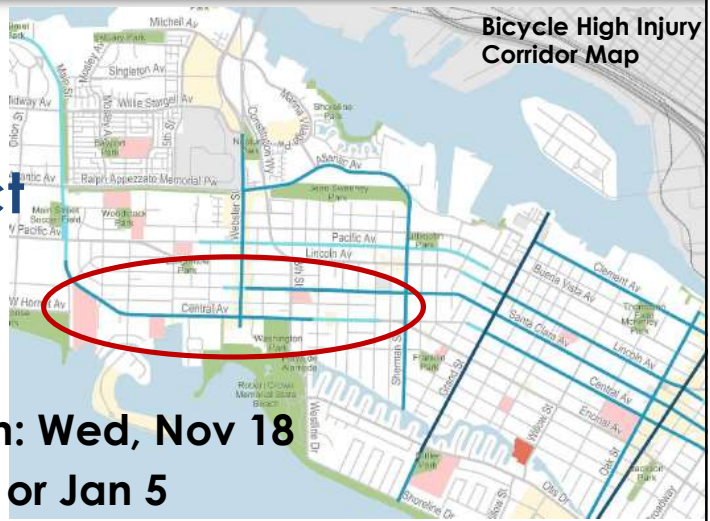


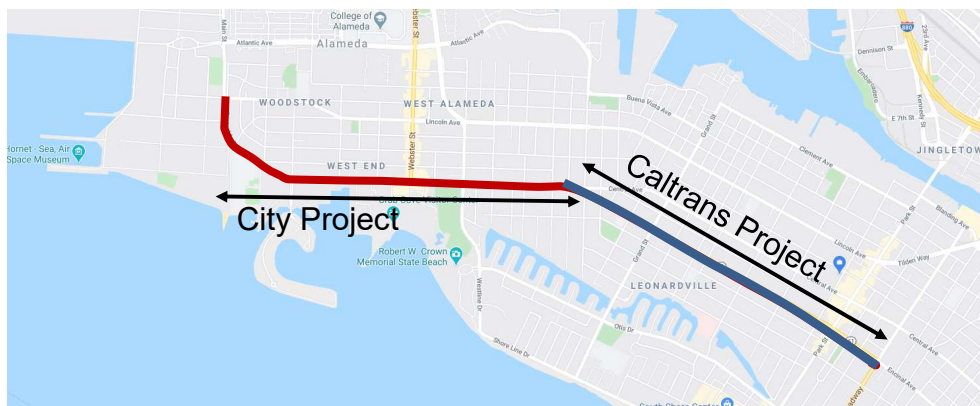
Central Avenue Safety Improvement Project Final Concept (action item)

Transportation Commission: Wed, Nov 18
City Council: Tues, Dec 15 or Jan 5



Central Ave: Project Location

- Central Ave (Main St/Pacific Ave to Sherman St): City Project
- Encinal Ave (Sherman St to Broadway): Caltrans Project



Central Ave: History

City Council Approvals

- 2010: High-priority bikeway in Bike Plan
- 2013: Planning Grant Application
- 2014: Consultants for Concept Planning
- 2016: Concept (except Webster) & Grant
- 2017: Central Ave CIP Project
- 2018: Caltrans Co-op Agreement and Consultants for PID
- 2019: CIP Project; 2-way Bikeway to McKay; Consultant Amendment
- 2020: Caltrans Co-op Agreement for PA&ED and PS&E



Central Ave: Project Team

- Project Team:
 - City of Alameda
 - Caltrans
 - CDM Smith and Subconsultants
 - Stefan Schuster
 - Jennifer Cheung
 - Michael Bjork
 - Szu-han Chen
 - Jake Gunther
 - Kittelson and Associates

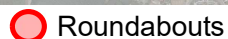


Central Ave: Project Overview

- Goals
 - Improve safety for all users
 - Calm traffic
 - Improve multimodal access
- Safety Improvements
 - Road diet with bikeway
 - High visibility crosswalks
 - Bus stops and islands
 - Roundabouts



