TRANSPORTATION AUTHORITY OF MARIN
BOARD OF COMMISSIONERS MEETING

SEPTEMBER 26, 2024
6:00 P.M.

MARIN COUNTY CIVIC CENTER, ROOM 330
3501 CIVIC CENTER DRIVE, SAN RAFAEL, CALIFORNIA

This meeting will be held in-person and via Zoom webinar.

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San Rafael
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www.tam.ca.gov

How to watch the live meeting using the Zoom link:
https://us02web.zoom.us/j/88155449529?pwd=eS9NOTJUMm9kT1lTekZZNXF0QXRVdz09

Webinar ID: 881 5544 9529
Passcode: 389590

Teleconference: Members of the public wishing to participate via teleconference, can do so by dialing in to the following number at 6:00 p.m. on the day of the meeting: +**1 669 900 6833**; Access Code: 881 5544 9529; Password: 389590

How to provide public comment (limited to 2 minutes or less):

Before the meeting: Please email your comments to info@tam.ca.gov, no later than 5:00 p.m. Wednesday, September 25, 2024, to facilitate timely distribution to Board members. Please include the agenda item number you are addressing and your name and address. Your comments will be forwarded to the TAM Board members and will be placed into the public record.

During the meeting: For members of the public participating in-person, the Board Chair will recognize persons from the audience who wish to address the Board during public open time or on a particular agenda item at the time that item is considered by the Board.

If watching this meeting online, click the "raise hand" feature in the webinar controls. This will notify TAM staff that you would like to comment. If participating by phone, "raise hand" by pressing *9 and wait to be called upon by the Chair or the Clerk. You will be asked to unmute your device when it is your turn to speak, and your comments will become part of the public record.

Late agenda material can be inspected in TAM's office between the hours of 8:00 a.m. and 5:00 p.m.
The TAM Office is located at 900 Fifth Avenue, Suite, 100, San Rafael.

The meeting facilities are accessible to persons with disabilities. Requests for special accommodations (assisted listening device, sign language interpreters, etc.) should be directed to Jennifer Doucette, 415-226-0820 or email: jdoucette@tam.ca.gov no later than 5 days before the meeting date.

AGENDA

1. Chair's Report (Discussion)

2. Metropolitan Transportation Commission, Marin Transit and Sonoma-Marin Area Rail Transit Reports, and Commissioner Matters Not on the Agenda (Discussion)

3. Executive Director's Report (Discussion)

4. Open time for public expression, up to two minutes per speaker, on items not on the agenda that are within the subject matter of the agency's jurisdiction. (While members of the public are welcome to address the Board, under the Brown Act, Board members may not deliberate or take action on items not on the agenda, and generally may only listen.)

5. CONSENT CALENDAR (Action) – **Attachments**

   a. Approve TAM Countywide Transportation Plan Board Workshop Minutes of July 25, 2024

   b. Approve TAM Board Meeting Minutes of July 25, 2024

   c. Review of the Semi-Annual Project Status Report

   d. Evaluation of TAM Crossing Guard Program

6. Safe Routes Equity Pilot Program Update (Discussion) – **Attachment**

7. Countywide Transportation Plan Board Update and Authorize Release of the Draft Plan (Discussion) – **Attachment**

8. Update on the Sea Level Rise Adaptation Planning for Marin County's Transportation System Project (Discussion) – **Attachment**

9. Redwood Bike Share Pilot Program Update (Discussion) – **Attachment**

TRANSPORTATION AUTHORITY OF MARIN
BOARD OF COMMISSIONERS

COUNTYWIDE TRANSPORTATION PLAN WORKSHOP
JULY 25, 2024
4:00 P.M.

MARIN WILDFIRE PREVENTION AUTHORITY BOARD ROOM
1600 LOS GAMOS DRIVE, ROOM 335
SAN RAFAEL, CALIFORNIA

WORKSHOP MINUTES

Members Present:	Alice Fredericks, Tiburon Town Council Brian Colbert, San Anselmo Town Council, TAM Chair Chance Cutrano, Fairfax Town Council Dennis Rodoni, Marin County Board of Supervisors Eli Beckman, Corte Madera Town Council Eric Lucan, Marin County Board of Supervisors, TAM Vice-Chair Gabe Paulson, Larkspur City Council Kate Colin, San Rafael City Council Katie Rice, Marin County Board of Supervisors Mary Sackett, Marin County Board of Supervisors Nancy Kemnitzer, Belvedere City Council Rachel Farac, Novato City Council Stephanie Moulton-Peters, Marin County Board of Supervisors Teri Dowling, Ross Town Council Urban Carmel, Mill Valley City Council
Members Absent:	Melissa Blaustein, Sausalito City Council
Staff Members Present:	Anne Richman, Executive Director Dan Cherrier, Director of Project Delivery David Chan, Director of Programming and Legislation Derek McGill, Director of Planning Grace Zhuang, Accounting and Payroll Specialist Jennifer Doucette, Executive Assistant/Clerk of the Board Joanne O'Hehir, Administrative Assistant Melanie Purcell, Director of Finance and Administration Molly Graham, Public Outreach Coordinator Mikaela Hiatt, Associate Transportation Planner Scott McDonald, Principal Transportation Planner

Chair Colbert called the meeting to order at 4:05 p.m.

1. Chair's Welcome/Roll Call

Chair Colbert welcomed everyone to the Countywide Transportation Plan (CTP) workshop and asked Executive Assistant/Clerk of the Board Jennifer Doucette to conduct a roll call to ensure a quorum of the Board, which was confirmed.

2. Countywide Transportation Plan Workshop (Discussion)

Chair Colbert provided a brief introduction for the CTP workshop and expressed his support for a productive, respectful discussion among the board members, staff and consultants.

Executive Director (ED) Anne Richman commented that today's workshop will recap the outreach findings and focus on gaining consensus and Board direction on priorities among the strategies.

Director of Planning Derek McGill introduced consultants Bob Grandy and Taylor McAdam with Fehr & Peers, and Bonnie Nelson to present this item and facilitate the workshop discussion.

Mr. Grandy provided an overview of the CTP and Community Based Transportation Plan (CBTP), a recap from the April Board workshop; and an outreach summary.

Ms. Nelson and Ms. McAdam posed a series of discussion questions to facilitate input and feedback from the Board members with regard to the draft CTP strategies.

Chair Colbert asked if any members of the public wished to speak or had submitted a comment by e-mail.

Marin County Bicycle Coalition (MCBC) Policy and Planning Director Warren Wells commented on the importance of prioritizing a multi-modal network in the CTP and that TAM could serve as a primary coordinator between regional counties and local jurisdictions. Mr. Wells also commented that perhaps widening the focus of grant applications could prove successful in obtaining funds.

WTB-TAM President Patrick Seidler commented on the importance of completing the active transportation network throughout the county.

Marin County Bicycle Coalition (MCBC) Executive Director Tarrell Kullaway commented on the possibility of using the National Association of City Transportation Officials (NACTO) guidelines when determining if specific projects are eligible for discretionary funds; and expressed support for TAM's role in coordination of projects among local jurisdictions.

WTB-TAM Director of Planning Matthew Hartzell commented on the importance of TAM's role in funding and technical assistance to local jurisdictions to bring projects to shovel-ready status in order to implement strategies to complete the active transportation network.

Ross Council Member and TAM Alternate Mathew Salter commented on the important nexus between housing and transportation, and the need to coordinate at a countywide level.

3. Open Time for Public Expression

Chair Colbert asked if any members of the public wished to speak or had submitted a comment by e-mail, and hearing none closed this item and adjourned the workshop.

The workshop was adjourned at 5:58 p.m.

MEETING OF THE
TRANSPORTATION AUTHORITY OF MARIN
BOARD OF COMMISSIONERS

JULY 25, 2024
6:30 P.M.

MARIN WILDFIRE PREVENTION AUTHORITY BOARD ROOM
1600 LOS GAMOS DRIVE, ROOM 335
SAN RAFAEL, CALIFORNIA

MEETING MINUTES

Members Present:	Alice Fredericks, Tiburon Town Council Brian Colbert, San Anselmo Town Council, TAM Chair Chance Cutrano, Fairfax Town Council Dennis Rodoni, Marin County Board of Supervisors Eli Beckman, Corte Madera Town Council Eric Lucan, Marin County Board of Supervisors, TAM Vice-Chair Gabe Paulson, Larkspur City Council Kate Colin, San Rafael City Council Katie Rice, Marin County Board of Supervisors Mary Sackett, Marin County Board of Supervisors Melissa Blaustein, Sausalito City Council Nancy Kemnitzer, Belvedere City Council Rachel Farac, Novato City Council Teri Dowling, Ross Town Council Urban Carmel, Mill Valley City Council
Members Absent:	Stephanie Moulton-Peters, Marin County Board of Supervisors
Staff Members Present:	Anne Richman, Executive Director Dan Cherrier, Director of Project Delivery David Chan, Director of Programming and Legislation Derek McGill, Director of Planning Emily Tong, Senior Accountant Grace Zhuang, Accounting and Payroll Specialist Jennifer Doucette, Executive Assistant/Clerk of the Board Melanie Purcell, Director of Finance and Administration Molly Graham, Public Outreach Coordinator Mikaela Hiatt, Associate Transportation Planner Scott McDonald, Principal Transportation Planner

Chair Colbert called the meeting to order at 6:38 p.m.

Chair Colbert welcomed everyone to the meeting and asked Executive Assistant/Clerk of the Board Jennifer Doucette to conduct a roll call to ensure a quorum. A quorum of the Board of Commissioners was confirmed and information about how the public may participate was provided.

1. Chair's Report

Chair Colbert thanked the Commissioners and staff for the work accomplished at the Countywide Transportation Plan Board Workshop held immediately prior to the Board meeting.

2. Metropolitan Transportation Commission, Marin Transit and Sonoma-Marin Area Rail Transit Reports & Commissioner Matters Not on the Agenda (Discussion)

Metropolitan Transportation Commission Report – Commissioner Moulton-Peters

None.

Marin Transit Report – Commissioner Sackett

None.

SMART Report – Commissioner Lucan

None.

Commissioner Matters Not on the Agenda

None.

3. Executive Director's Report (Discussion)

ED Richman provided the Executive Director's Report (EDR), which was distributed to the TAM Board and posted on the TAM website as supplemental information.

Chair Colbert asked if any members of the public wished to speak, and hearing none closed this item.

4. Open Time for Public Expression

Chair Colbert asked if any members of the public wished to speak, and hearing none closed public comment.

5. CONSENT CALENDAR (Action)

a. Approve TAM Board Meeting Minutes of June 27, 2024
b. Authorize the Executive Director to Negotiate and Execute a Professional Contract for Measure A/AA Sales Tax Compliance Audit Services
c. Authorize Contract Extension for Moffatt & Nichol
d. Interagency Agreements with Various School Districts for Reimbursed Crossing Guard Services
e. Authorize the Executive Director to Execute a Contract for Vehicle Miles Traveled (VMT) Reduction and Mobility Enhancement Toolkit with Kimley Horn
f. Authorize Vanpool Program Agreement with Commute with Enterprise
g. Allocate Measure B Element 1.1 Funds to San Rafael for the Merrydale Project
h. Allocate Measure AA (Transportation Sales Tax) Funds to Golden Gate Bridge, Highway and Transportation District for Ferry Shuttle Service
i. Allocate Transportation Sales Tax Interest Funds for the Marin City Soundwall Project
j. Allocate Measure AA and Measure A Reserve Funds for Local Infrastructure Projects

Chair Colbert opened the item to public comment.

WTB-TAM President Patrick Seidler expressed support for the City of San Rafael's Merrydale Project.

Commissioner Cutrano made the motion to approve the Consent Calendar and commended Commissioner Moulton-Peters for her work on the allocation of funds for the Marin City Soundwall Project (Consent Item 5i). Commissioner Beckman seconded the motion, which passed unanimously.

6. Informational Presentation by General Manager of Sonoma-Marin Area Rail Transit (SMART) District (Discussion)

ED Richman introduced SMART General Manager (GM) Eddy Cumins and Planning Manager Emily Betts to present this item for discussion.

In response to Commissioner Paulson, GM Cumins explained that ongoing coordination continues to occur between Marin and Sonoma County transit operators and funding authorities in order to better serve riders, and includes directors, planning managers, and finance and marketing teams. Mr. Cumins also commented on the future sales tax measure that will be required as a funding subsidy after the current sales tax measure expires in 2028.

In response to Commissioner Rice, GM Cumins explained that on certain days, such as home games for the San Francisco Giants, SMART is close to capacity on its two-car trains but has the ability to run three-car trains to handle the heavier passenger load. Ms. Betts explained that data from the most recent survey will be available in August; however the 2018 survey indicated that approximately 25% of riders identified as low-income. Ms. Betts also explained that fare-based data indicated that prior to the launch of the free-fare program in April 2024, seniors made up approximately 10% of ridership, while youth ridership was approximately 13%. Ms. Betts further explained that recent data indicates a peak-hour growth rate of 10-15%, and a non-peak hour growth rate of approximately 35%, which indicates a non-commute base. GM Cumins explained that an analysis is currently underway to assess travel patterns, including direction of travel, and will be presented to the SMART Board of Directors at its August 2024 meeting.

In response to Commissioner Cutrano, GM Cumins explained that recent grant funding will be primarily used for capital improvements, such as the Windsor Extension, Petaluma North station, and multiple pathways. GM Cumins also confirmed SMART's membership on the State Route (SR) 37 Policy Committee and that its current review of Caltrans' project study report (PSR) will be presented to the SR 37 Policy Committee at its October 2024 meeting.

In response to Commissioner Dowling, GM Cumins explained that the free-fare program for seniors is effective through June 2025; and that SMART's emerging freight service is conducted at night and currently serves customers located in Petaluma.

In response to Chair Colbert, GM Cumins explained that SMART uses the National Transit Database (NTD) formula for calculating cost-per-boarding and that SMART has one of the lowest cost per passenger mile rates in the region.

Chair Colbert asked if any members of the public wished to speak and hearing none, closed public comment.

7. Update on Mobility Hubs Planning Grant (Discussion)

Director of Planning Derek McGill presented this item for discussion.

In response to Commissioner Colin, Mr. McGill explained that the Los Ranchitos neighborhood is an Equity Priority Community (EPC) located near the SMART Civic Center station, which may be an appropriate location for a mobility hub. ED Richman explained that this grant opportunity and MTC's Transit Oriented Communities (TOC) policy specifically applies to areas within close proximity to rail and/or ferry stations.

In response to Commissioner Blaustein, Mr. McGill explained that the mobility hub development is still in the early stages so engagement with potential corporate sponsors has not yet occurred, however, future engagement during public outreach is a possibility.

In response to Commissioner Paulson, Mr. McGill explained that coordination between the planning and publics works departments within each jurisdiction will be required for jurisdictions to meet the TOC Policy requirements, which have elements related to land use and to transportation; and that TAM is in the process of developing a technical advisory committee (TAC) to assist with coordination and implementation.

Chair Colbert asked if any members of the public wished to speak.

Mr. Seidler commented on mobility hubs in the Netherlands; expressed support for TAM's effort to develop and implement mobility hubs in Marin County; and highlighted the importance of first- and last-mile connections to/from public transit stations.

The meeting was adjourned at 7:58 p.m.

Transportation Authority of Marin

DATE: September 26, 2024

TO: Transportation Authority of Marin Board of Commissioners

FROM: Anne Richman, Executive Director
Project Delivery Team

SUBJECT: Review of the Semi-Annual Project Status Report (Action), Agenda Item No. 5c

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RECOMMENDATION

The TAM Board reviews and accepts the September 2024 TAM Semi-Annual Project Status Report.

At its September 9, 2024 meeting, the Administration, Projects & Planning (AP&P) Executive Committee reviewed the Semi-Annual Project Status Report and voted unanimously to refer it to the TAM Board for acceptance.

BACKGROUND

In order to provide up to date funding and expenditure information that can help the Board and the general public understand the overall status of the suite of projects that TAM manages, these project updates are presented approximately every six months. The intent of these updates is to provide a broad overview of projects directly managed by TAM, and to update and identify potential issues that may require future Board actions. As projects progress, they will require specific Board deliberations and actions, such as consultant contract amendments or acceptance of work products.

DISCUSSION/ANALYSIS

Project Status Report Highlights:

The Project Status Report covers key on-going projects that are active and those that are in the active planning phase. State Route 37 and Improvements in Marin City to reduce flooding have multiple components that are either in planning or active phases.

Active Projects covers all projects that are in environmental, design or construction phases. These projects are well defined and, in most cases, fully funded. This report includes four active projects: (1) US 101 Marin-Sonoma Narrows – B7 and B8; (2) North-South Greenway Gap Closure Project – North Segment; (3) Improve Bellam Boulevard off-ramp from Northbound US 101; and (4) State Route 37. Note, recent activity regarding the Bellam Project indicates that construction will commence by the end of the calendar year.

Planning Projects covers emerging high-priority projects for which TAM is studying various options. These projects will most likely become active projects in the foreseeable future. The report includes four projects in the planning phase: (1) US 101/I-580 Multimodal and Local Access Improvement, (2) Studies of Highway 101 Interchanges and Approaching Roadways, (3) US 101 Part-Time Transit Lane, and (4) Improvements in Marin City to reduce flooding. Note the US 101/I-580 Multimodal and Local Access Improvement Project will transition to the Active category upon entering the environmental phase in October.

FISCAL IMPACTS

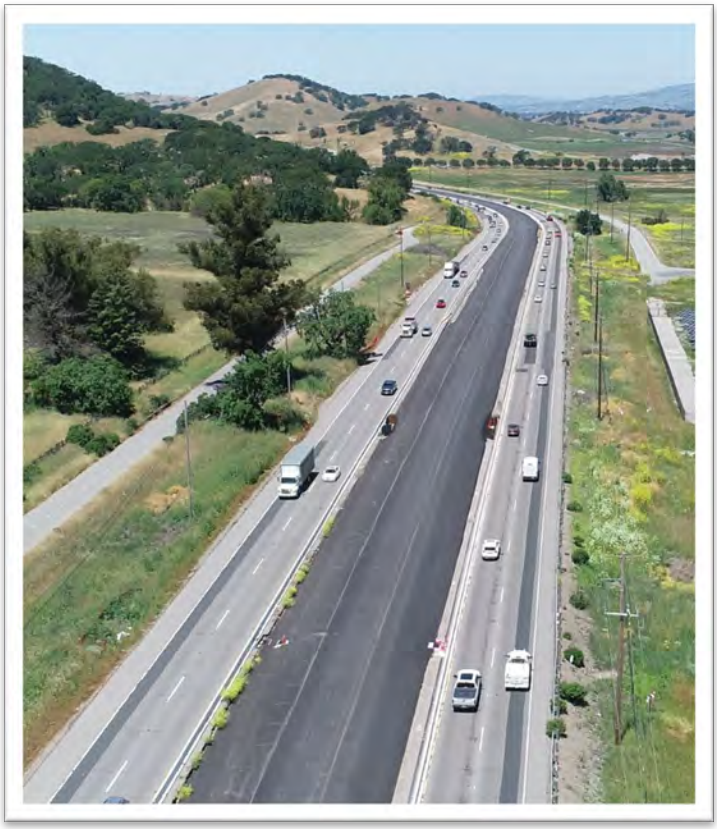
Not applicable.