Central Ave: Project Overview



Roundabouts

Bikeway: For entire corridor with protected bikeway between west end and Washington Park



Central Ave: Project Overview

- Existing: Four lane streets w/higher rates of collisions
- Project: Two lanes w/ center turn lane + bikeway = road diet



Road Diet Benefits

Federal Highway Administration:

- Reduce collisions by up to 47%
- Reduce speeds by at least 3 mph
- Less severe collisions
- Fewer vehicle lanes to cross
- Better visibility of pedestrians
- Provide space for bicyclists
- Smoother travel flow
- Livability and economic benefits

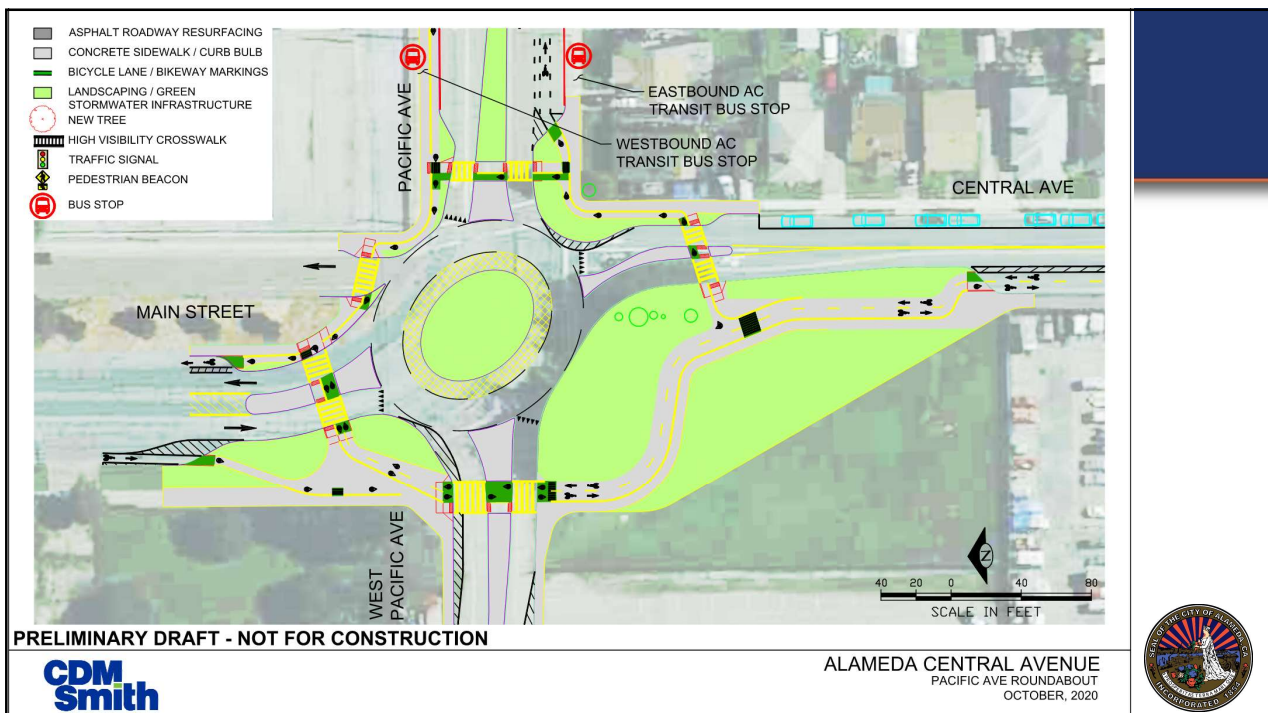
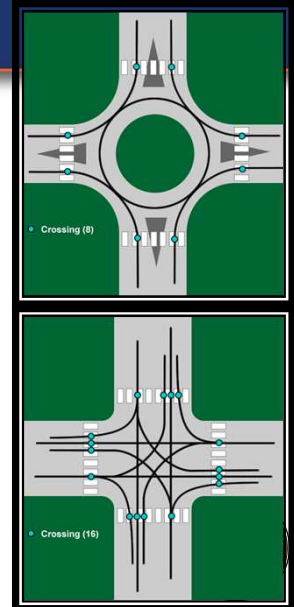