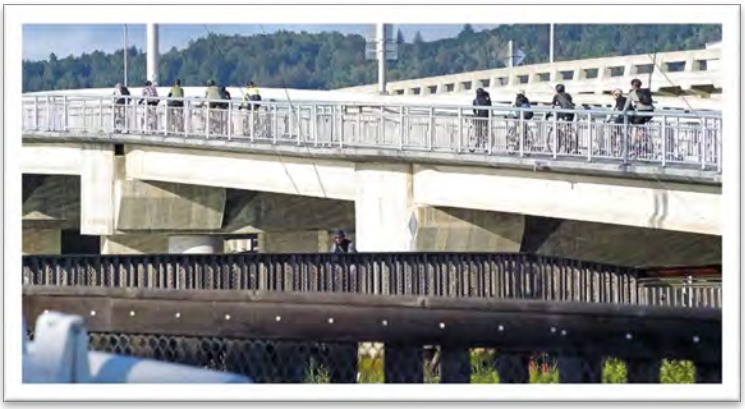
NEXT STEPS

The next Project Status Report update will be provided in the Winter/Spring of 2025.

ATTACHMENTS

Attachment – September 2024 TAM Project Status Report





Transportation Authority of Marin

Transportation Authority of Marin

Project Status Report

September 2024

ON-GOING PROJECTS

A. PROJECTS – ACTIVE

B. PROJECTS - PLANNING PHASE

C. OTHER

Project Status Report - Active — September 2024

Project: US 101 Marin-Sonoma Narrows Overview

Partners Caltrans, Sonoma County Transportation Authority and Transportation Authority of Marin
Jurisdiction(s) Novato, Petaluma

Scope

Widening of approximately 17 miles of US 101 from four to six lanes by adding HOV lanes in each direction; improving public transit and access to SMART rail network; installing continuous Class I and Class II bikeways between Novato and Petaluma; and constructing new interchanges and frontage roads to remove unsafe access from private properties and local roads.

Project will be completed through a series of phases based on operational priority and funding availability. As of the third quarter of 2024, all mainline HOV segments between Petaluma and Novato have been built or are under construction.

Status

- The final MSN HOV lane project on the corridor and in Marin County (MSN B7) commenced construction in July 2022 and is estimated to be substantially complete with HOV lanes open to the public in summer 2025.
- Various non-mainline projects are still outstanding and will require funding.

Issues/Areas of Concern

The MSN B7 project is fully funded for construction with assistance from SB1 SCCP and MTC federal discretionary fund sources. There is environmental mitigation that requires additional funds, however, the bulk of the funding will come from bid savings supplemented with local funds. The accompanying MSN B8 utility relocation project has entered the ROW acquisition phase and will encounter delay due to parcel owner resistance and funding. Minor vegetation restoration projects and a local San Antonio Road bridge reconstruction project (MSN B6) still remain as part of the overall MSN corridor work.

MARIN-SONOMA NARROWS STATISTICS

Project length.....17 miles

Avg. daily traffic – 2017.....153,000 vehicles

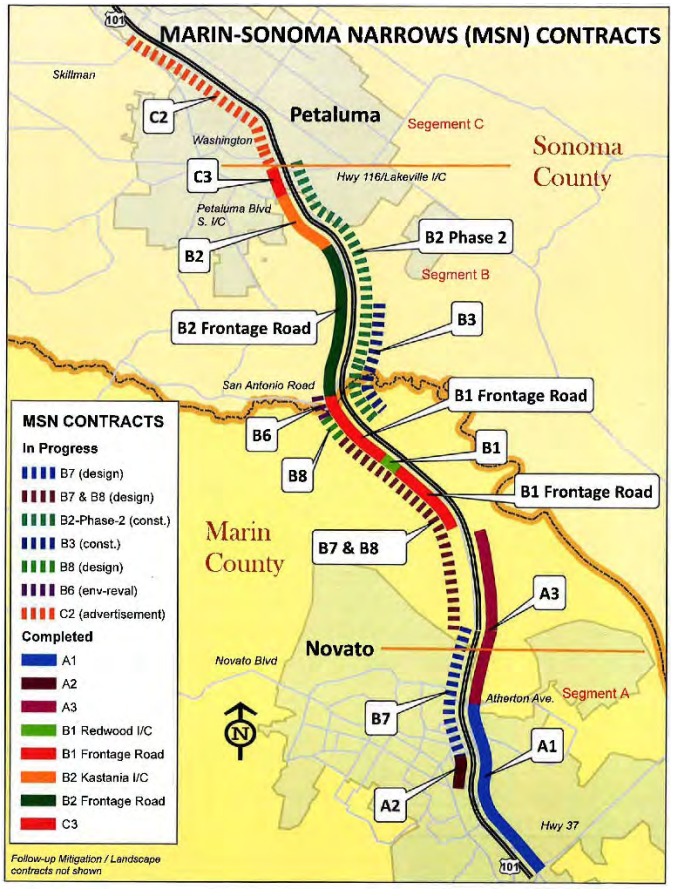
Avg. daily truck traffic – 2013.....6,200 trucks

Marin/Sonoma total populations.....258,000/495,000

Vehicle hours of delay (at less than 35 mph).....978,400

Funds programmed for MSN.....~$720,819,000

Funds needed to complete MSN.....~ $40,000,000



Major Phase Status

A1	Completed
A2	Completed
A3	Completed
B1 Phase I	Completed
B7 (Formerly B1-Phase II; See Fact Sheet)	In Progress
B2 Phase I	Completed
B2 Phase II	Completed
B3	Completed
B8 (Formerly A4 & B5; See Fact Sheet)	In Progress
B6	In Progress
C1	Completed
C2	Completed
C3	Completed

Project Status Report - Active — September 2024

Project: US 101 Marin-Sonoma Narrows – B7 and B8

Partners Caltrans, Sonoma County Transportation Authority and Transportation Authority of Marin
Jurisdiction(s) Novato

Scope

Construct a southbound HOV lane from 0.3 mile south of the Marin/Sonoma County line to just south of Franklin Avenue Overhead, and a northbound HOV lane from 1.7 miles north of Atherton Avenue Overcrossing to 0.3 mile south of the Marin/Sonoma County line. Project includes bridge widening, interchange modifications, completing all HOV lanes in the NB and SB directions, standardizing shoulders, Class 2 bike lane construction and correcting the roadway alignment and vertical profiles, along with relocating remaining utilities.

Status

The project design was funded with local, state and federal funds, with the HOV Lane design (MSN B7) completed in December 2020. Construction began in July 2022 and is estimated to be substantially complete with HOV lanes open to the public summer 2025. The MSN B8 design is on-going and will relocate major utility lines outside the Caltrans ROW and add Class 2 bike lanes to a county road. ROW acquisition, in terms of needed funds and resistance from property owners, is delaying completion of design.

Issues/Areas of Concern

- The project is an aggregate of three MSN projects, formerly called the B1 Phase 2, A4 and B5 projects. Due to the lengthy process with right-of-way (ROW) acquisition, the project was split into two concurrent paths: (1) design and construction of the HOV lanes (MSN B7) and (2) ROW acquisition and utility relocation (MSN B8).
- While the MSN B7 project continues to make good progress with substantial completion in summer 2025, the construction budget to complete the job is tight due to issues caused by severe winter storms in 2022 and 2023 that resulted in change orders and additional costs.
- The B8 project faces significant challenges with ROW acquisition and delay and lack of funding.

Updates from Previous Report

- B7 (HOV Lanes) is about seventy five percent complete. Stage 3 of the 4 stages started in the spring of 2024.
- Caltrans and TAM staff worked with executives to successfully preserve initial surplus of SB1 and MTC federal funds for the B7 and B8 projects to accommodate various funding shortfalls, however, estimates to complete the project have increased and may require additional funds

Schedule	
Planning	N/A
Environmental Clearance	2009
Design	2019-2020
Right of Way and Utilities	2018-2023
Construction	2022-2026

Estimated Cost by Project Phase	
Planning	N/A
Environmental Clearance	N/A
Design	$8,300,000
Right of Way and Utilities	11,100,000
Construction	123,100,000
TOTAL	$142,500,000

Funding by Source	
STIP Right of Way Excess Fund	$4,550,000
SB1-LPP	500,000
Measure AA Sales Tax	6,905,000
STP	2,000,000
SB1-SCCP	40,118,000
RM3/MTC Fed Discretionary & Other	88,427,000
TOTAL	$142,500,000

Project Status Report - Active — September 2024

Project: US 101 Marin- Sonoma Narrows – B7 and B8

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
C-FY18-12	8	Open	BKF Engineers	Design and Support Engineering Services and Construction Support	$8,644,329	STIP ROW Fund & STP, RM3	$8,262,551	96%
C-FY20-02	1	Open	Fremier Enterprises Inc.	Project Management	$450,000	STIP ROW Fund & STP, RM3	$29,873	7%
				TOTAL	$9,094,329		$8,292,424	92%

Project Status Report - Active — September 2024

Project: North-South Greenway Gap Closure Project – Northern Segment

Partners TAM, MTC, Caltrans and the City of Larkspur
Jurisdiction(s) Caltrans and the City of Larkspur

Scope

The Northern Segment of the North-South Greenway Gap Closure Project will close a key gap in the local and regional non-motorized transportation network between the Central Marin Ferry Connector bridge over Sir Francis Drake Boulevard and the pedestrian overcrossing of US 101 on Old Redwood Highway.

Status

- The multiuse path over Corte Madera Creek opened for public use in July of 2022 (Caltrans segment).
- The City of Larkspur administered construction of the multiuse path on Old Redwood Highway (City Segment).
- TAM provided Design Servies During Construction.
- The multi-use path over Corte Madera Creek has been recognized by the American Council of Engineering Companies to receive an Honor Award for Engineering Excellence. The project has also been recognized by the American Society of Civil Engineers for the Outstanding Bridge Project in California. This is in addition to the Active Transportation Project of the Year from the California Transportation Foundation.

Issues/Areas of Concern

- None.

Updates from Previous Report

- A Ribbon Cutting Ceremony was held on May 17, 2024 to celebrate the opening of the Old Redwood Highway Segment of the Greenway. The path is now in service for public use.
- Although the path is open, a few constructions item remain to be completed. Once complete, the City will initiate project close-out procedures.

Schedule	
Planning	Complete
Environmental Clearance	Complete
Design	Complete
Right of Way and Utilities	Complete
Construction	2021-2024

Estimated Cost by Project Phase	
Planning	-
Environmental Clearance	$1,800,000
Design	$3,400,000
Right of Way and Utilities	-
Construction	$15,640,812
TOTAL	$20,840,812

Funding by Source	
RM2	$15,000,000
CMAQ (Old Redwood Highway)	$1,120,000
Measure A Interest Funds	$1,225,000
SB1 LPP Incentive	$1,500,000
LPP Formula	$1,100,000
TDA	$462,175
Local (City of Larkspur)	$150,000
BAAQMD TFCA	$283,637
TOTAL	$20,840,812

Project Status Report - Active — September 2024

Project: North-South Greenway Gap Closure Project – Northern Segment

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
C-FY15-08	9	Open	Moffatt & Nichol	Environmental, Plans, Specifications and Estimates, Construction Administration (PAED, PS&E) (CON Support)	$4,654,130	RM2, Measure AA, TDA	$4,605,339	99%
Cooperative Agreement with Caltrans	1	Open	Caltrans	Construction and Construction Support	$13,200,233	RM2 TDA TFCA SB1 LPP	$13,059,429	98%
				TOTAL	$17,854,363		$17,664,768	99%

Note: The CMAQ and SB1 LPP Formula Funds programmed directly to the City of Larkspur.

Project Status Report - Active — September 2024

Project: **North-South Greenway Gap Closure Project – Southern Segment (Larkspur & Corte Madera Segment)**

Partners TAM, MTC, SMART, the City of Larkspur and the Town of Corte Madera

Jurisdiction(s) City of Larkspur and the Town of Corte Madera

Scope

The Southern Segment of the North-South Greenway Gap Closure Project will close a gap in the local and regional non-motorized transportation network between the southern terminus of the Northern Segment through a private easement (not yet secured) then along the Sonoma Marin Area Rail Transit (SMART) right-of-way south to Wornum Drive to connect to existing multi-use paths. The Gap Closure Project is being delivered in two segments, the Northern Segment and the Southern Segment. (Southern Segment shown in the adjacent graphic as red alignment.)

Status

- The use of the SMART right-of-way has been secured.
- The County of Marin Department of Public Works agreed to be the implementing agency for the initial alternative's alignment analysis phase. TAM is the project sponsor.

Issues/Areas of Concern

- The Southern Segment requires acquisition of private right-of-way by means of easement.
- A MOU will be required between partners to identify roles and responsibilities.
- Project development has been suspended pending identification of future funding.

Updates from Previous Report

- No updates to report.

Schedule	
Planning	TBD
Environmental Clearance	TBD
Design	TBD
Right of Way and Utilities	TBD
Construction	TBD

Estimated Cost by Project Phase	
Planning	$500,000
Environmental Clearance	TBD
Design	TBD
Right of Way and Utilities	850,000
Construction	TBD
TOTAL	$1,350,000

Funding by Source	
RM2	$1,350,000
TOTAL	$1,350,000

Project Status Report – Active — September 2024

Project: North-South Greenway Gap Closure Project – Southern Segment

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
A-FY14-22		Open	Marin County, Dept of Public Works	Project Management	$1,350,000*	RM2	$446,015	33%
A-FY14-21		Closed	SMART	Boundary Survey and Title Research	$75,000	RM2	$52,652	100%
A-FY18-18		Closed	SMART	Right-of-Way	$850,000	RM2	$850,000	100%
				TOTAL	$2,275,000		$1,348,667	59%

*A portion of this allocation re-directed to another project.

Project Status Report - Active — September 2024

Project: Improve Bellam Boulevard Off-Ramp from Northbound US 101

Partners Caltrans, Transportation Authority of Marin, and City of San Rafael
Jurisdiction(s) Caltrans and City of San Rafael

Scope

Improve the Bellam Boulevard off-ramp from US 101 by creating additional storage. Traffic making a left turn at Bellam will be directed to the left lane, while traffic heading to I-580 or turning right on Bellam will stay in the right lane. Lane striping will be modified near Bellam to reduce the lane changes required to make a right on Bellam if exiting from eastbound I-580.

The off-ramps are the only freeway access to the economically disadvantaged Canal Neighborhood.

Status

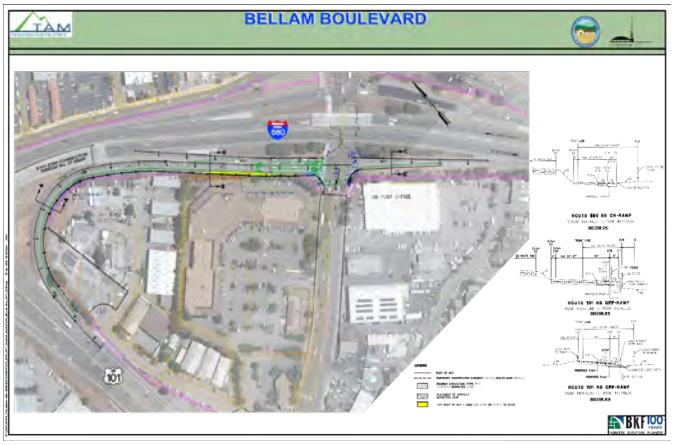
The CEQA document was recorded on August 15, 2018. Caltrans has approved roadway and structures design. Right of Way negotiations are complete. The County of Marin has signed an Interagency Agreement to administer the construction contract. The funding shortfall has been resolved.

Issues/Area of Concern

Caltrans has taken the unusual step of requiring that the Right of Way process be in strict accordance with State policies. Normally, a local agency is responsible completely for right of way and just certifies the Right of Way Agreement.

Updates from Previous Report

Caltrans approval obtained for all project elements except Right of Way. The County of Marin has selected a Project Management firm and is ready to advertise the Project.



Schedule	
Planning	Complete
Environmental Clearance	Complete
Design	Spring 2024
Right of Way and Utilities	Fall 2024
Construction	Begin Winter 2024

Estimated Cost by Project Phase	
Planning	$30,000
Environmental Clearance	90,000
Design	1,250,000
Right of Way and Utilities	250,000
Construction	7,550,000
TOTAL	$9,170,000

Funding By Source	
Measure A and AA Sales Tax	$8,025,000
Local Partnership Program	1,164,000
TOTAL	$9,189,000

Project Status Report – Active — September 2024

Project: Improve Bellam Boulevard Off-Ramp from Northbound US 101

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
C-FY17-02	3	Open	BKF Engineers	Complete design services including environmental.	$1,176,325	Measure A/AA Sales Tax, RM2	$1,152,278	98%
A-FY19-17		Closed	County of Marin	Agreement to manage construction including construction management*	$63,888*	Measure A Sales Tax	$63,888	100%
				TOTAL	$1,240,213		$1,216,166	98%

*This agreement has expired.

Project Status Report – Planning — September 2024

Project: US 101/I-580 Multimodal and Local Access Improvements

Partners Caltrans, Transportation Authority of Marin, City of San Rafael.
Jurisdiction(s) Caltrans, and City of San Rafael.

Scope

Improve regional connectivity between NB US 101 and EB I-580, traffic operations on local streets, transit and travel times, community cohesion and enhance the bike and pedestrian network. The eastbound approach to the RSR Bridge is one of only two toll bridges in the Bay Area accessed by low-speed local roads with traffic signals resulting in traffic delays on local roads and US 101.

Status

The Project Study Report (PSR) has been approved by Caltrans. Preliminary traffic studies are complete and will continue in the environmental phase. The environmental process will kick off with a Scoping Meeting on October 1, 2024.

Issues/Area of Concern

- Significant comments from Caltrans regarding ramp metering, sea level rise, VMT, and design exceptions.
- Additional funding likely needed for construction.
- Still Exploring options to improve local circulation.

Updates from Previous Report

- The Community Working Group was updated for the Environmental Phase – an initial meeting was held in May 2024.
- Bellam workshops took place in May and July for English and Spanish speaking community members.
- Initial traffic studies for local circulation are complete.
- Environmental Scoping meeting is scheduled for October 1.
- In March 2024, TAM Board dropped alternatives 3B and 6 from further evaluation and added a Local Street Alternative. Alternatives moving forward are alternatives 2, 3A and 7 (new alternative).
- Alternatives will be renumbered for environmental phase.

Schedule	
Planning	2020
Environmental Clearance	2027
Design	2029
Right of Way and Utilities	2031
Construction	2033

Estimated Cost by Project Phase	
Planning	2250000
Environmental Clearance	7,500,000
Design	9,000,000
Right of Way and Utilities	8-30 M
Construction (depends on alternative)	192-315 M
TOTAL	$211-364 M

Funding By Source	
RM 3	$135,000,000
Measure A/AA Sales Tax	17,000,000
TOTAL	$152,000,000

Project Status Report – Active — September 2024

Project: US 101/I-580 Multimodal and Local Access Improvement Project

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
C-FY12-09	1	Closed	CSW/Stuber-Stroeh Engineering Group (Task Order 32)	Develop Alternatives, Cost Estimates, Graphic Rendering, Environmental Evaluation	$102,000	Measure A Sales Tax	$102,000	100%
C-FY20-01	2	Open	Kimley-Horn & Associates, Inc.	Project Approval and Environmental Document (PAED)	$10,000,000	Measure AA Sales Tax, RM3	$3,653,690	37%
C-FY20-02	1	Open	Fremier Enterprises Inc.	Project Management	$600,000	Measure AA Sales Tax, RM3	$326,185	54%
				TOTAL	$10,702,000		$4,081,875	38%

Project Status Report – Planning & Active — September 2024

Project: State Route 37 (Marin Portion)

Partners Caltrans, Metropolitan Transportation Commission, and Transportation Authorities of Marin, Sonoma, Napa and Solano Counties

Jurisdiction(s) Marin County

Scope

State Route 37 is a key transportation corridor stretching from US 101 in Marin County to Interstate 80 in Solano County. Evaluation of the corridor has been assigned to a policy committee comprised of transportation authorities from Marin, Sonoma, Solano and Napa counties to address sea level rise, traffic congestion, transit options and recreational activities.

Status

TAM selected Caltrans to complete the design of Segment 2 – Phase 1. Segment 2 is from US 101 to Atherton Ave; Phase 1 is the bridge over Novato Creek to less than the ultimate width and including temporary transition structures to return to the existing grade.

Issues/Area of Concern

A segment of the four-lane freeway in Novato had been closed due to the flooding of Novato Creek in January and February 2017, in February 2019, and in January 2023. Segment two is the first of the eight segments to enter final design. Current issues include width of the temporary multi-use path, and cost increases.

Updates from Previous Report

The CEQA and NEPA Environmental Documents for Segment 2 have been signed.

TAM selected Caltrans to perform the design for the Phase 1 portion of the work and entered into a Cooperative Agreement.

Caltrans has informed TAM that the chosen delivery method will be the standard Design-Bid-Build. Other delivery methods were originally sought and were a factor in assigning Caltrans the design work.

TAM is continuing to meet and work with the other partners concerning the other segments not in Marin County and to explore tolling options.

Schedule – Segment 2 Phase 1	
Planning	2018
Environmental Clearance	2023
Design	2025
Right of Way and Utilities	TBD
Construction	TBD

Estimated Cost by Project Phase – Segment 2 P1	
Planning	N/A
Environmental	$10,000,000
Design	$15,000,000
Right of Way and Utilities	TBD
Construction	$170,000,000+
TOTAL	$195,000,000+

Funding by Source – Segment 2 Phase 1	
Caltrans SHOPP	$10,000,000
State Earmark	$20,000,000
IIJA PROTECT	$155,200,000
TOTAL	$185,200,000

Project Status Report – Planning & Active — September 2024

Project: State Route 37

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
A-FY16-10		Closed	Solano Transportation Authority	Design Alternatives	$40,000	City/County	$40,000	100%
C-FY17-16	1	Closed	CSW/Stuber-Stroeh Engineering Group (Task Order 11)	Segment A - Improvement Concept Study	$88,000	City/County	$85,922	97%
A-FY19-10		Closed	NVTA, STA, SCTA and TAM	SR37 Travel Behavior Feasibility Study	$11,765	City/County	$11,765	100%
A-FY19-07		Closed	County of Marin	SR37 Adaptation Study	$30,000	City/County	$30,000	100%
		Open	Caltrans	Segment 2 Phase 1 Design	$15,000,000	State Earmark	$3,750,000	25%
				TOTAL	$15,169,765		$3,917,687	26%%

Project Status Report – Planning — September 2024

Project: **Highway 101 Interchanges and Approaching Roadways Studies**
Partners Caltrans, TAM, County of Marin, Marin Cities, Marin Transit, and Golden Gate Transit.
Jurisdiction(s) Caltrans, County of Marin, Marin Cities.

Scope

The Measure AA Expenditure Plan includes a category that provides funding for studies of interchanges on Highway 101. The Studies will be used to develop multi-modal improvement concepts to Highway 101 interchanges and highway access routes to reduce congestion, improve connectivity, and improve local traffic operations.

The transportation sales tax funding will be used as "seed money" to prepare studies and reports that can support application for regional, state, and federal grants.

Status

The studies have been developed to outline existing conditions, define constraints, and present opportunities for potential improvements to twelve interchanges on Highway 101 and their local approaching roadways.

An implementation plan was prepared based on the interchange studies and results from the prioritization plan. The approved recommendation was to advance three interchange locations to the next phase of project development using Caltrans procedures. The following interchanges have advanced to the next phase of project development:

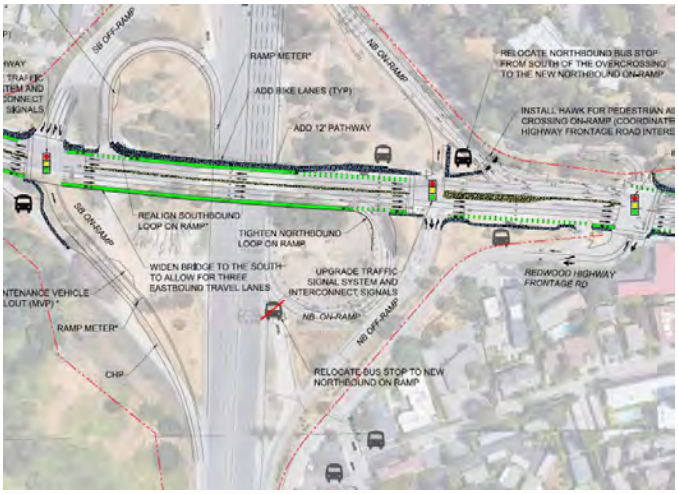
- East Blithedale/Tiburon Blvd (SR 131)
- Manual T. Freitas Parkway/Civic Center Drive
- Alameda Del Prado/Nave Drive

Issues/Area of Concern

None.

Updates from Previous Report

Work continues to refine the improvement concepts and develop a Project Initiation Document (PID) for the three locations.



Schedule	
Planning	2020-2025
Environmental Clearance	TBD
Design	TBD
Right of Way and Utilities	TBD
Construction	TBD

Estimated Cost by Project Phase	
Planning	$4,431,000
Environmental	TBD
Design	TBD
Right of Way and Utilities	TBD
Construction	TBD
TOTAL	$4,431,000

Funding by Source	
Measure AA Sales Tax	$4,431,000
TOTAL	$4,431,000

Project Status Report – Planning

September 2024

Project: Studies for Twelve US 101 Interchanges and Approaching Roadways

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
C-FY20-09		Open	HNTB Corporation	Professional Engineering Services	$4,431,000	Measure AA Sales Tax	$2,964,524	67%
				TOTAL	$4,431,000		$2,964,524	67%

Project Status Report – Planning — September 2024

Project: **Marin County US 101 Part-Time Transit Lane Study**

Partners Caltrans, Marin County, City of San Rafael, City of Novato, Marin Transit, Golden Gate Transit

Jurisdiction(s) Caltrans, Marin County, City of San Rafael and the City of Novato

Scope

This pilot project would provide a part-time transit lane using the highway shoulder of Southbound US 101 in Marin County between Novato and San Rafael. Bus on Shoulder, or Part-Time Transit Lane, is a proven concept to improve transit reliability and speed according to FHWA guidance, and a TAM feasibility study identified benefits to both Golden Gate Transit and Marin Transit Services. The conceptual design would allow for the operation of Transit buses in existing auxiliary lanes, on/off ramps, and shoulder lane with minor modifications to the striping and lane widths on the highway.

Status

TAM has completed a feasibility study and concept design, cost estimates and operational plans for the project among other items in October 2021. The next step will involve Project Initiation with Caltrans and determine funding availability.

Marin Transit was awarded $1,107,000 from the MTC sponsored Transit Performance Initiative with TAM serving as the implementing agency. A local match in the amount of $140,000 will be required by TAM.

Issues/Area of Concern

Performance measurements would be required for any pilot project, these would include safety measures, CHP enforcement, and other concerns raised during the feasibility study. Potential legislation is also being sought to clarify vehicle code and enforcement concerns.

Updates from Previous Report

The Funds have been transferred from FHWA to FTA. TAM and Caltrans are preparing a Cooperative Agreement.

Schedule	
Planning	2021-2025
Environmental Clearance	2026
Design	TBD
Right of Way and Utilities	TBD
Construction	TBD

Estimated Cost by Project Phase	
Planning	$350,000
PID and Environmental	$1,250,000
Design	$1,200,000
Right of Way and Utilities	TBD
Construction	$5,000,000
TOTAL	$7,800,000

Funding by Source	
Caltrans Planning Grant	$350,000
TPI and Match	$1,250,000
TBD	$6,200,000
TOTAL	$7,800,000

Project Status Report – Planning

September 2024

Project: Marin County US 101 Part-Time Transit Lane Study

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
C-FY20-07		Closed	Kimley-Horn and Associates, Inc.	Planning Services	$308,000	Caltrans Grant	$308,000	100%
				TOTAL	$308,000		$308,000	100%

Project Status Report – Planning & Active — September 2024

Project: Marin City Flood Mitigation Projects

Partners Caltrans, County of Marin, and Transportation Authorities of Marin
Jurisdiction(s) Marin County

Scope

TAM is currently administering a $10 million earmark from the state to distribute to the County of Marin for flood mitigation projects within the Marin City area of Marin County.

Status

Four projects have been identified by the County to be funded using the state earmark funds and one by Caltrans to be funded using IIJA PROTECT funds:

1. Portable Pump Station at Donahue Street
2. Permanent Pump Station in Existing Pond
3. Permanent Floodwall
4. Environmental Pond Dredging
5. Second Culvert Under Hwy 101 (Caltrans)

TAM and the County executed a funding agreement to implement the County's four projects.

Issues/Area of Concern

US 101 near Marin City and the Manzanita Park & Ride lot continually experience flood events due to a combination of roadway settlement, sea level rise, higher King tides, and maintenance challenges, sometimes closing off access to these areas.

Updates from Previous Report

TAM and the County executed a funding agreement to implement the County's four projects.

The County of Marin has awarded a contract to initiate purchase and installation of the Portable Pump Station and anticipates its completion later this year. They are pursuing retention of a contractor to operate the pump 24/7.

Schedule	
Planning	N/A
Environmental Clearance	N/A
Design	N/A
Right of Way and Utilities	N/A
Construction	N/A

Funding Distribution by Project/Activity	
Potable Pump Station	$2,500,000
Permanent Pump Station	$400,000
Permanent Floodwall	$750,000
Pond Dredging	$3,000,000
Second Culvert	$2,850,000
TAM Administration	$500,000
Hwy 101 Second Culvert	$20,000,000
TOTAL	$30,000,000

Funding by Source	
County	TBD
Caltrans IIJA PROTECT	$20,000,000
State Earmark	$10,000,000
TOTAL	$30,000,000

Project Status Report – Planning & Active — September 2024

Project: Marin City Flood Mitigation Projects

Contracts and Agreements Managed by TAM

Contract or Agreement No.	Amend No.	Open/ Closed	Agency/Consultant	Description	Appropriated Amount	Funding Source	Billed to Date	Percent Billed
A-FY24-02		Open	County of Marin	County of Marin Mitigation Projects	$6,650,000	State Earmark	$265,554	4%
				TOTAL	$6,650,000		$265,554	4%

PROJECT PHASE DEFINITIONS

Planning – Complete project studies to define general project parameters.

Environmental Clearance – Completion of and approval of environmental studies and/or reports. Environmental analysis assesses the potential impacts a project may have on the natural and/or built environment.

Design – Engineer and design project leading to the preparation of plans, specifications and construction estimates. Resource agency permits are obtained in the final design stage in preparation to advertise the project for construction bidding.

Right of Way and Utilities – Establish cost and obtain ownership/passage through a given area for the benefit of project completion. Establish utilities needed for the project and relocation if necessary. Right-of-way certification required if using federal funds or if the project is on state highway system.

Construction – Includes actual construction, construction management and construction related design. Actual construction close-out duration may go for years after scheduled completion date shown.

Project Management – Project or construction management and oversight support of projects to carry out elements of construction. Project management is provided by in-house agency staff and consultants. Typically includes construction materials testing for contract compliance.

ACRONYMS AND ABBREVIATIONS

ABAG	Association of Bay Area Governments
ATP	Active Transportation Program
BAIFA	Bay Area Infrastructure Financing Authority
BAAQMD	Bay Area Air Quality Management District
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CMAQ	Congestion Mitigation and Air Quality Improvement Program
CMP	Congestion Management Program
CO-OP	Cooperative Agreement
CTC	California Transportation Commission
DPW	Department of Public Works
EEMP	Environmental Enhancement and Mitigation
EIR	Environmental Impact Report
EIS	Environmental Impact Study
ENV MITG	Environmental Mitigation
EV	Electric Vehicles
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GGT	Golden Gate Transit
GGBHTD	Golden Gate Bridge Highway and Transportation District
HOT Lane	High Occupancy Toll Lane
HOV Lane	High Occupancy Vehicle Lane
ITIP	Interregional Transportation Improvement Program
ITS	Intelligent Transportation Systems
LOS	Level of Service
MCBC	Marin County Bicycle Coalition
MPO	Metropolitan Planning Organization
MPWA	Marin Public Works Association
MT	Marin Transit
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System

ACRONYMS AND ABBREVIATIONS

NEPA	National Environmental Policy Act
NOP	Notice of Preparation
NTPP	Non-motorized Transportation Pilot Program
OBAG	One Bay Area Grant
PA&ED	Project Approval & Environmental Document
PCA	Priority Conservation Area
PCI	Pavement Condition Index
PDA	Priority Development Area
PID	Project Initiation Document
PS&E	Plans, Specifications and Engineers Estimates
PSR	Project Study Report
PTTL	Part Time Transit Lane
RHNA	Regional Housing Needs Allocation
RM 2	Regional Measure 2
RM3	Regional Measure 3
ROW	Right of Way
ROW CAP	Right of Way Capital
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
SCS	Sustainable Communities Strategy
SLPP	State Local Partnership Program
SMART	Sonoma Marin Area Rail Transit
SR2S	Safe Routes to Schools
STA	State Transit Assistance; also, Solano Transportation Authority
STIP	State Transportation Improvement Program
STIP-IIP	Interregional Transportation Improvement Program
STIP-RIP	Regional Transportation Improvement Program
STP	Surface Transportation Program
TBD	To Be Determined
TCRP	Traffic Congestion Relief Program
TEA-21	Transportation Equity Act for the 21st Century
TIP	Federal Transportation Improvement Program
VRF	Vehicle Registration Fee

Transportation Authority of Marin

DATE: September 26, 2024

TO: Transportation Authority of Marin Board of Commissioners

FROM: Anne Richman, Executive Director
Dan Cherrier, Director of Project Delivery

SUBJECT: Evaluation of TAM Crossing Guard Program (Action), Agenda Item No. 5d

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RECOMMENDATION

The TAM Board reviews and accepts the 2023-24 Crossing Guard Evaluation Report prepared by TY Lin.

At the September 9, 2024 meeting, the Funding, Programs & Legislation (FPL) Executive Committee reviewed the FY2023-2024 Crossing Guard Program Evaluation Report and voted unanimously to refer it to the TAM Board for acceptance.

BACKGROUND

The TAM Crossing Guard Program began providing crossing guards in August 2006 and currently serves 96 locations. The Program is the largest TAM Program managed directly by staff. Program costs exceed $2 million per year.

The effectiveness of the Program was assessed in 2009, 2013, and 2017. The assessments were performed by TAM staff and focused mostly on the users of the Program (elementary and middle school students) to gauge changes in travel behavior. Questions regarding knowledge of the transportation sales tax and the role of TAM indicated little knowledge of either. This was to be expected since the age of the respondents was primarily 5 to 13 years old. However, many students filled out the questionnaires with their parents and all indicated that the Program was very successful.

DISCUSSION/ANALYSIS

Staff commissioned a new assessment to take place during the 2023 to 2024 school year. Rather than being managed by staff, TAM delegated the collection of the data and preparation of the report to TY Lin utilizing the on-call contract. This was done to maintain the impartiality of a third party. TY Lin decided to focus questionnaires during this effort to be directed to parents rather than students.

The results of the survey continue to extol the effectiveness of the Program. Almost 98% of the respondents thought it was a good use of the Transportation Sales Tax. Furthermore, almost a third of the respondents were aware that the crossing guards were primarily funded by Measure AA. It is unknown if this increase in awareness is due to greater knowledge of TAM or the fact that parents rather than students filled out the surveys. Additional information about the survey and results is contained in the attached report and presentation.

FISCAL CONSIDERATION

The survey and report were included in the FY2023-2024 TAM Budget and the costs did not exceed the approved amount.

NEXT STEPS

The next Crossing Guard evaluation should take place in approximately four to five years. Staff has a non-redacted version of the comments received and has been following up with the guard company and local jurisdictions as necessary.

In two years, staff (with consultant support) will undertake an evaluation for the Safe Routes to Schools Program. The FPL Executive Committee provided feedback regarding the potential scope of that effort.

ATTACHMENTS

Attachment A – TY Lin Crossing Guard Assessment Report
Attachment B – TY Lin Assessment Presentation (For Reference Only)

Transportation Authority of Marin

Measure AA Crossing Guard Program

2023-24 Assessment Report

May 2024

Table of Contents

Executive Summary

The Transportation Authority of Marin (TAM) has been funding and managing the Marin County Crossing Guard Program (Program) since 2006. Funding for the Program was originally approved in the 2004 Marin County Transportation Sales Tax Expenditure Plan that authorized the collection of the Measure A sales tax. Funding for the current Program comes from a combination of the Marin County Transportation Sales Tax Renewal Expenditure Plan approved by the voters in 2018 (Measure AA), and the vehicle registration fee passed in 2010 (Measure B).

TAM has been performing periodic assessments of the Program through a public process involving parents, school officials, and students throughout Marin County. The 2023-24 assessment is the fourth assessment following previous assessments during the 2008-09, 2012-13, and 2016-17 school years. The assessment consists primarily of a survey distributed to students and parents at a sampling of schools throughout Marin County. This 2023-24 Assessment Report documents the recent assessment and the findings based on the survey.