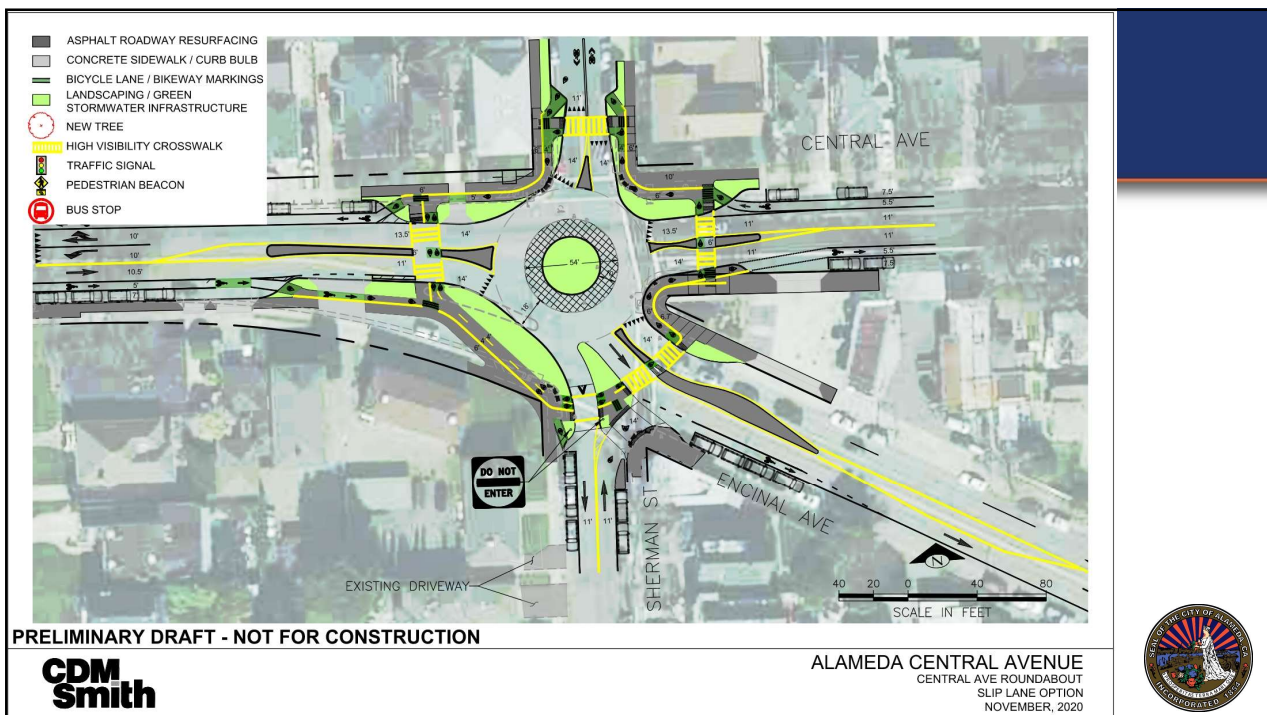
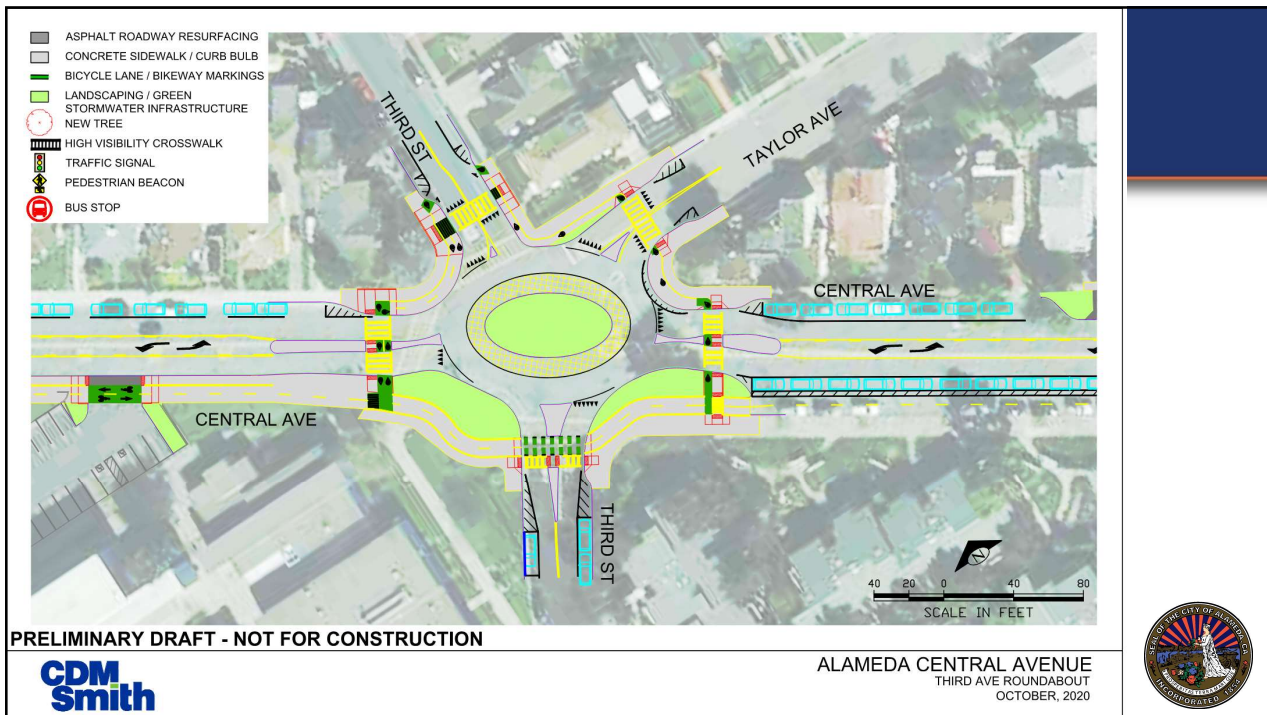
U.S. Department of Transportation
Federal Highway Administration



Roundabout Benefits

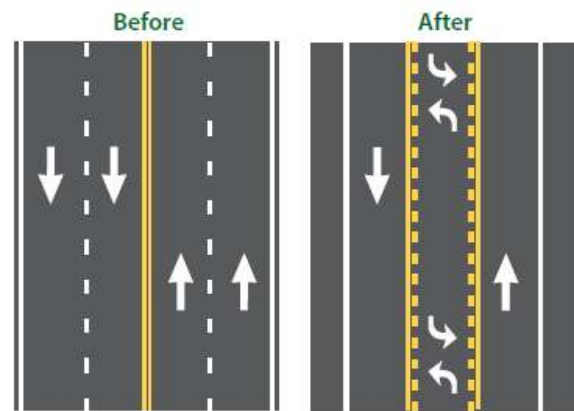
- According to FHWA:
 - Reduce fatal and serious injury crashes by 78-82%
 - Results in lower vehicle speeds: 15-25 MPH
 - Are safer, more efficient, less costly and more aesthetically appealing





Central Ave: Project Benefits

- Safety:
 - Fewer and less severe collisions
 - Shorter crossing distances
 - Separation of modes
- Corridor travel time: 4-5 minute decrease
- Traffic pattern changes: Varies, traffic calming added
- Added capacity for bicycling and walking