The assessment consisted primarily of a survey distributed to parents and students at a sampling of 43 schools within 10 districts and 2 private schools (29 elementary schools, 12 middle schools, and 2 combined elementary and middle schools) currently served by the Crossing Guard Program. The survey was distributed online to a distribution list of more than 23,377 recipients.

Some survey responses contained irregularities such as incomplete or blank answers. Forty-one (41) of the 1,157 responses received were removed from the results due to irregularities. The remaining 1,116 responses were deemed “complete” and are included in the analysis documented in this 2023-24 Assessment Report.

Surveys from a total of 41 of the 43 schools were received. The 1,116 responses analyzed for this report include 1,061 from parents (including 20 respondents identifying themselves as “Other”) and 35 from students.

By comparison, the 2016-17 Assessment Report included analysis of more than 3,700 surveys distributed and 2,139

1,116 Complete Responses

1,061 from Parents (95%)
35 from Students (3%)
20 from Other (2%)

complete responses received via hardcopy and online.

The survey had three primary objectives:

1. To determine the level of awareness of Measure AA Crossing Guard Program;
2. To determine whether the presence of a crossing guard influences travel choices for students that walk or ride a bicycle to and from school on most school days and/or every day.
3. To determine whether the communities served by the Crossing Guard Program consider the expenditure of Measure AA funds a good investment.

The responses to the survey indicate the following:

- Almost all of the respondents (98%) are aware of the crossing guards, but less than half (31%) know that Measure AA provides funding for crossing guards.
- The majority of the students (82%) that walk or ride a bicycle on most or every day to school reported using a crosswalk where a crossing guard is on duty.
- A significant majority (98%) of the students that walk or ride their bicycle to school use a crosswalk where a crossing guard is on duty and feel more comfortable knowing the crossing guards are at certain locations.
- Based on responses from parents and students combined, approximately 43 percent of the students that walk or ride their bicycle reported that they changed from being driven to school in a car to walking or bicycling, in part, due to the presence of the crossing guards.
- Almost all of the respondents, i.e. 98 percent, indicated they believe the Program is a valuable investment of Measure AA funds.

98% Approval!!

** From parents when asked if the Crossing Guard Program is a good way to spend transportation funding*

The Program continues to achieve its primary objective of increasing the number of students that walk or ride their bicycle in lieu of being driven to school. The survey results indicate that the communities served by the Program consider the crossing guards an important and valuable aspect of travel to and from school. In addition to the 11 questions contained in the survey, respondents were afforded the opportunity to provide additional information and/or comments. A large majority of the comments received reflect a strong appreciation for the Program and for individual guards.

Introduction

The Transportation Authority of Marin (TAM) conducted a survey as part of the required assessment for the Crossing Guard Program (Program) during the 2023-24 regular school year. This was the fourth such survey since the passage of Measure A, AA, and B. The previous assessments were performed during the 2008-09, 2012-13, and 2016-17 school years. This Measure AA Crossing Guard Program 2023-24 Assessment Report documents the assessment and the findings based on the survey.

TAM coordinated the 2023-24 assessment with the TAM's Technical Advisory Committee (TAC), the Marin Public Works Association (MPWA), the Marin Office of Education, School District offices, the Marin County Schools Superintendents, and the individual schools.

Background and Purpose

The Program currently provides funding for 97 crossing guards during the regular school year with a mix of Measure AA and Measure B funding. The 2023-24 regular school year represents the 18th year of the Program. The number of guards funded in a given year is dependent on the total amount of sales tax revenues received by TAM, a percentage of which is made available for the Program, and the amount available from the vehicle registration fee.

TAM uses a set of criteria based on industry standards to determine if locations "qualify" for funding, based primarily on vehicular and school age pedestrian traffic volumes at the specific locations. The criteria are vetted by the TAC and MPWA and the list of locations for each school year is approved by the TAM Board.

The questions listed in the 2023-24 questionnaire (Appendix A) are similar to the two previous surveys conducted during the 2008-09, 2012-13, and 2016-17 school years, with the difference in sample size from 9 to 43 schools in 2023-24.

More than 23,377 were distributed online to 43 schools (29 elementary schools, 12 middle schools, and 2 combined elementary and middle schools) and 1,156 responses were collected. Forty-one (41) of the 1,156 responses received were deemed incomplete due to irregularities such as blank answers or multiple answers to questions requiring only one answer. The remaining 1,116 responses were deemed

"complete" and are included in the analysis documented herein.

The list for the sampling of schools to receive the survey was based on the list of schools participating in the Program. The original list was endorsed by the Marin County Schools Superintendents.

All of the 43 schools included in the sampling for the focused online distribution received a link to the survey in and are listed in Appendix B.

The survey had three primary objectives:

1. To determine the level of awareness of Measure AA as the primary funding source for the Crossing Guard Program;
2. To determine whether or not the presence of crossing guards influence travel choices for students who walk or ride a bicycle to and from school on most school days or every school day; and
3. To determine whether or not the communities served by the Program consider the expenditure of Measure AA funds a good investment.

Each of the questions in the survey can be directly related to one of the three objectives.

Methodology

TAM coordinated with 10 districts and 2 private schools to distribute the online survey in English and Spanish to 43 schools (29 elementary schools, 12 middle schools, and 2 combined elementary and middle schools) starting in December 2023. TAM compiled the online responses and removed any containing irregularities deeming them as "incomplete".

The link to the online survey was distributed via email to Kenfield School District, Larkspur- Corte Madera School District, Mill Valley School District, Miller Creek Elementary School District, Novato School District, Reed School District office, Ross School District, Ross Valley School District, San Rafael School District, Sausalito Marin City School District, Marin Primary School and St. Patrick School. The online responses listed in Appendix C were downloaded at the end of the survey period.

Responses

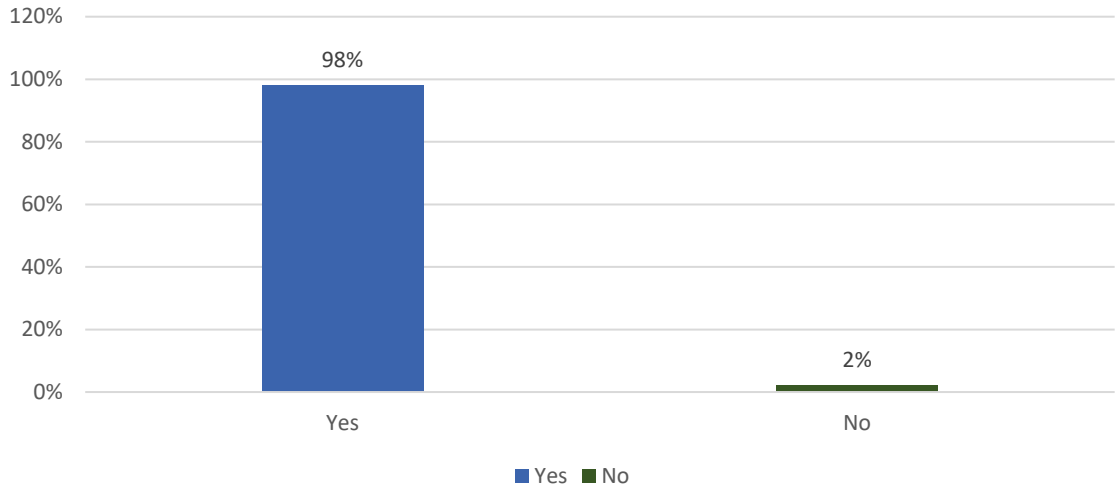
Forty-one (41) of the 1,157 responses received were removed from the results due to irregularities. The remaining 1,116 responses were deemed "complete" and are included in the analysis documented herein. Surveys from a total of 41 of the 43 schools were received. The 1,116 responses analyzed for this report include 1,061 from parents (including 20 respondents identifying themselves as "Other") and 35 from students. By comparison, the 2008-09, 2012-13, and 2016-17 Assessment Reports included analysis of 977; 1,961; and 2,139 total responses, respectively. The responses to individual questions from the survey are detailed below and are segregated according to which of the three objectives of the Assessment they are related. The percentage totals are included in the below graphs compiled from the online survey responses.

1,116 Complete Responses

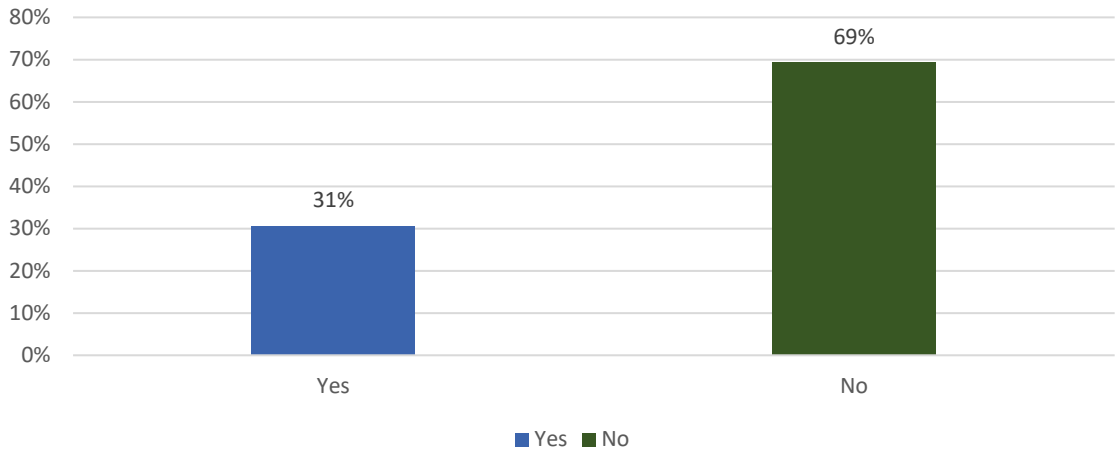
1,061 from Parents (95%)
35 from Students (3%)
20 from Other (2%)

OBJECTIVE 1: To determine the level of awareness of the Measure AA Crossing Guard Program

Question: Have you seen crossing guards at intersections in Marin County on school days?

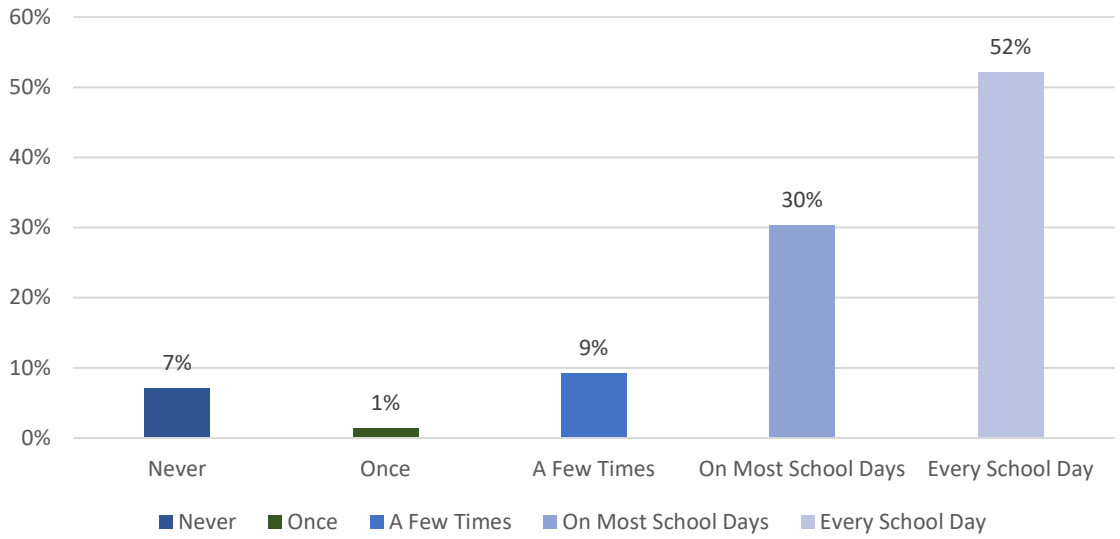


Question: Do you know that funding for crossing guards in Marin County comes from the Transporation Authority of Marin Measure AA countywide sales tax?

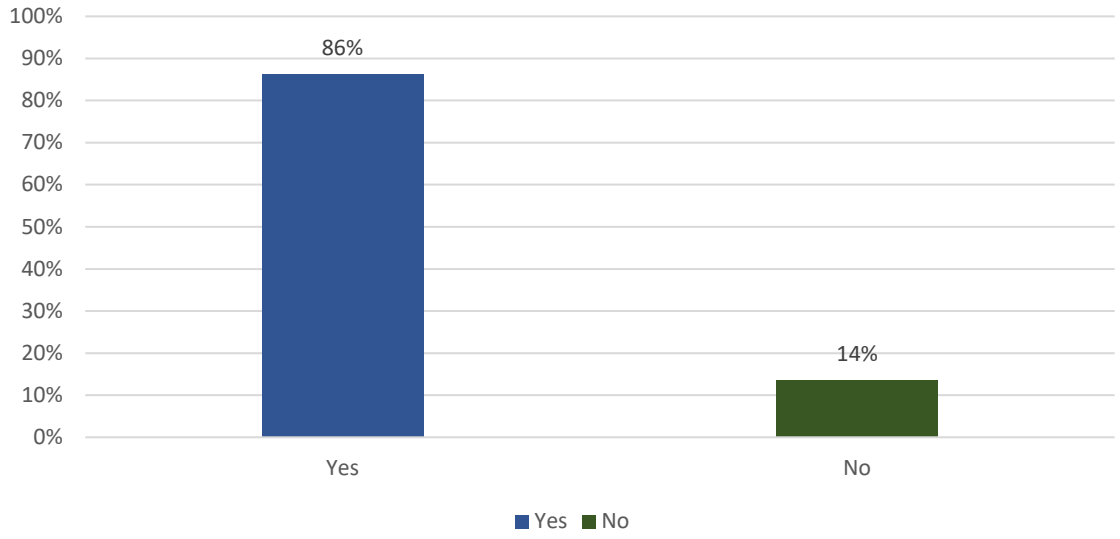


OBJECTIVE 2: To determine whether or not the presence of a crossing guard influences travel choices for students who walk or ride a bicycle to and from school on most school days or every school day

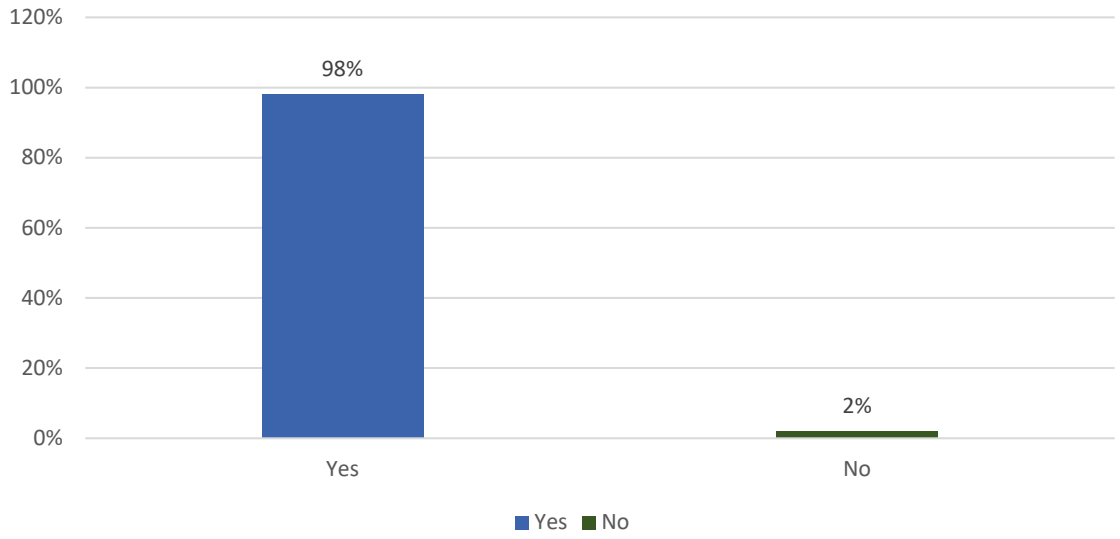
Question: During the last month, I have used a crosswalk where a crossing guard is on duty...



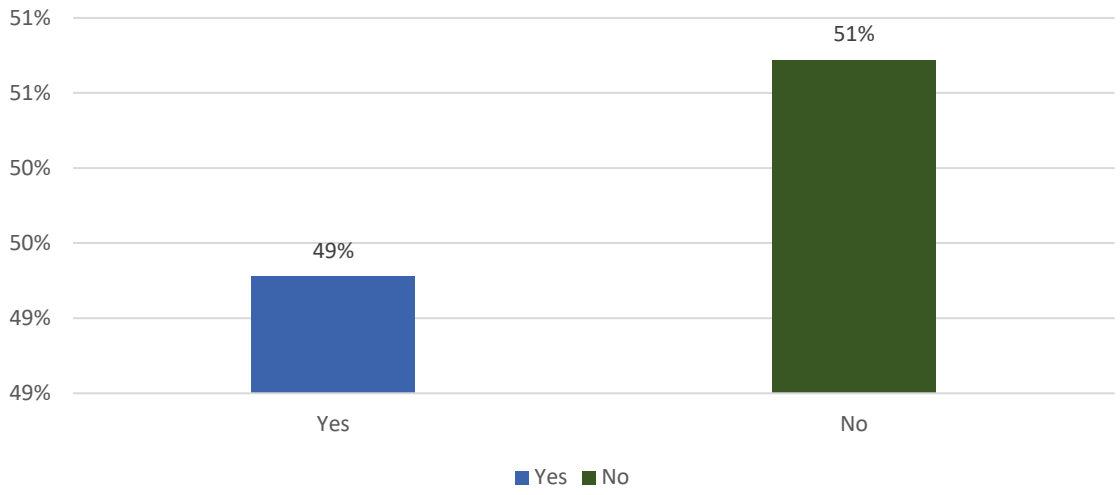
Question: Do you regularly cross a street where a crossing guard is on duty on your way to or from school?



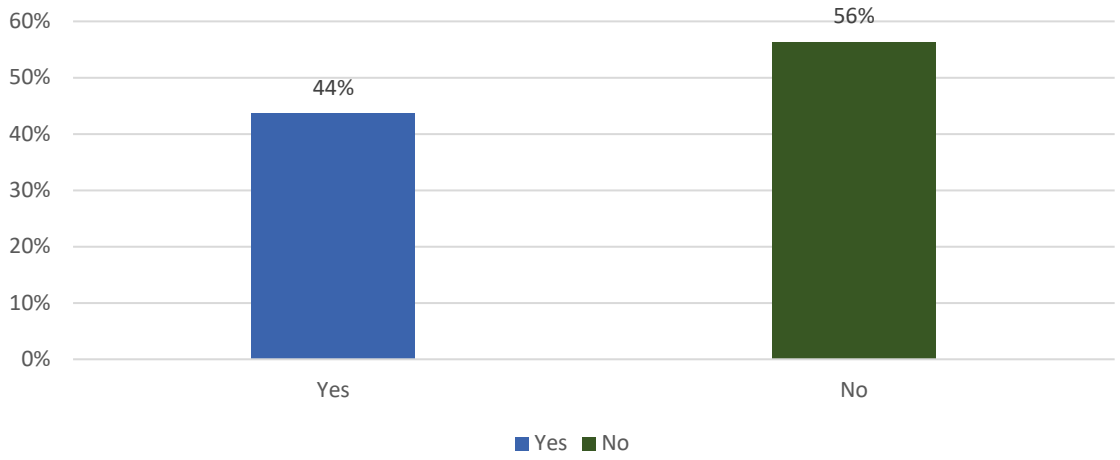
Question: Is it more comfortable for you to walk or ride your bike to school knowing that there are crossing guards at some intersections?