Central Ave: Project Benefits

- Reduced emissions
- Reduced traffic noise
- Drainage and water quality improvements
- Reduced heat island effects
- Aesthetic improvements



Central Ave: Collisions 2014-2018

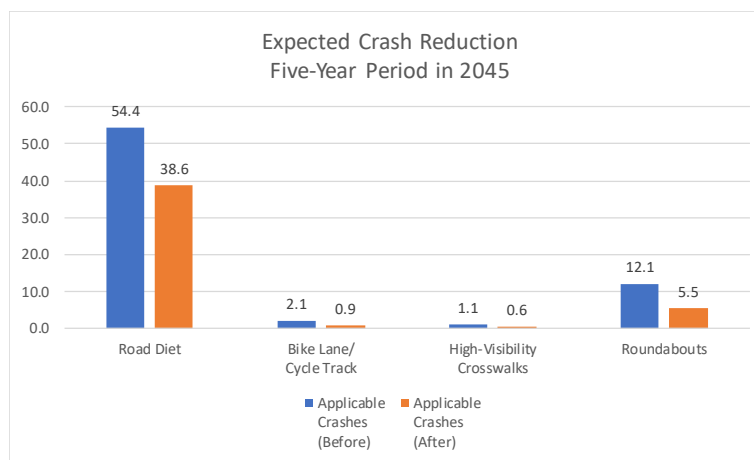
Location	Total	Pedestrian-Related	Bicycle-Related
Third St	11	0	2
Fifth St	3	1	1
Sixth St	2	0	0
Webster St	13	3	0
Page St	4	0	0
Eighth St	7	1	1
Burbank St	7	0	0
Ninth St	2	0	0
Caroline St	4	0	1
St Charles St	5	1	0
Bay St	2	0	0
Sherman St	3	0	0
Total	63	6	5

Source: Caltrans TASAS; City of Alameda Police Department



Central Ave: Safety (2045)

24 fewer collisions in 5-year period in 2045



Central Ave: Corridor Travel Time

Direction	Corridor Segment	Distance (mi)	SimTraffic Output (min)		
			2045 No Build	2045 Build	Difference
Eastbound	From Pacific Ave/Main St to Webster St	1.0	5.1	3.1	-2.0
	From Webster St to Encinal Ave/Sherman St	0.7	4.6	2.4	-2.2
	Total	1.7	9.7	5.5	-4.2
Westbound	From Encinal Ave /Sherman St to Webster St	0.7	6.4	2.8	-3.6
	From Webster St to Pacific Ave/Main St	1.0	3.3	2.7	-0.6
	Total	1.7	9.7	5.5	-4.2



Central Ave: Project Impacts

- Diversion to side streets: Varies, traffic calming added
- Parking (on-street):
 - City policy to prioritize safety
 - Adding capacity for biking and walking
 - Most impacts: Fourth Street to Page Street
 - Underutilized off-street parking



Central Ave: Parking Losses

Roadway	Location	Eastbound		Westbound	
		Existing/ No Build	Build	Existing/ No Build	Build
Total – Central Avenue		179	116	222	213
Total – Side Streets		46	36	79	39
Grand Total		225	152	301	252



Central Ave: Schedule

Outreach	October 2020
Transportation Commission	Wed, Nov 18
City Council	Tues, Dec 15 or Jan 5
Environmental Clearance	Mid 2021
Final Design	2021
Construction	2022



Central Avenue Safety Improvement Project – Final Concept

<https://www.alamedaca.gov/Central>

Gail Payne, Senior Transportation Coordinator

gpayne@alamedaca.gov – 510-747-6892



Recommendation

- Motion to recommend that City Council approves Central Avenue Safety Improvement Project Final Concept