Question: Have you changed the route you take to school so that you can cross a street at a location where a crossing guard is on duty?

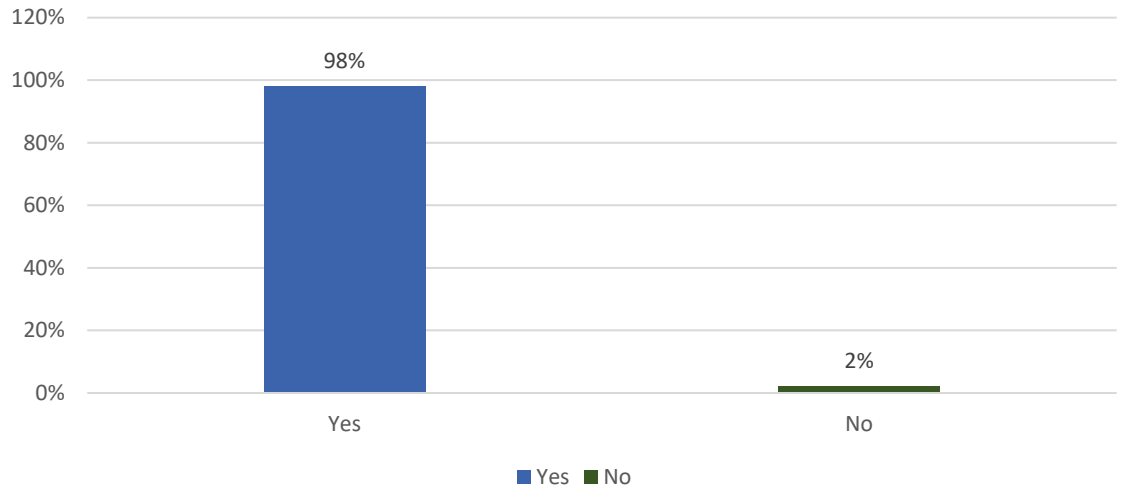


Question: Did you change from being driven in a car to school to walking or biking because you know there are crossing guards at some intersections?



OBJECTIVE 3: To determine whether or not the communities served by the Crossing Guard Program consider the expenditure of Measure AA funds as a good investment

Question: Do you think the Crossing Guard Program is a good way to spend transportation funds?



Conclusions

The Program continues to achieve its primary objective of increasing the number of students who walk or ride their bicycle in lieu of being driven to school. The survey results indicate that the communities served by the Program see the crossing guards as an important and valuable aspect of travel to and from school.

In addition to the responses to the questions detailed above, respondents were afforded the opportunity to provide additional information and/or comments. The additional information/comments are included in Appendix D. A large majority of the comments received reflect a strong appreciation for the Program and for individual guards.

98% Approval!

** Responses when asked if the Crossing Guard Program is a good way to spend transportation funding*

Appendix A

Transportation Authority of Marin
Marin County Crossing Guard Program
2023 Parent/Student Questionnaire
English Version (also available in Spanish)

The Transportation Authority of Marin (TAM) is conducting a survey to solicit feedback from students, parents, school officials, law enforcement and other parties involved with the Measure A Marin County Crossing Guard Program funded by TAM. The feedback will be used to assess the effectiveness of the Program, to identify areas for potential improvement, and to inform future funding decisions.

Please take a few minutes to complete this Questionnaire (one per student) at your earliest convenience. Your input is very important to us.

1. Please check the box that best applies to the individual completing this questionnaire.

Parent	Student (for which Questionnaire is being completed)	Other
☐	☐	☐

Other (Please describe): _____

2. Please provide the following information about the student for which this questionnaire is being completed (name is not required).

School: _____

Grade: _____

3. Please answer "Yes" or "No" to the following question.

Have you seen crossing guards at intersections in Marin County on school days?

Yes ☐ **No** ☐

4. Please answer "Yes" or "No" to the following question.

Do you know that funding for crossing guards in Marin County comes from the Transportation Authority of Marin Measure AA countywide sales tax?

Yes ☐ **No** ☐

5. Does this student (the one for which this questionnaire is being completed) walk or ride a bicycle to school on most school days? (If response is "Yes". Then answer all of the questions. If response is "No", survey will skip to the next question).

Yes ☐ **No** ☐

6. During the last month, I have used a crosswalk where a crossing guard is on duty…

Never ☐ **Once** ☐ **A Few Times** ☐ **On Most School Days** ☐ **Every School Day** ☐

7. Do you regularly cross a street where a crossing guard is on duty on your way to or from school?

Yes ☐ **No** ☐

8. Is it more comfortable for you to walk or ride your bike to school knowing that there are crossing guards at some intersections?

Yes ☐ **No** ☐

9. Have you changed the route you take to school so that you can cross a street at a location where a crossing guard is on duty?

Yes ☐ **No** ☐

10. Did you change from being driven in a car to school to walking or biking because you know there are crossing guards at some intersections?

Yes ☐ **No** ☐

11. Do you think the Crossing Guard Program is a good way to spend transportation funds?

Yes ☐ **No** ☐

12. Please provide any additional information or comments.

Thank you for completing this questionnaire. Your input is very important to us.

Appendix B

List of 43 Schools for Focused Distribution

Index	School District	School	Hardcopy Or Online
1	Kentfield School District	Bacich Elementary	Online
2	Kentfield School District	Kent Middle	Online
3	Larkspur-Corte Madera	Hall Middle	Online
4	Larkspur-Corte Madera	Neil Cummins Elementary	Online
5	Larkspur-Corte Madera	The Cove Elementary	Online
6	Mill Valley School District	Edna Maguire Elementary	Online
7	Mill Valley School District	Mill Valley Middle	Online
8	Mill Valley School District	Old Mill Elementary	Online
9	Mill Valley School District	Strawberry Point	Online
10	Mill Valley School District	Tam Valley	Online
11	Miller Creek Elementary SD	Lucas Valley Elementary	Online
12	Miller Creek Elementary SD	Mary E. Silveira Elementary	Online
13	Miller Creek Elementary SD	Miller Creek Middle	Online
14	Miller Creek Elementary SD	Vallecito Elementary	Online
15	Novato USD	Hamilton Elementary	Online
16	Novato USD	Loma Verde Elementary	Online
17	Novato USD	Lu Sutton Elementary	Online
18	Novato USD	Lynwood Elementary	Online
19	Novato USD	Olive Elementary	Online
20	Novato USD	Pleasant Valley Elementary	Online
21	Novato USD	Rancho Elementary	Online
22	Novato USD	San Jose Middle	Online
23	Novato USD	San Ramon Elementary	Online

24	Novato USD	Sinaloa Middle	Online
25	Private – Marin Primary	Marin Primary	Online
26	Private - St. Patrick	St. Patrick	Online
27	Reed Union SD	Bel Aire Elementary	Online
28	Reed Union SD	Del Mar Middle	Online
29	Reed Union SD	Reed Elementary	Online
30	Ross School District	Ross Elementary	Online
31	Ross Valley SD	Brookside Elementary	Online
32	Ross Valley SD	Hidden Valley Elementary	Online
33	Ross Valley SD	Manor Elementary	Online
34	Ross Valley SD	Wade Thomas Elementary	Online
35	Ross Valley SD	White Hill Middle	Online
36	San Rafael City Schools	Bahia Vista Elementary	Online
37	San Rafael City Schools	Coleman Elementary	Online
38	San Rafael City Schools	Davidson Middle	Online
39	San Rafael City Schools	Glenwood Elementary	Online
40	San Rafael City Schools	Laurel Dell Elementary	Online
41	San Rafael City Schools	Sun Valley Elementary	Online
42	San Rafael City Schools	Venetia Valley Elementary	Online
43	Sausalito Marin City SD	Bayside Martin Luther Kind Jr. Academy	Online

Appendix C

Summary of Responses for Questions 3 through 11

Q3	**Have you seen crossing guards at intersections in Marin County on school days?**		
	Response	**Percentage**	**Total**
	Yes	98.03%	1,094
	No	1.97%	22
Q4	**Do you know that funding for crossing guards in Marin County comes from the Transportation Authority of Marin Measure AA countywide sales tax?**		
	Response	**Percentage**	**Total**
	Yes	30.65%	342
	No	69.35%	774
Q5	**Does this student (the one for which this questionnaire is being completed) walk or ride a bicycle to school on most school days? (If response is "Yes", then answer all of the questions. If response is "No", survey will skip to the next question).**		
	Response	**Percentage**	**Total**
	Yes	68.19%	761
	No	31.81%	355
Q6	**During the last month, I have used a crosswalk where a crossing guard is on duty…**		
	Response	**Percentage**	**Total**
	Never	7.10%	54
	Once	1.31%	10
	A Few Times	9.20%	70
	On Most School Days	30.35%	231
	Every School Day	52.04%	396
Q7	**Do you regularly cross a street where a crossing guard is on duty on your way to or from school?**		
	Response	**Percentage**	**Total**
	Yes	86.33%	657
	No	13.67%	104
Q8	**Is it more comfortable for you to walk or ride your bike to school knowing that there are crossing guards at some intersections?**		
	Response	**Percentage**	**Total**
	Yes	97.63%	743
	No	2.37%	18

Q9	Have you changed the route you take to school so that you can cross a street at a location where a crossing guard is on duty?		
	Response	**Percentage**	**Total**
	Yes	49.28%	375
	No	50.72%	386
Q10	**Did you change from being driven in a car to school to walking or biking because you know there are crossing guards at some intersections?**		
	Response	**Percentage**	**Total**
	Yes	43.63%	332
	No	56.37%	429
Q11	**Do you think the Crossing Guard Program is a good way to spend transportation funds?**		
	Response	**Percentage**	**Total**
	Yes	98.48%	1,099
	No	1.52%	17

Appendix D

Summary of Additional Information and Comments Received

The table below includes all of the additional information and/or comments received from the online survey, including comments received with responses that were deemed "incomplete" and excluded from the analysis documented in the Measure AA Crossing Guard Program 2023-24 Assessment Report. The comments are included in this report in order to provide a sense of the respondents' impression of the Crossing Guard Program.

The comments are presented herein as they were received. No editing (except for some minor spelling, capitalization, and punctuation corrections) has been performed on the comments, but some text has been overwritten as described below. Comments that did not pertain to the crossing guard program or to the survey are not included in this report.

Some of the text from the original comments has been replaced with italics in brackets, e.g. *{text}*. The text in italics within the brackets gives an idea about the nature of the original text which has been overwritten. Any text that could be used to identify an individual guard or respondent has been overwritten since the objectives of the assessment do not include reviewing individual guard performance. Profanity and text describing what is considered inappropriate behavior have also been overwritten.

Additional Information and Comments Received
All the crossing guards Corte Madera and Larkspur have been amazing!
We drive to school and sometimes park so our crossing card walks us/our child across the street. His name is {Individual Guard Reference} (sp?) and he is kind, professional and extremely capable. He really watches out for our children. We are so grateful to have such a wonderful crossing guard near our child's school. Thank you!
Crossing guard sorely needed on Bon Air at the cross walk close to Magnolia. The blinking pedestrian lights are not sufficient, and I've seen a number of close calls there on our morning drive.
The crossing guard at Marin Primary is the best!!
All the crossing guards Corte Madera and Larkspur have been amazing!

We drive to school and sometimes park so our crossing card walks us/our child across the street. His name is *{Individual Guard Reference}* (sp?) and he is kind, professional and extremely capable. He really watches out for our children. We are so grateful to have such a wonderful crossing guard near our child's school. Thank you!
Crossing guard sorely needed on Bon Air at the cross walk close to Magnolia. The blinking pedestrian lights are not sufficient, and I've seen a number of close calls there on our morning drive.
The crossing guard at Marin Primary is the best!!
I think we need more crossing guards on Tamalpais Avenue at the crosswalks with no street lights. I've seen kids almost get hit multiple times because it's difficult for cars to tell when cars are stopped for traffic reasons or stopped to let someone cross. Very dangerous.
Our crossing guard leaves promptly at 8:30, which is when the school day begins. My son is sometimes late and I would appreciate if the guard would stay until 8:46 to allow for the latecomers to cross safely.
As a parent and taxpayer, I think having crossing guards is imperative. We should continue to offer this. On my way to work in my car I see multiple crossing guards either at work or setting up "shop" This is about 7:20 am ish. They are dedicated and I see them multiple times a week when I am commuting to work. I love that the guards are out and stopping traffic for the kids going to school. I have no idea how it works in the afternoon, I am still at my workplace and don't observe the afternoons. Is it a good idea to spend transportation funds on crossing guards? Yes.
The crossing guards at old mill are excellent. Very focused and attentive on the children's safety.
I love the crossing guards. They're very caring and protective of the kids and they're also very pleasant and kind to interact with. It's just a brief moment of each day, but it's always nice.
We absolutely love our crossing guards (*{Individual Guard References*), they have become part of our community. Without them, I would be hesitant to let me daughter walk to school on her own. She is only is 1st grade but has had to do so a couple of times. She even walked to school solo once in Kindergarten- all because I knew she would safe crossing with a crossing guard.
I'd love to see an approach that looks at the effectiveness of individual crossing guards and approaches to train them over time to improve.
{Individual Guard Reference} at Neil Cummins is absolutely incredible. He knows every student and parent by name, has jokes with them, and is genuinely a highlight of my son's morning every day. We're so grateful for him and the program.
We would love more crossing guards. Specifically, one at the intersection of Paradise and Prince Royal and Paradise and Golden Hind (in Corte Madera). One of the reasons we don't ride our bikes to school is because we can't always safely cross Paradise.
Our crossing guards lately have either not been there, or not doing their jobs properly. Crossing at Tamalpais near the Corte Madera Rec Center is very dangerous and there are tons of kids who cross there so it is VERY important to have a crossing guard, and one that is competent and can actual keep the children safe as they cross
We live in a community where many kids walk and bike to school, and rely on crossing guards to ensure our kids are safe (we see many cars speeding and/or not paying attention). We need more crossing guards at more intersections!

The intersection of Eastmen and Tamalpais needs a crossing guard in order to keep students and families safe. Cars drive incredibly fast on Tamalpais and the cars turning in the intersection often do not look for pedestrians. We need crossing guards to keep everyone safe.
We need at crossing guard at theSpindrift and Prince Royal intersection. Car come barreling down that street. A parent is currently VOLUNTEERING EVERY morning. It's ridiculous and dangerous not having an official crossing guard there. Give me a break!!!!
A school bus fund would be great, as parents driving individual students to school causes traffic congestion and also makes accidents with pedestrian students more likely.
I'm a neighbor who sees the crossing guard near *{School Name}* school. Maybe they offer a little protection but it is not full. They only walk part way out into the street, leaving the kids vulnerable when they are on the other side of the median. I'm sure it is a difficult job to fill, but there should be some anonymous auditing being done of the crossing guards.
Our crossing guard *{Individual Guard Reference}* is amazing. She's helped all of our kids and is a big part of the school community. Please give her a raise!
{Individual Guard Reference} is the best crossing guard. She is so contentious and caring. A huge part of our community
The presence of a crossing guard definitely helps regulate vehicle traffic near the school. When the crossing guards have not been there, drivers have not been as attentive to yielding to pedestrians. I highly recommend the continuation of this program!
Crossing guards are absolutely necessary. Just today I witnessed a crossing guard protect a student on a bike as a car was about to speed through the cross walk and had to slam on their breaks because they saw the guard.
They're very effective and due to traffic and pedestrians, very necessary.
I think the Crossing Guard Program is valuable for our schools.
We have a really great crossing guard at Tam Valley! She really makes it feel like a community saying hi to everyone and giving out high fives etc.
We love our traffic guards, they are the best!
Crossing guards are absolutely essential to our children safety. Pick up and drop off times are extremely hectic, with lots of cars and lots of people in a hurry. I've seen first hand how crossing guards prevented accidents that could have been dramatic.
It's been super helpful to have a crossing guard!
Blithedale at the bike path is a critical place for a crossing guard. Please continue!
I am more than happy to pay taxes to have school crossing guards for many reasons. I am a strong supporter of this.
We cross a very busy street where there was a crossing guard but there no longer is starting this year. It feels very dangerous not to have one!
I wish the crossing guard did a better job of considering the cars. She keeps the kids safe all the way across, but then continues to block the turning access for the cars until the light turns red. This causes the cars to pile up and get frustrated, and then the drivers make poor decisions, endangering the children. If the crossing guard played more of a mediator role, everyone would be safer and less frustrated.

The crossing guards at Tamalpais and Eastman need to be attentive guards who are more alert, fast moving and direct with stopping the aggressive impatient drivers, especially with left turns. This is a busy, dangerous intersection and the current crossing guards seem unable to actively help get the kids safely across the street. Parents know we have to do it, which defeats the purpose of having the guards there. There was a crossing guard earlier in the year who was so great for this intersection. She recognized her role and the safety issues here. Seems like some of the intersections near school do not have lights or as much cross traffic as this intersection, and perhaps that should be a consideration for the placement of crossing guards. The kids would benefit from also keeping the lights red during the active crosswalk times during school hours.
Strawberry school is on a fast road and cars drive way too fast over the hill. The traffic guard makes a huge difference, and he does an Amazing job at keeping kids safe. I would not let them cross with out traffic guard.
We drive and park, then walk. The crossing guard at our parking lot/ entrance is very helpful for crossing the street.
Thank you for the survey! Please oh please put back crossing guard at the corner of Almonte and Rosemont in Mill valley. This is an unbelievably dangerous corner where near misses happen so many times EVERY morning. Truly, there should be two crossing guards! We were absolutely thrilled to see a crossing guard there this year, and I felt so much safer about having my son walk to school. But now they are gone? Our family truly feels like ALL of the crossing guards we see in Mill valley are saints. Drivers are often rude, many of the kids are overconfident and distracted while crossing the street on their bikes or on foot…But the crossing guards bravely do their best to help. They should be truly revered and well compensated. We so support this program. Thank you so much.
Crossing guard is important especially for crossing between 101. Many motorists do not yield or obey the Stop sign as they should. It adds another level of protection for them kids.
Crossing guards are crucial to protect our students and are not optional.
There needs to be a crossing guard at Camino Alto and Blithedale.
Crossing guards are ESSENTIAL!
Need more crossing guards at high risk intersections
{Individual Guard Reference} is an excellent cross guard and human being. He is fantastic and so attentive. The days he isn't there it is noticeable in both the amount of traffic and mood around the school. I think it would be beneficial if he trained other cross guards. Though I a Have never crossed on foot by the middle school, that cross guard seems great too.
{Individual Guard Reference} - the crossing guard at blackstone and las gallinas – and *{Individual Guard Reference}* - at miller creek middle school - are just the best! Our day isn't complete if we don't get to say hi or chat with them. :)
We love the crossing guards near the middle school and Mary Silveira elementary. They're amazing and always there! So appreciative of this service. Back in my youth the kids worked as "safety patrol" crossing guards
It would be great if the cross walk guard engaged and smiled.
We love our crossing guard *{Individual Guard Reference}.* He is very personable and friendly and does a great job keeping us safe.