Supplemental Slides for Reference and Discussion



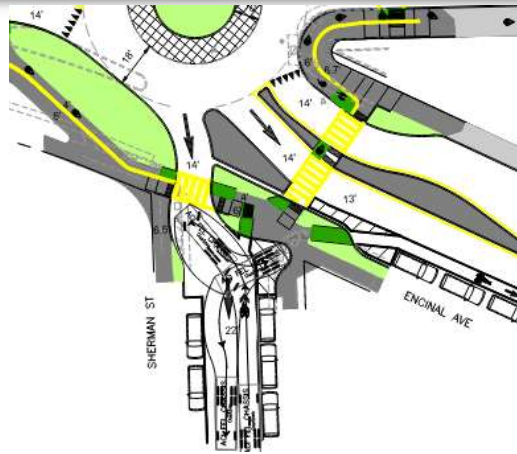
Considered but rejected: Roundabout with one-way on Sherman St.

- Infeasible for garbage service
- Resident opposition



Considered but rejected:
Roundabout with two-way on Sherman St.

- Requires three-point turn
- Hazardous traffic conflict



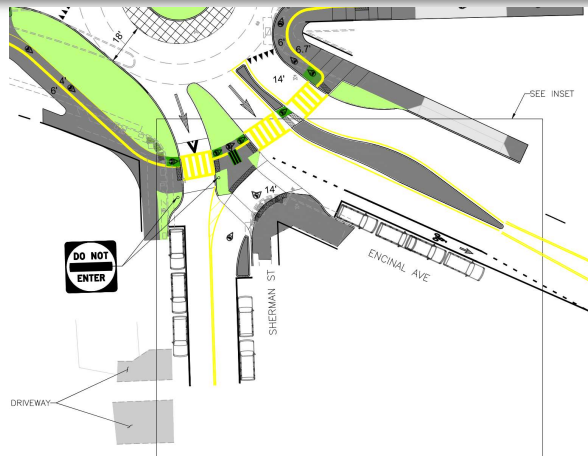
Considered but rejected:
Signalized intersection

- High delay times
- Multiple traffic conflict points



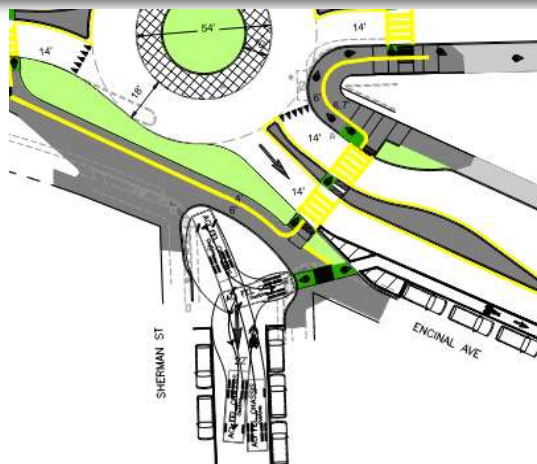
Under consideration: Two-way on Sherman St. and slip lane

- Two-way option with raised slip lane



Under consideration: Sherman St. closure and cul-de-sac

- Two-way option with cul-de-sac



Under consideration: Fourth Street Roundabout



2045 AM Conditions, Intersections

ID	Location	No Build			Build		
		Control Type	Delay (sec)	LOS	Control Type	Delay (sec)	LOS
1	Central Ave & Main St/Pacific Ave	Signalized	195.6	F	Roundabout	7.2	A
2	Central Ave & Third St/Taylor Ave	Side-Street Stop	946.2 (SB)*	F	Roundabout	8.1	A
3	Central Ave & Fourth St	Signalized	10.6	B	Signalized	17.7	B
4	Central Ave & Fifth St	All-Way Stop	42.5	E	All-Way Stop	50.9	F
5	Central Ave & Webster St	Signalized	35.7	D	Signalized	78.8	E
6	Central Ave & Eighth St	Signalized	45.5	D	Signalized	73.9	E
7	Central Ave & Encinal Ave/Sherman St	Signalized	24.1	C	Roundabout	9.1	A
8	Santa Clara Ave & Webster St	Signalized	10.0	A	Signalized	8.5	A
9	Santa Clara Ave & Eighth St	Signalized	16.1	B	Signalized	16.3	B
10	Santa Clara Ave & Sherman St	All-Way Stop	23.0	C	All-Way Stop	22.8	C
11	Lincoln Ave & Webster St	Signalized	14.6	B	Signalized	46.1	D
12	Lincoln Ave & Eighth St	Signalized	25.8	C	Signalized	34.3	C
13	Lincoln Ave & Sherman St	Signalized	14.5	B	Signalized	14.6	B