The crossing guard in our neighborhood, *{Individual Guard Reference}*, is truly excellent. He not only protects parents and children on their way to school but greets everyone, often by name, and brightens everyone's day in doing so. Our community is so much better off from his service in this role.
Love our crossing guards and appreciate them showing up for our kids every day in all the weather.
We love our crossing guards! They are the first face kids see on their way into school and go out of their way to connect with kids crossing :)
Crosswalks are dangerous. I work at hook and have almost been hit several times walking in a crosswalk 15 feet from my schools entrance. Parents/guardians are on their phones. Getting to and from school safely is a challenge.
More crossing guards. We need one at Spindrift and Price Royal
My son crosses over 101 from Strawberry. I think we need a light on the other side (101 South). We have a light on Redwood Highway but the intersection on the other side is so dangerous, even with a crossing guard. Its a three way stop.
I feel like we need MORE crossing guards. Drivers are so distracted and just don't pay attention.
Please keep the crossing guards!
It's really busy and crazy during the am through mill valley. With the added complexities of e bikes on the roads, cross guards will support a safer roads initiative.
Need crossing guard at Tamal Vista And Wornum in Corte Madera in the AM. Very dangerous very busy lots of kids.
Kids need a crossing guard! It's not safe without a guard there!!
It's an important job to ensure the safety of our kids and everyone loves the guards at Neil Cummins... They are so friendly!
Crossing guard is not always there and not always having kids cross safely. We also desperately need one at Prince Royal and Spindrift. Because of these issues, I don't let my kids ride or walk to school.
I believe kids on bikes need crossing guards to help guide them through the crosswalks, especially in the mornings. I think drivers can be distracted and rushing more so in the mornings.
I think the crossing guards should be moved to intersections that don't have traffic light crossings to make it safer for kids to get to school.
We actually use a crossing guard that's volunteer and not part of the Transportation authority of Marin. We would love to have an approved/ paid crossing guard at the intersection that we are scraping for volunteers right now because it is an unsafe intersection.
Please put a crossing guard on Chapman Dr. and Tamalpais.
We appreciate having crossing guards at the busy crosswalks especially around Hall since we have seen way too many cats that speed on Doherty. Also appreciate the town park crossing guard. My son goes all the way down to that crossing guard to cross over tam road because he knows there is a guard there. Please keep the crossing guards in place.
Tamalpais Avenue definitely merits a crossing guard. We've seen multiple instances of people running red lights or turning right into pedestrians on our way to and from school.

I love the crossing guards but challenge the locations. I live in Hillview (Larkspur) and the main route to school for my kids have ZERO crossing guards despite two major intersections (Bon Air, Doherty). I only support a program that address the needs of every constituent
We wish there was a crossing guard at a busy street our kids cross near the post office
Thank you for adding more locations in Almonte area
We live in mariner cove and don't have any busy streets to cross to get to school. But we love seeing the crossing guards helping students at the busier intersections!
It gets pretty crazy at drop off and pick up, so I think having a crossing guard makes a big difference.
The Crossing Guards are awesome.
We live 2 minutes walking distance from the school so we don't even have any intersections where we need crossing guards.
Very dangerous crossing even with guard. Busy!
We appreciate the crossing guard at Prince royal and Spindrift and wish there was one at the entrance to Cove on Golden Hind. My son uses this crosswalk daily and cars fly right through it even during school arrival and departure hours. It can be scary.
We love the Neil Cummins crossing guards!
I'm pleading to have a crossing guard stationed at the no-light intersection of Tamalpais and Sausalito st. So many kids cross here and I've seen some scary near misses. There are no lights at this crossing. It's safer over all for my kids to cross here, once they make it, since the rest of the walk to NC is through the park from the little footbridge over the canal. We skirt crossing over the gas station and walking through the rec center parking lot from going that way. I see kids using this crosswalk daily to get not only to NC but to cut through NE on their way to Hall and Redwood. Thank you for your consideration.
Very helpful for the flow of traffic and for kids safety in and around Tam Valley. Key crosswalk at Pine Hill especially.
Please put a crossing guard on Dolan Ave and Shoreline highway someone is going to get hit there.
As my children get older, they will be riding their bikes to school daily. I believe that crossing guards are extremely valuable as distracted driving is such a problem
Traffic around Hall at pick up and drop off is terrible. Without crossing guards, it would be so very unsafe and hazardous. Thank you for helping the kids.
I think the crossing guards at Neil Cummins are great especially *{Individual Guard Reference}*. They're always on it and great with the kids.
it's so important and makes me feel safe and willing to let my child bike to school on days that he asks.
There is always a guard at El Camino and Paradise. The guard is attentive, proactive and take safety seriously. It's a tough job and they do it well.
This is an essential function, and without question, I support funding or crosswalks. The only reason my child doesn't biker walk more, is because I share custody with a parent out outside of Marin county.
Crossing guard desperately needed at Paradise & Prince Royal intersection.

I would be concerned for the elementary school kids if there was not a crossing guard at the busy intersection in front of Tam Valley.
Please have a crossing guard on the corner of Lucky & Doherty drive.
The only crossing guards I've seen for Neil Cummins are right at the entrance to the school. I'd like to see more- especially near the high school where it's particularly dangerous.
{Individual Guard Reference} is the best crossing guard at Hickory
Love our dedicated crossing guards!!
We love our crossing guard *{Individual Guard Reference}*! Our intersection of Hickory Street at the creek bike path would NOT be safe without a crossing guard. Thank you
Crossing guards aren't always present on busy intersections. My son was hit on the crossing near Neil Cummins on lakeside or Mohawk We need more and better guards
The drivers are distracted, kids not paying attention too, so the crossing guards make us all stop and pay attention to safety.
As a driver dropping kids off at school, I am VERY glad that the crossing guards are there to keep the kids safe. It is important to me as a driver to have the crossing guards there improving safety for all at the intersections.
{Individual Guard Reference} and *{Individual Guard Reference}* are excellent crossing guards. They are attentive and keep everyone safe. My carpool loves saying hi to them everyday! These two crossing guards in Marinwood are more engaged and are a value add than others in the area.
My child can't walk or bike to school because we don't have any cross guard or any street signs that indicate that kids are walking/biking, is super dangerous! We live in Central Drive in Mill Valley and we need to cross Redwood highway and then Tiburon Blvd. there is not any mark on the road that indicates kids can bike or cars to know that they will see kids. IMPOSSIBLE. It's unbelievable that we live so close and we need to drive to school.
Many, many families walk to school at Lucas Valley. There's an intersection where tons of kids cross - it's also a very busy car route. Our crossing guard is awesome. He's attentive and kind. He consistently both cars and pedestrians navigate what would be a stressful intersection. Because he's there we can all smile and wave instead.
Need a crossing guard to help kids cross Magnolia Ave at Doherty. Many near misses at this crosswalk. The cars turning left onto Magnolia from Doherty get a green light a few seconds after the crosswalk sign is illuminated. Since they are looking to their right for cars they do not notice pedestrians to their left that are crossing at the time they are supposed to cross. Also cars turning right from Magnolia toward the high school often don't see the pedestrians crossing Magnolia. Dangerous intersection for pedestrians heading to and from both Hall and Redwood. Thank you.
We absolutely love our crossing guard in front of Neil Cummins. His name is *{Individual Guard Reference}* and he cares deeply about the kids at the school and brightens their day.
We value *{Individual Guard Reference}*, the crossing guard on Hickory, so much. I feel comforted by the fact that he is there every day to ensure my son makes it safely to school.
We need more crossing guards in Larkspur / Corte Madera along the school routes. It also should be explored whether they can play a role at keeping pedestrians and bikers safe on the bike path between the towns as the increase in electric bikers has become unsafe there. Thank you!
The crossing guard outside Tam Valley school entrance is 100% necessary for safety. If she wasn't there it would not feel safe given the intersection and amount of kids and cars.

Would be best to use the funds for that reason, instead we have parents that have to fill the spots that no crossing guards are located at.
{Individual Guard Reference} is an amazing guard with the student's safety in mind.
This survey was hard to answer because we recently lost an important crossing guard in Mariner Cove and the questions did not ask "have you started driving more due to the removal of a crossing guard" to which I would have answered "yes". I'd love to bike the kids to school more but we really need that crossing guard back (or just make Prince Royal/Spindrift a 4 way).
For kids from Strawberry riding to school the crossing guard at the overpass is an absolute necessity. My child will not ride to school without that crossing guard. Thanks!
I love the crossing guards! *{Individual Guard Reference}* is ours at MPMS, and he is wonderful. The traffic there can be extremely congested both in the morning and after school, and it is very helpful and makes it much safer having the crossing guard there. I think it is very much money well spent for the safety and well being of our children every day. Thank you!
While my daughters route to school doesn't use a crossing guard, there is a very important one in our neighborhood at Prince Royal that keeps a lot of kids safe and I am glad they are there.
{Individual Guard Reference} is amazing. He welcomes students to school in a warm and friendly way. The kids love him.
I think a crossing guard would encourage more parents to have their children walk or bike to school.
There needs to be some way to make shore that the crossing guard is a good crossing guard because I have seen some that are not as good.
I am so thankful that there are 3 crossing guards for Miller Creek Middle School. I know that my daughter is safe when she walks home.
{Individual Guard Reference} is exceptional at his job as a crossing guard for Lucas Valley Elementary. He takes the time to get to know the names of everyone who regularly crosses the intersection he guards and he greets everyone by name and wishes them well, spreading goodwill and kindness. He is a part of the community. He is a great role model for how to go the extra mile every day and be the best you can be at your job. In the years my children have been going to school, he has never been late and rarely taken a sick day. He's very committed.
Crossing Paradise/El Camino to get to the bus or Cove is very dangerous without a crossing guard. Loads of traffic and cars speed thru to not miss the light.
This is vital to the kids safety. We have a new guard at Edna that has saved kids lives in the am drop from being hit by cars. Mill Valley Middle crossing guards are so critical to the safe routes to school and allow our family options to walk, ride, or even drive. The light at E Blithedale should be adjusted so the crossing guard have a protected light and then the cars have time to turn right. Many of our families do this drop from Edna to MVMS and there roads back up because the cars don't get to turn in time. In either case that crossing guard does a great job of making sure all kids have crossed safely.
The crossing guard at *{Location Reference}* does a terrible job balance both vehicle and student traffic. She is unable to control students and does not keep them within the crosswalk. It's dangerous and causes a massive problem w cars and students not understanding the rules of the road.

I would like an additional crossing guard at the crosswalk of Heatherstone Dr. and Blackstone Dr. My child, and several other neighborhood children cross that intersection on the way to and from school. Many drivers do not stop properly and drive too fast there. It feels unsafe at times.
The Crossing Guard at the crosswalks at *{Location Reference}* does not safely monitor the crosswalk. He stands in the corner and does not stop traffic in one direction. It is very unclear who has the right of way as he does not stand in the crosswalk but in the corner holding a stop sign. Drivers and walker/bicyclists are not properly protected. Please have him engage in training or hire a better crossing guard. The crossing guard in front of Miller Creek Middle School is great! He is very clear and assertive and keeps kids safe.
{Individual Guard Reference} at Hickory in Corte Madera near Neil Cummins is outstanding and is the reason we're comfortable letting our kids walk to/from school.
The crossing guards around Neil Cummins are incredible and make it very safe as well as fun for the kids every day.
Crossing guards help keep our kids safe as parents will prioritize their own student getting to school on time over the safety of other students. Or members of our community get frustrated and drive unsafely around our kids. And our guard is very friendly and part of our school community.
Crossing guards can be very distracted chatting with the parents afterschool or waive cars through despite kids waiting to cross or approaching the cross, presumably to scare kids and teach them a lesson about stopping at the crossings. I don't like the game of chicken. All it will take is one stubborn kid ignoring the crossing guard and bombing into the intersection for a disaster. Please provide some additional training on staying focused and appropriate ways to teach kids the lessons. That said, greatly appreciate their presence and efforts to keep the kids safe. Thanks!
Crossing guard {Individual Guard Reference} @ Camino Alto & Sycamore is incredible. Thank you *{Individual Guard Reference}*!
The location of Strawberry Point School provides some unique challenges in that the entrance to the school is at the bottom of a hill which is at the end of a blind curve. The number of cars turning in and out of the school parking lot causes a great deal of congestion at the school entrance. Even with a crossing guard at the school entrance, cars, come flying down the hill and around the blind corner and there have been a number of near misses with parents and children inside the crosswalk assisted by the crossing guard. It feels like more could be done at the top of the hill to both alert and slow traffic during peak drop off/pick up times and/or while the crosswalk light is active. Thank you.
Crossing guards are essential to the safety of our students…from elementary through high school. Drivers are more distracted now (due to devices) than ever before. This funding is crucial to keep our kids (and adults) safe while getting to school. Our kids go out of their way to use intersections where guards are posted. Thank you for keeping crossing guards a priority for our schools!
The crossing guards are critical and much appreciated for our kids safety.
Very important! Even as a driver.
Most of the crossing guards are very lovely and kind in addition to providing safety to our students. My daughter specifically appreciates the one who high fives each student and gives a positive message to her. He has been regularly scheduled at Hickory and the bike path along the canal in Corte Madera.

My daughter's usual/fastest route does not have heavy vehicle traffic and does not have or need a crossing guard. But when she comes from the main intersections on occasion (Lomita & E Blithedale or Sycamore & Camino Alto), crossing guards are there and so important. I would not feel comfortable with her walking those routes if crossing guards were not there. As a driver through those intersections, I see how valuable the crossing guard presence is to regulating vehicle flow. Next year my daughter's route to high school will involve 2 major intersections (Sycamore & Camino Alto and Camino Alto & Miller), and I'd hate to see crossing guards disappear from those critical points. Please keep it up!
We need a crossing guard at the corner of Spindrift and Prince Royal in Corte Madera. We live in one of the safest little neighborhoods and now parents don't feel comfortable letting their kids ride to school on their own in the older grades because there is no crossing guard.
Crossing guards are incredibly important and invaluable for our kids walking and biking to school. One has been removed on our route (Spindrift and Prince Royal) and our community has had to take the issue into our own hands. I would support and increase in taxes, anything to ensure competent crossing guards wherever needed.
We need a crossing guard at the other intersection near Mt Tenaya please.
The crossing guard near Tam Valley elementary is CRUCIAL. She not only keeps pedestrians safe, she also keeps vehicle traffic flowing by stopping pedestrians at times. She is SO important and the most skilled crossing guard I have seen in Mill Valley.
Even though we drive to school, my student still needs to cross a street from the drop off location. I appreciate the crossing guards at all the school crosswalks.
Please consider placing a cross guard on the Lakeside Ave before Birch Ave (in Corte Madera) A lot of kids cross the pedestrian crossing path and there are a lot of cars passing through in the mornings.
It's such an immense comfort to have a crossing guard at the busy intersection by our school. We use it every day. I like knowing it's usually the same person as we have a relationship and he knows the children that usually take the route. This is vital for our school day to have the crossing guard there.
very helpful to keep kids safe - so many kids are riding/walking in our community. It helps foster kids' independence, keeps them safe, and allows parents to feel comfortable/confident in kids getting to school independently. And good for the earth!
We really need a crossing guard at Prince Royal Passage and Spindrift Passage
Our crossing guards are super friendly!
There is a crossing guard at Marinwood Ave and Miller Creek who does nothing. I support crossing guards but please place them more wisely.
Crossing Guards are definitely a needed resource to help safely get kids to school. Especially with how parents often rush to school on busy streets.
Crossing Guards are very important, especially with the number of E-bikes that are ridden these days.
We appreciate having a crossing guard.
All crossing guards at Ross School are members of our community. I appreciate the service that they provide.

Critical to promote safe street crossings from distracted and rushed drivers around schools. Money well spent for sure!
We live just 2 blocks from the school and my daughter likes to walk herself to school and I definitely feel better about her being alone knowing the crossing guards are there!
The crossing guard program is essential for the safety of our children. I give it my strongest support.
Crossing Sir Francis drake is extremely dangerous and cars regularly try to speed through. Crossing guards have a huge impact on my and my daughter's safety. Would definitely use the car more if this were not in place.
The crossing guards help all that are walking and riding before and after school. I have seen this help traffic and I feel leave my daughter safer to cross the street with her friends. Kids don't pay attention and it makes me more comfortable having someone at the crosswalks to be another set of eyes.
We love our crossing guards at Green Valley Ct and Butterfield, thank you!
I believe they are currently in good locations (within the nearest intersection from schools) but dont feel any additional resources or guards would be of greater benefit.
Would love for an additional crossing guard at Wade Thomas school at Foss and Sunnyside intersections as many parents drive fast there without a stop sign.
Crossing guards are essential on hidden valley where there is no other traffic control (stop signs or traffic lights) and do far more than just ensuring safe crosswalks (which they do a great job of)
We LOVE *{Individual Guard Reference}*!!! He greets my kids by name every morning with a smile and joy. He makes us feel safe and is absolutely VITAL!! Please do whatever it takes to continue providing crossing guards for our children. Thank you!!
Would have children walk more to school if there was a crossing guard on Sir Francis Drake. SFD and Ross seems like the most dangerous location for children to walk unassisted.
I see the axing guards as our best defense against drivers who are not fully awake or aware.
We would not feel comfortable allowing our 4th grader to bike to/from school without a crossing guard. Tim is THE BEST (although we did also love Jorge): knows the kids by name and spreads joy. Thank you for funding this critical community necessity.
The crossing guards do a valuable job keeping our kids safe. Thanks for their hard work and friendly smiles.
Would be nice to have one at the Rutherford/Meadowcroft crossing.
{Individual Guard Reference} - our beloved regular crossing guard is part of our community as was *{Individual Guard Reference}* before him. Another adult to know kids, see them, and keep them safe on Butterfield corridor. Thank you for this program!
More of these please! And I hope they get paid well…dealing with the drivers on SFD is no joke.
{Individual Guard Reference} and *{Individual Guard Reference}* on Butterfield are fantastic.
They are a requirement for Sir Francis Drake in Fairfax
We generally meet 3 crossing guards on our daily route. Two (closest to my daughter school) are amazing! I wish I could say the same about the 3rd one.

While we don't regularly cross at Butterfield & Green Valley Ct *{Individual Guard Reference}* (the crossing guard there) is so incredibly valuable. Not only does he ensure the safety of everyone on foot and bike, but his presence helps with flow of traffic and general safety around a very small and congested area. He's also just a lovely human and I'm grateful we have him.
We look forward to seeing our crossing guard, *{Individual Guard Reference}*, each day. Having him in front of school in the morning and afternoon makes it possible to walk to school with small kids and a very busy intersection.
There needs to be a guard at Butterfield and Rutherford. This is a dangerous intersection (lots of impatient cars) with a high volume of kids crossing.
I think it is imperative to have a crossing guard at White Hill as people speed down the hill from Woodacre to Fairfax and it is dangerous. Thank you
My kids need to cross the very busy Sir Francis Drake Blvd to get to school. I don't even like crossing it in a car, let alone allow my kids to walk or bike across without the crossing guard. Drivers have no respect for the right of way of pedestrians at the crosswalk even with the crossing guard. I can't imagine what it would be like without a guard. As it is police presence is often also needed to ensure the safety at the crosswalk walks.
Given the sheer number of cars, e-bikes and the speed at which these travel on SFD - crossing guards are a critical necessity at all school crosswalks especially on SFD. We would choose to drive to school if crossing guards were not present- given safety considerations.
The crossing guard at Green Valley Court and Butterfield is extremely engaged and present while working the crossing. He is a gem and we are so grateful for his attentiveness.
The crossing guards would be more effective with better training and directions. For example, at Brookside school most crossing guards stand on school property in the morning, walking out to stop traffic. This creates two issues, they are standing in the entrance to the busy parking lot, blocking traffic, and frequently have to step out of the way of cars. They also are on the opposite side of the road to the children who need to cross the road. If the crossing guard stood across the road from school, he would have better visibility and be on the same side of the road as the children who are waiting to cross, and better able to help them. he also wouldn't be blocking the road/entrance to the parking lot.
We drive our child because of a dangerous crossing/intersection on Sir Francis Drake that does not have a crossing guard. We have seen too many close calls with kids and cars at SFD and Sierra.
The crossing guard in front of *{Location Reference}* needs additional training. He is too aggressive, stopping traffic long before a person has actually arrived at the crosswalk and pressed the button, at peak times just stop in traffic for long periods of time and causing unsafe traffic back up conditions through downtown Fairfax.
I think that there is more foot traffic at Meadowcroft and Butterfield than Rosemont and Butterfield (north of Butterfield doesn't have any sidewalks on the west side), so it's really only supporting Rosemont and anybody who drops off there). I would love to see a crossing guard there instead (maybe people drop off across the school but to me it's really only serving those that live on Rosemont and north of Butterfield (in which it's only a half block). The Meadowcroft cross would help Suffield, Hawthorne, Rutheford, Camino de Herrera or anyone else coming from the southwest side of Brookside.
I have seen our crossing guards save lives! They are essential to our safety and our children's safety and security getting to school.

I think this program is essential. Sir Frances Drake is a busy, dangerous road. The crossing guards take care of our children. We are grateful.
{Individual Guard Reference} at Brookside/Butterfield side is awesome! So much more comfortable knowing he is there, safety-wise.
I drive my daughter school on most days, but this school year the crossing guard for White Hill was often late or missing in the morning. It seemed strange to me as there were many kids riding or walking to school and cars turning into White Hill and there was no crossing guard for the 810am start time.
Crossing guards are important for keeping kids and parents safe at busy drop off/pick up times
The crossing guard is essential for our location which requires crossing Sir Francis Drake Boulevard. We only walk to school and it is much safer with the assistance of the crossing guard. I also would not allow my child to walk home by herself if there was no crossing guard on duty. It is too dangerous and cars speed and do not always stop.
A crossing guard at Butterfield and Green Valley Court is absolutely necessary. Drivers constantly speed down Butterfield trying to get deep into sleepy hollow. It is appalling. I would not allow my child to walk or ride to school alone without a crossing guard at that intersection.
Our crossing guards are so friendly and we have to cross a very busy street (Sir Francis Drake) so we are grateful to have them!
So happy to finally see crossing guards on SFD by AW!
Thank you for providing crossing guards. SO important, especially across SFD.
Crossing guards must be trained to stop pedestrians and allow cars to pass sometimes. Often some guards are stopping traffic (Kent and Woodland specifically) before a pedestrian is at the crosswalk and holding traffic even after the pedestrian has cleared, causing unnecessary delays and frustrations during key commute times. One guard in particular yells at cars. I pass 6 crossing guards dropping my high schooler off at school, the Kent/Woodland intersection is the worst during morning and afternoon school commutes. Other guards seem to have an understanding that pedestrians can wait 2 seconds for a safe passage.
Please keep our wonderful crossing guards! If anything, add more! We became a biking family instead of a car family because of the multiple crossing guards making it safe to get to school on bikes :)
It is extremely necessary to have school crossing guards at our sites more now than ever due to the amount of traffic and distracted drivers. It is a mess out there!
I think the good ones are really good and helpful. Some are less effective. There's one near *{School Name}* in Fairfax who can barely move, stops traffic way too early (when crossing parties aren't close) then is aggressive with cars who go after parties have crossed when he is one foot out in the lane (on other side). unnecessary.
Our crossing guards are VITAL for the safety of children and adults trying to cross Sir Francis Drake Blvd. Without them the cars don't even stop.
Having a crossing guard on Drake Blvd. at Glen Dr. is essential for the middle kids to cross the road safely and for traffic during commuting hours.
Previous to having a designated crossing guard at SFD & Glen, I witnessed at least 10 close calls of kids getting hit in the crosswalk by drivers. No one pays attention. Grateful for this program!!

The crossing guard program is a critical safety need. People in cars don't make good judgment calls with regard to crosswalks and small children can be difficult to see. It also provides jobs to locals. Win Win.
I walk my daughter to school currently, but soon she will be old enough to go on her own. I would love to get her to bike to school, but she is anxious about learning to bike. I really would like to get her to learn to bike, especially before going to Hall middle, which is further away. It would be wonderful if the TAM could help fund or identify programs for elementary age kids to help them learn to bike. I think she would be more interested in biking if she were with friends and in a class together and they could do something fun like bike to a park. I have been trying to help her learn biking since she was a toddler and got the strider bike and all that, but so far, it hasn't helped. I would be happy to volunteer in a program like that or help pay or do whatever I could to help make it happen.
We would not feel comfortable walking to school without *{Individual Guard Reference}*, our crossing guard supporting our safe passage across Sir Francis Drake.
{Individual Guard Reference} and the other crossing guard at Old Mill School in Mill Valley are amazing. The school is located at a number of busy intersections and their presence is so important to keep kids and parents safe.
Wade Thomas crossing guard (*{Individual Guard Reference}*) is fantastic. Never on his phone or smoking cigarettes as I've seen other guards doing before.
The crossing guard at White Hill is absolutely necessary. He does an amazing job. It's very challenging to turn left onto Sir Francis Drake when leaving White Hill. The crossing guard keeps both the walkers and cars safe. I am very grateful to him!
The Hidden valley crossing guard is awesome.
I think for all schools they are very supportive/especially on SFD by Archie Williams.
It sounds great but where are the crossing guards? Have never seen one in Sausalito.
The safety of our students is paramount and crossing guards are an essential part of keeping kids safe.
Please spend transportation funds on school buses for all students. Get private cars off the road and get an electric powered bus. TAM should help schools get Clean School Bus Program rebates from EPA. Our school only provides bus service for some students. Students living over 2 miles away from school do not receive bus service!
With the increase in population and traffic on all Fairfax streets, I think crossing guards are imperative to keeping our children safe.
Crossing Guards not only keep pedestrians and cyclists safe but also keep traffic flowing much better than if there weren't crossing guards. The more the better! Great use of funds that impacts everyone.
Can you clarify how school buses such as those to white hill middle school are funded?
Would like a crossing guard at the intersection of Butterfield and Rutherford.
Great program! ALways very friendly and helps keep our kids safe.
As a driver, I think the crossing guards for Archie Williams' students on Sir Francis Drake are brilliant. It makes it much easier for us to know students are crossing the road and that the community is watching out for them. Thank you!

Despite having one crossing guard on our way to school, there is a huge gap with absolutely no crossing guards on our busiest street of Sir Francis Drake. The one on Oak Manor is not necessary but what is necessary is helping the children on the south side of SFD cross safely from west of Manor school. The guard at SFD and Oak Manor was removed this year and I feel strongly that we should have either someone there or at the Village West/Victory Village/Mitchell Dr crosswalk to help those on that side of the neighborhoods cross.
Intersection of Bridgeway/ Donahue/ gate 6 is dangerous, actually all crossings on Bridgeway in Sausalito are dangerous for students.
We don't need it, but it's great having it in the neighborhood.
We used to have crossing guards but they were eliminated this school year. Miss them.
Student rides the bus most days
I love our crossing guard!
Ou HV guard is friendly, safe and does a great job of managing traffic flow, in addition to helping all parties cross safely.
My only wish is that the crossing guards would walk at least to the middle of the Street while allowing pedestrians to cross safely
I have known many crossing guards over the years. Right now we have *{Individual Guard Reference}* who is AMAZING. He is friendly and happy with the kids and he is totally ON IT with his job.
Our crossing guard is fantastic. We've also noticed others on Butterfield as well as Sir Francis Drake and they all are super engaged and take their job very seriously. Please keep them funded.
Will you install any crossing guards in Sausalito?
Would be nice to have crossing guards stay a little bit after the start of school, since it seems like some of the most dangerous driving behaviors happen then (i.e., drivers in a rush, distracting, parking where they shouldn't "for just a minute" because they are late, etc.)
We appreciate the crossing guards themselves, and their presence at intersections where traffic is not calm and that we must use to get from home to school (SFD and Butterfield, for example).
On about 4 out of 5 days I will see a crossing guard and she is very kind.
I've requested a crossing guard many times to cross Sir Francis Drake @ Barber Ave several times as this intersection has no crossing guard and is extremely unsafe for pedestrians. My son and others have been nearly struck several times via vehicles at this dangerous intersection. PLEASE look into having a crossing guard to cross Sir Francis Drake @ Barber Ave!
Very important program for the safety of our kids.
We love our crossing guard!
The crossing guards ensure a safe transition for students to/from school.
The crossing guards for Manor are lovely people. We are so happy they are here to make sure that cars stop for our kids.
We are thankful for the crossing guard at White Hill. *{Individual Guard Reference}* is an extremely dangerous intersection and the kids need as much help with safety as possible. We really could use a traffic signal/stop light there.

It is very dangerous near Hidden Valley elementary school when kids ride their bike on Butterfield. How many accidents and close calls need to happen before we actually do something about it that is not a survey?
{Individual Guard Reference} is amazing. He has a lively spirit and is very animated and takes good care of the kids but also makes sure traffic is moving along without getting too backed up.
We have a road where cars easily zoom down and can hit children so I appreciate having someone there to ensure the safety of our children and us when we cross it.
The crossing guards create sense of safety and awareness at school intersections. Especially those with no stop light. Many elementary schools are in neighborhoods that fall within this definition.
Thank you for funding this important job!
Get crossing guards who are reliable and at the crosswalks when they are supposed to be. Drivers and students both are accustomed to the level of safety provided by the guards, and when they don't show up it creates confusion and a hazard for everyone.
We are thankful for the crossing guard at Butterfield, it makes a huge difference as a lot of cars run the red lights daily. Having a crossing guard puts me at ease with my children walking to school.
I feel that every crossing guard that I see is very aware and responsive to pedestrians and bicyclists. I think that the crossing guard presence makes the car drivers more respectful and responsible.
To answer number 11, we'd need to understand the cost of the program. Also, my girls would benefit from a crossing guard on Center and Madrone.
We are so grateful for the crossing guard program. If it weren't for this program, we would be driving our child to school (because of this program we feel comfortable with him walking to school with his friends).
Our crossing guard is very helpful to the children on a very busy street where drivers are in a hurry and not always paying attention!
They are very kind and always helps students and parents feel safe
Maybe the crossing guards can also advise kids on bikes or e-bikes who they see? Put that helmet on, latch the strap, don't ride without your hands.
There is no crossing guard at the intersection of SFD-Barber and Ross Avenue. This is a complex and busy intersection and most families who live on the east side of SFD at this intersection walk or ride a bike. There is one crossing guard near the school, but in my opinion they are at the safest crosswalk. Please consider adding a crossing guard at the location described above, one of the busiest for kids and most dangerous in the County.

There needs to be a crossing guard at Sierra and Broadmor. As pedestrians, I, my wife and our daughter as well as other adults and children we walk to school with have all nearly been hit multiple times by motorists while we were using the crosswalk at Sierra/Broadmor. I have personally witnessed multiple children struck by drivers at Sierra/Broadmore and MANY near misses. As a driver who lives in the neighborhood, I have nearly hit children crossing at improper times at the intersections at Sierra/Broadmor on multiple ocassions (on ebikes, on foot, on regular bikes, on skateboards). Most of the near misses that I have been involved in as a pedestrian were because drivers were looking down in the laps and large vehicles are blocking site lines at the stop sign and drivers drive right through the red light, nearly striking myself or others in the crosswalk. Many, many incidences of near misses of drivers nearly hitting pedestrians crossing improperly are from children crossing Sierra on the red as cars are racing down the hill at Sierra to make the light. And, as a driver who has nearly hit children as I drive down Sierra on the green light, children do not obey the red light along drake near Sierra and ride their bikes, run, skateboard or walk on the red as I have been driving slowly down the hill and they dive over my hood or swerve out in to traffic lanes to go around my car as it comes to an abrupt stop (on the green light).
with drivers more distracted than ever, the crossing guards are visual reminders that there are a lot of kids walking to / from school.
There needs to be more crossing guards
Really appreciate extended time to cover early drop off
I'm concerned about the crossing guard in front of the *{Location Reference}* on SFDB in Fairfax. He has limited mobility and walks with a severe limp. He unnecessarily holds up long lines of cars as he limps back to his chair after assisting students crossing. He should not be assigned to this very busy route in my opinion. Thank you for considering moving him to a more appropriate location considering his mobility issues.
Crossing guards are exceptional community members who keep our streets safer. How else could you better spend that money? Putting speed bumps along road ways…clear marked, smooth, continuous bike paths…but fishing crossing guards are exceptional ways to use money.
At white Hill, I think it is necessary to have a stop light. Traffic gets completely backed up leaving the school and it won't be safe in the case of an emergency. The crossing guard only cares about the walkers. There needs to be a better way to move traffic out of there. And there should be a middle turn lane to move into. It's very dangerous!
Not really sure who/what should fund crossing guards, but the are very important. Morning and afternoon drivers are rushing and not paying attention. Sometimes the blinking light is not enough. Cars even swerve by the crossing guards!
The Crossing Guards are absolutely a necessity. They slow drivers down and ensure that everyone is following the rules. We are completely in favor of the crossing guards at all the places that the kids cross for White Hill, Brookside, Hidden Valley, wade Thomas and Manor.
More crossing guards are needed, one at Ross Ave and Sir Francis Drake, and one at Sequoia and Red Hill. The reason I won't let my child walk or bike to school is because of how dangerous these intersections are.
We need more crossing guards! And coverage for those we have when they're out sick.
Our regular crossing guard at Green Valley Ct and Butterfield is FANTASTIC! we love him. He's doing a great job

Butterfield is a very busy street. Without the crossing guard, cars would never slow down for our kids. It's that simple.
Outstanding guard at Butterfield and Green Valley. He's on it.
The White Hill crossing guard is amazing. He helps everyone, cars too. I wonder if a traffic light is needed at that intersection.
{Individual Guard Reference} on SF Drake at White Hill is awesome. That crossing could be deadly for motorists who treat Drake like a freeway and clueless middle-schoolers who cross it on bikes or e-bikes insufficient spatial awareness.
I actually drive my child to school in the morning because the cross guard is not consistent. Many times I do not see the cross guard and on numerous occasions I have seen students almost get hit when walking or biking with no cross guard. I wish the cross guard was there daily earlier in the morning to ensure safety.
The crossing guard at our school is essential! There is so much traffic on Butterfield I can't imagine what would happen if there wasn't a crossing guard.
Our crossing guards are amazing and they truly care about the safety of our children. Thank you so much!
Should absolutely have crossing guards for Sir Francis Drake Blvd at San Francisco and at Ash Street. Many kids have to cross Sir Francis Drake Blvd to get the bus for White Hill Middle School and to get to Brookside Elementary School.
It's great when there is consistency with the crossing guards. They learn the traffic, crossing patterns and bus schedule. *{Individual Guard Reference}* at Hidden Valley is great!
Crossing Guard duties must be for young people, older people have more risk to get hurt or hit by cars or bicycles. Their salaries should be improved, their lives are at risk every single day. Some Crossing Guards have a small chair where they sometimes fall asleep.
It is my opinion that a crossing guard should not be stopping traffic in one direction in order to ease congestion in another direction. If traffic is so backed up in one direction, that should indicate the need for a traffic light. (Butterfield Rd. and Green Valley Court)
Wonderful program. Thoughtful people. Crossing guards are a valued resource in our community. They make our children more safe and slow down cars in school areas. I cannot imagine not having crossing guards around White Hill. Thank you for the support.
We cross at a critical point where a guard is absolutely necessary. Even the crossing guard gets "zoomed" as he calls it by cars and e-bikes. Even with his stop sign up, my son and I are nervous the cars will not stop. We cross at Butterfield & Rosemont
Having a crossing guard makes it possible for my child to safely ride a bike to and from school. Without this we would need to drive.
More crossing guards on Sir Francis Drake Blvd please! For Brookside and Archie students
I wish that there were more crossing guards on SFD in front of Archie Williams high school. It is like a freeway and people are driving too fast.
My son has almost been hit by cars multiple times while riding his bike to school, both at the intersection of SFD and Butterfield and along Butterfield. There are no crossing guards along his route until he reaches the Brookside parking lot where there is a crossing guard for the neighborhood street, Rosemont Avenue. This street is not a thru street and is therefore not a realistic alternative to Butterfield.