*Side-street stop-controlled intersection. Worst delay of the stop-controlled approaches (southbound in this case) is reported.

2045 PM Conditions, Intersections

ID	Location	No Build			Build		
		Control Type	Delay (sec)	LOS	Control Type	Delay (sec)	LOS
1	Central Ave at Main St/Pacific Ave	Signalized	241.5	F	Roundabout	6.1	A
2	Central Ave at Third St/Taylor Ave	Side-Street Stop	405.1 (SB)*	F	Roundabout	6.2	A
3	Central Ave at Fourth St	Signalized	9.8	A	Signalized	14.2	B
4	Central Ave at Fifth St	All-Way Stop	22.4	C	All-Way Stop	19.7	C
5	Central Ave at Webster St	Signalized	41.9	D	Signalized	74.1	E
6	Central Ave at Eighth St	Signalized	191.5	F	Signalized	138.3	F
7	Central Ave at Encinal Ave/Sherman St	Signalized	22.8	C	Roundabout	11.6	B
8	Santa Clara Ave at Webster St	Signalized	7.6	A	Signalized	6.2	A
9	Santa Clara Ave at Eighth St	Signalized	16.2	B	Signalized	16.6	B
10	Santa Clara Ave at Sherman St	All-Way Stop	19.9	C	All-Way Stop	20.2	C
11	Lincoln Ave at Webster St	Signalized	16.6	B	Signalized	44.1	D
12	Lincoln Ave at Eighth St	Signalized	28.4	C	Signalized	45.2	D
13	Lincoln Ave at Sherman St	Signalized	19.1	B	Signalized	18.6	B

*Side-street stop-controlled intersection. Worst delay of the stop-controlled approaches (southbound in this case) is reported.



Estimated collision Reduction Effects

Treatment	Crash Type	Crash Modification Factor	Reduction Percentage
Four to three lane conversion (Road Diet)	All	0.71	29%
Cycle Tracks, Bike Lanes, or On-Street Cycling	Vehicle/bicycle	0.41	59%
Installing Rectangular Rapid Flashing Beacon (RRFB)	Vehicle/pedestrian	0.526	47.4%
Installing high-visibility crosswalk	Vehicle/pedestrian	0.6	40%
Converting signalized intersection to modern roundabout	All	0.99	1%
	Injury	0.40	60%
Converting intersection with minor-road stop control to modern roundabout	All	0.61	39%
	Injury	0.22	78%

Source: Highway Safety Manual, CMF Clearinghouse



Central Ave: Funding Overview

	Concept	PID	PA&ED	PS&E	Construction	Total	Percentage
Grants	\$198,095	\$0	\$180,000	\$300,000	\$10.3 m	\$11 m	74%
Local Match	\$23,455	\$557,000	\$1.42 m	\$600,000	\$1.34 m	\$3. 9 m	26%
Total Cost	\$221,550	\$557,000	\$1.6 m	\$900,000	\$11.6 m	\$14.9 m	
Schedule	2014-2016	2018-19	2019-21	2021-22	2022		



Collision Reduction Economic Benefits

Countermeasure	2045	
	Crash Reductions	Benefits*
Road Diet	15.8	\$358,481
Convert Signalized Intersection to Roundabout	0.7	\$31,319
Convert TWSC Intersection to Roundabout	5.9	\$127,712
Bike Lane/Cycle Track	1.2	\$47,408
High-Visibility Crosswalk	0.4	\$1,288
Total	24	\$566,208

Source: TASAS data, City of Alameda, SWITRS 2017 Annual Report, Study team analysis.
*2017 dollars



Encinal Ave: Project Overview

Between Broadway and Sherman Street:

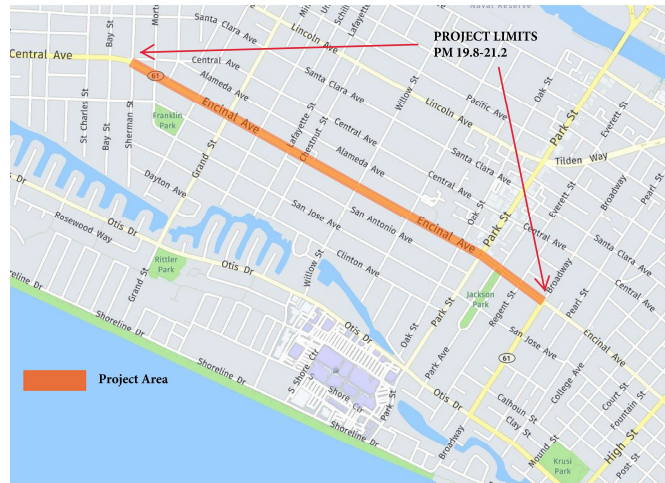
- Pavement rehabilitation
- ADA curb ramps
- Improve crosswalks
- Road diet



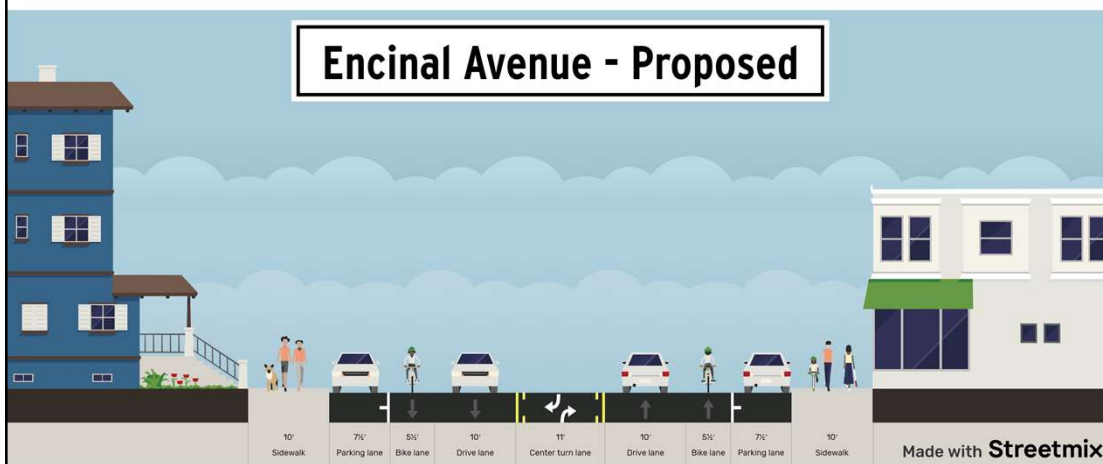
Contact: Janis Mara, Public Information Officer, Caltrans

Janis.Mara@dot.ca.gov

510-715-9291



Encinal Ave: Concept



(Widths vary and are approximate)



Encinal Ave: Schedule

Work Task	Completion
Project Approval and Environmental Document	June 2020 (actual)
Ready to List for Construction	June 2021 (tentative)
Construction Advertisement	September 2021 (tentative)
Construction Award	November 2021 (tentative)
Construction Contract Acceptance	June 2023 (tentative)