The cross guard at Marin Road and Sir Francis Drake is amazing. I believe her name is *{Individual Guard Reference}*.
The crossing guard at Hidden Valley in Butterfield Road is what makes walking & biking to school possible! People regularly drive over the speed limit on this road, and without an adult to guide the children across (and direct drivers to stop for them), there would be no safe way to cross. Thank you for this service! Please, please keep the crossing guard there to keep our kiddos safe.
This is an essential service. When parents are picking up and dropping off kids at school it gets very very busy and it would be easy for a hurried parent to miss a small child walking across the street. Again, I see this is an essential service.
My daughter crosses many streets without crossing guards on her way to school and drivers regularly roll through those stop signs, nearly hitting people walking and biking (who do not have a stop sign so have the right of way). The intersection where there is a crossing guard is the only one where people consistently make complete stops. Also, people jaywalk and mess up traffic and make dangerous situations around the school where there is not a crossing guard. There should be more crossing guards (especially around busier areas).
Crossing guards are essential for student and pedestrian safety.
We need a crossing guard near Woodside/Butterfield & Caleta Ave/Butterfield
My child rides a bus and must cross Sir Francis Drake to catch the bus. I very much appreciate the crossing guard supporting a large number of kids crossing this busy street.
There are some very dangerous cross walks in Mill Valley. We particularly appreciate having a crossing guard for crossing Miller Ave at Evergreen as this is the only safe way for kids to cross Miller Ave
My children rely on the crossing guards to arrive safely at school. I feel that additional crossing guards are needed at the boardwalk access on Tennessee Valley Rd.
There are no crossing guards on the Pixley Avenue side of school access. Cars move blindly through the parking lot and it seems unlikely that having crossing guards will do anything to those. It'd be a definite improvement to have more zebra crossing points with flashing lights rather than manual labor as crossing guards that are not very efficient use of our taxes.
A crossing guard is badly needed at the intersection of Butterfield and Meadowcroft - it is a very busy intersection where many kids cross the street.
Safety is a top priority, and if there are students that need this service at our school, funding should be provided.
I have seen the crossing guards stop cars from barreling through the crosswalk on multiple occasions. They are absolutely necessary to ensure the safety of our children (and of ourselves, even) en route to and from school.
Hand crossing guards is the only way we feel comfortable having our children bike to school rather than giving them a ride. Please keep this important program going.
Very important service for no our 2 kids and their safety
"Do you think the Crossing Guard Program is a good way to spend transportation funds?" That depends - what's the cost of the program vs. the benefit? Are more kids walking/riding to schools on their own? It doesn't work for our young kids having to cross Sir Francis Drake Blvd only to walk/ride on a very narrow sidewalk while still on Sir Francis Drake Blvd.

I like the fact that there are crossing guards at the streets. their presence makes me feel better and safe
{Individual Guard Reference} and *{Individual Guard Reference}* are thoughtful in their approach and keep kids and parents safe while helping the safe flow of traffic. Very supportive of this program, and would like to see it continue.
Hidden Valley Crossing Guard *{Individual Guard Reference}* at Butterfield and Green Valley Court intersection is FANTASTIC!!! Please keep him on staff in this location!!!
Please bring back the crossing guard on Sir Francis Drake and Oak Manor! *{Individual Guard Reference}* is greatly missed. Thanks!
Crossing guards are so important to our children. Such busy intersections with cars in a rush. We cannot be more grateful to have them during peak hours!
People drive crazy in the morning. They are distracted drivers, who frequently run stop signs, make illegal turns or are texting. I CAN NOT imagine not having crossing guards helping kids get to school safely. In Ross we even have police out most days giving warning or citations. The number of times that our crossing guards have either stopped bad drivers or kids not paying attention is staggering. Thank goodness for our wonderful crossing guards.
Please apply this money elsewhere or stop taxing and spending so wastefully. This is totally unnecessary in a safe, slow environment. The guards can be cranky and rude and yell. Thanks.
I would not feel comfortable with my children walking to school without the crossing guards.
Love, love our crossing guards. Grateful for how they take their jobs seriously and keep kids (and parents) safe.
The crossing guards in our community are amazing and make our community a safer place for our kids.
Please keep crossing guards. They really help make it safe for us to cross with little kids and so many cars.
We love the crossing guards and feel much safer having them on our school route!
This program is imperative to our children's safety especially since there is not a car drop off line.
There needs to be a crossing guard in front of Village West condos, it is on Sir Francis Drake. There is a crosswalk but I have to watch and help kids cross as people do not stop even with lights flashing. I think the address is Alhambra Circle and Sir Francis Drake.
Crossing guards will become even more essential as our three children age into walking and riding to school by themselves. Right now they are too young but soon some of them will be old enough to transport themselves and crossing guards will be essential to safety.
{Individual Guard Reference} is a wonderful crossing guard. We've become friends over the past two years and I can't say enough about how much I appreciate his attentiveness to our safety as we walk to and from school. He is on duty in Ross.
They keep the elementary school kids safe and help with the flow of traffic.
The crossing guards make our children safe and give parents flexibility to allow for child independence.
We see *{Individual Guard Reference}* the crossing guard every day near Ross school. He knows my son's name and is very attentive, ensuring it is safe when we cross.

The only crossing guard and sign that seems unnecessary is the left turn from Bolinas onto Shady Lane. All other are terrific!
We are very grateful to crossing guards helping kids get to school safely outside Neil Cummins, Corte Madera.
The crossing guard outside Marin Primary and Middle School is a MUST. They keep our kids safe on a very busy Magnolia Avenue. If there was no crossing guard here, I am sure there would be accidents. We love this crossing guard and their incredibly valuable use of funds.
The crossing guards need training. They'll generally are way too aggressive and don't fully understand how to manage traffic flow while also keeping kids safe.
Having a human that students make a connection with and adds a level of safety that would lot otherwise exist. Drivers are more likely to slow down if there's a human there with a face that they recognize.
Missing crossing guard on Sir Francis Drake near Winship.
The crossing guards at Ross school are essential to the safety and sanity of the drop-off and pickup processes.
It's great having full-time permanent crossing guards because they have become fixtures of the community and know the parents and kids and traffic issues/patterns at their individual intersections. Much better than rotating locations or volunteers.
The crossing guards do a great job, but often prioritize holding up traffic to give pedestrians the right of way. I'm theory, this makes sense, but traffic ends up backing up all the way down Arias. The crossing guards should focus on groups crossing and if one person is running from 1/2 way down the street, they should have to wait and the crossing guard can allow multiple cars turn in that time.
We love and value our crossing guards. Thank you for ensuring they remain a part of our community!
Should review all crossings where guards are positioned. Seems like some crosswalks are not frequently used but still have guards.
We need more/safer ways to get bikes past the shopping mall, through the interchange with the highway, and through the underpass, without going on the sidewalk and endangering pedestrians!
Would strongly prefer more guards at high-risk intersections
Very grateful for the crossing guard program. It makes it possible my children to walk and bike to school on their own.
The crossing guard is great and very necessary. There are cars that go too fast. The crossing guard chats too much and should move people along more quickly. More signage and communication is needed so new parents know that the cross walk on one side is closed. Sometimes he will start yelling at parents who don't know.
There is no longer a crossing guard at Bel Aire too which was helpful.
Most crossing guards in Tiburon are great, but *{Individual Guard Reference}* on Trestle Glen is excellent. She's great at her job and very kind to everyone.
A familiar happy face builds connections. Safety is a priority.
Would love more crossing guards in San Anselmo please. Thank you.

My student rides a bike to and from school sometimes. I would like to do this more. Having crossing guards means that I can confidently allow my child to bike from school. The crossing guard at Reed School is terrific, and has kept my son as well as niece and nephew--10+ years ago--safe.
While I appreciate the crossing guards in our area, there is an elderly crossing guard at the corner of *{Location Reference}* who often continues to stand in the crosswalk after pedestrians have safely crossed. She attempts to direct traffic around her but it is quite confusing to have her remain standing in the street.
In San Rafael - walking & riding bicycle on snake path and over Smart train tracks, past bus depot, through downtown SR to the high school is a traffic nightmare for pedestrians and bicyclists. Please look at this route for safety measures & crossing guard options. Thank you.
While my child rides the bus to school - As a driver I appreciate the extra support that our cross guards provide in keeping students safe on their way to school.
Crossing Guards is a great way to keep our students safe and drivers aware of school crossings.
Brookside school needs a crossing guard at the intersection of Brookside Drive and Broadmoor. Our family and lots of other families use this route to get to school from the Morningside neighborhood and surrounding areas. Kids are biking and walking and I'm concerned for our safety if someone runs a stop sign or fails to yield. Thank you for this survey and supporting crossing guards at schools!
Strawberry in particular with Strawberry drive is dangerous- just crossing the street is dangerous in that spot. The crossing guard is very important to the safety of the students and their families.
Keep up the good work! There are many stupid drivers out there, we need you guys!
We NEED. A crossing guard on golden hind near paradise. The cars turn onto GHP very fast and are often distracted . There are no sped bumps or lights at the crosswalks and it is very unsafe on busy mornings - people do u turns to park and park too close to cross walks and it's a matter of time before something happens. I still cross my 4th grade kids because of this . We live very close to the school and I see it every day.
We only have one road for 500 students to enter and leave school with no where for kids on bikes to safely ride. We only have one guard, we need one more for 5th street and Racquet club drive.
Crossing guards are still very much needed - thank you for funding!
We love and appreciate our crossing guards! It is so helpful during the busy school drop off to have additional eyes out for kids walking and biking while I drive my son to school.
Cars drive so fast and some don't stop at crosswalks when pedestrians are there so when there is a crossing guard hitting the button for us to cross and holds up the stop sign, the cars immediately stop. This is peace of mind for myself as a parent for when my daughter and son eventually will ride their bikes to school on their own.
Both of the crossing guards for Glenwood Elementary are wonderful!! They do an amazing Job !!
I would not allow my children to walk to or from school because it involves crossing Sir Francis Drake Blvd unless there was a crossing guard. The play an essential role in the safety of our community. I myself rely on them to stop traffic. Additionally, they are friendly and kind.

We have 1 crossing guard who manages one (the most used and most important) cross walk, he does an incredible job keeping our students safe. We could use a second crossing guard to monitor a second cross walk that is heavily used by families walking to school and also families that park in the community and walk to school from their cars. We use this second cross walk every day, most days I feel my students are safe crossing the street because we have taught them to look for cars (especially cars who aren't following the rules and driving safely), but it would be much safer for my children as well as dozens more who also cross this street to school, if we had a second crossing guard who was stationed at this cross walk.
As residents of the Brookside school neighborhood, we feel it's necessary for a crossing guard at the intersection of Brookside Drive and Broadmoor Ave. There are too many instances of drivers running the stop sign or not waiting their turn. Pedestrians on the NE corner are difficult to see and young bikers are at risk of being hit.
I was told the funds come for our GSF-- parent donation to school funds. We NEED the Crossing Guards and they are doing a great job!!
Crossing guard vital for safety at Miller Creek and Mary Silveira!!! Otherwise, people wouldn't see kids and would blow through stop signs.
Please consider adjusting the Crossing Guard times earlier after school so the elementary students have crossing guards! Currently some days the elementary students at crossings further from school have to cross without the benefit of a Guard who comes on duty for Middle School release.
Crossing Guard Program is great!! It supports our community of biking students to and from school! Please make sure the Guards duty times cover both the elementary schools and Middle School in Mill Valley.
I have concerns about the quality of the crossing guards and the training provided. I have witnessed poor crossing guard ability to ensure child/adult safety. I think that using these funds for hiring additional law enforcement with dedicated and regular patrols around the school during start and end times would be of greater value than hiring more crossing guards. The crossing guards do not change behavior of the drivers speeding around the schools. However, ticketing speeders and drivers not aware of the danger they put pedestrians in would change behavior. It is a temporary change with no lasting change. We need speed and traffic enforcement not crossing guards! A crossing guard was on duty and killed in the East Bay, however, if there was a police or sheriff ticketing speeding and reckless drivers around the schools and dangerous intersections, this crossing guard may be alive today. Crossing guards give the illusion of safety; however, they don't change overall behavior of the drivers.
I have concerns about the quality of the cross guards and the training provided. I have witnessed poor crossing guard ability to ensure child/adult safety. I think that using these funds for hiring additional law enforcement with dedicated and regular patrols around the school during start and end times would be of greater value than hiring more crossing guards. The crossing guards do not change behavior of the drivers speeding around the schools. However, ticketing speeders and drivers not aware of the danger they put pedestrians in would change behavior. It is a temporary change with no lasting change. We need speed and traffic enforcement not crossing guards! A crossing guard was on duty and killed in the East Bay, however, if there was a police or sheriff ticketing speeding and reckless drivers around the schools and dangerous intersections, this crossing guard may be alive today. Crossing guards give an illusion of safety, but they can't stop a car speeding through a cross walk.

Fix the White Hill bus system... and crossing guards are great.
Cars and E-Bikes constantly run through the stop sign at Butterfield/Rosemont even with our crossing guard. Need higher visibility like flashing lights crosswalk, or intermittent police presence.
{Individual Guard Reference} at the SFD & Manor Road intersection in Greenbrae is the best.
I would feel completely uncomfortable with my child biking to school without a crossing guard being present. I have witness numerous incidents that would have resulted in injuries to students if there had not been a crossing guard present. There is too much traffic, too many aggressive drivers. It is simply unsafe to not have crossing guards present during all school hours. We value our neighborhood crossing guard very very much. He is critical to the safety of everyone walking and biking to school. For reference, we utilize the crossing guard at the intersection of SFD and laurel grove. It is an extremely busy intersection.
My child arrives at school at 7:00 am - i.e., before most children. If there was a crossing guard there at that time, that would be amazing (but I get it probably won't be possible).
Crossing guards are an essential part of our community, and without them, we would not be able to send our young kids to school on foot!
The crossing guards have been instrumental in helping my child transition to school in the mornings. My child has extreme anxiety and they go out of their way to calmly check in, welcome, and encourage my child. We would not be as far as we are on our journey without them.
Roman bikes to and from school every day and it gives me feeling of safety and community to have the crossing guards there.
This is such an important program given my child crosses Sir Francis Drake every day.
I do not walk my child from our home on South Eliseo to Bacich because there is not crossing guard at the South Eliseo and Bon Air intersection anymore. It made it much safer when I used to take my older child to school. Now I drive to Hal Brown Park on Bon Air and we walk from there for my kindergartner.
We are grateful for them!!
More crossing guards would be great.
Please add more crossing guards. They are really important and appreciated.
My kids ride their bikes to school and cross Sir Francis Drake at Laurel Grove. It is a very busy intersection, and I would not let my kids ride bikes if there was not a crossing guard. I talk to the crossing guard frequently, and it's not unusual to have a red-light running incident. People are rushing to get to work, the drivers going east have the sun in their eyes, and it's mayhem. I feel strongly that these crossing guards are critical to ensuring that kids get to school safely. With no buses at Marin County public schools, we need crossing guards to give an option other than every parent driving his/her kids to school every day.
We love our crossing guards! They work hard to keep us safe and let us bike to school. Please keep funding them!
Please find our crossing guards to keep kids safe!
Thank you for keeping our kids safe!
Crossing guards are very important for keeping our kids safe.
Please bring back the crossing guard at Bon Air and S. Elisio.

My sons (one in 10th grade, one in 7th grade) have been crossing at an intersection with a crossing guard for up 10+, it's the only way they feel comfortable crossing Sir Francis Drake. Just recently, my one son (7th grade) said that it's even scary walking on (let alone crossing) SFD because the drivers are going way too fast and are angry. The thought that eliminating crossing guards along SFD is even being considered is ludicrous! This survey shows that the TAM Crossing Guard Program is more concerned about saving money than caring about the safety of all children going to Bacich/Kent and the surrounding schools!
The intersection of McAllister and Sir Francis Drake closest to Bacich elementary School is unguarded and dangerous in the mornings. Many children go zipping along SFD across McAllister and at the same time there is a line of cars anxious to make left turns across two lanes of traffic onto McAllister. Observing this intersection for just 5 minutes between 800 and 805 will make it clear that it needs a crossing guard. Left turns are dangerous to pedestrians and this is an especially bad one.
We love the crossing guards on Sir Francis Drake Blvd. thank you for continuing this program!!
We need crossing guards to protect our children.
Crossing guards provide additional safety for our children and should continue to be funded.
Our kids bike to school from Greenbrae to Kent. We would not be comfortable allowing them to do so without all the crossing guards in place.
Crossing guards are essential to keeping our kids (and parents/caregivers) safe as we walk and ride the streets during busy commuting times for school families.
We could use more of them. There are no crossing guards on either of the McAllister Ave. entrances from Sir Francis Drake. These intersections have Bacich and Kent kids crossing at every drop off and pick up.
Drivers exiting the McAllister neighborhood from Rosebank Ave. have serious blind spots for kids walking on sidewalks. A driver has to stop 5 feet before the stop sign and inch it's way forward constantly looking left and right to watch for pedestrians - as the car gets closer to the crosswalk the driver is able to see further down the sidewalks but there have been many close calls of kids being nearly hit because of the blind spots from these roads.
They are the best- make us feel safe when our children are going to school
We cross an intersection with a stop sign for cars going onto Sir Frances Drake. A crossing guard seems imperative to help manage the kids being able to cross since there is so much traffic trying to get onto Sir Francisc Drake. I can see where there are stop lights and walk symbols, it may be less necessary because there is a regulated "walk" time.
I would say that #10 should have an answer - "the crossing guard was already a part of my route." We love our crossing guards. They are part of our community. And we NEED them... they keep our kids safe and the crazy, texting drivers at bay.
Please keep funding the crossing guards. Not only do they provide safe passage across some major roads but they also keep an eye on the safety of the children and provide a "safe adult" that kids can check in with if they need help. With the increase in attempted child abductions across the county the past year this is an important way to spend our tax funds. In the past year, there has been a significant increase in the amount of children approached by strangers and asked to ride home with them to/from their way to school. The presence of crossing guards helps provide safe spaces for kids on their route to/from school.

{Individual Guard Reference}, The crossing guard at the SFD and Butterfield intersection, has been a fantastic and much needed addition for getting to school safely. That intersection is dangerous and intimidating for pedestrians, having a crossing guard there is vital and is a great use of TAM funds. Rudy is also so friendly and awesome!
The crossing guards add a number of safety measures to the route to school for my children. Not only do they make it safe for them to cross the street. They are another set of eyes in the community that are aware of what is going on around the school premises. Having the crossing guards, where they are stationed, gives Me a tremendous comfort in allowing my children, to travel to school by themselves, and with their friends.
We utilize the crossing guard in front of Kent between the College of Marin parking lot and campus everyday before and after school. Very helpful and extra level of safety as the kids, as well as, people driving the cars and trucks on College Ave are not always paying attention.
For the safety of the guards (and of course our kids!) I encourage the police/hiway patrok to get involved. So many people run red lights and/or turn right without yielding to crosswalk. We're at SFD and Wolfe Grade and the guards are critical, wonderful people. Please keep this program up!! And consider more signs to drive awareness of crosswalks.
We love our crossing guards!
Crossing guards keep our children safe as they move around school and sir Francis drake which is like a highway. Please know how important they are to our school and child's safety.
We love our crossing guards
We are SO grateful for the crossing guards at Laurel Grove and SFD, Wolfe Grade and SFD and McAllister and Stadium Way. Knowing there is a responsible adult at these busy intersections gives me great peace of mind when I walk my kids to school, and when my older 9 year old twins walk themselves to/from school. I would not allow them to walk alone if there were no crossing guard, and this solo trip to/from school gives my children a sense of independence, maturity and responsibility. All characteristics we are actively developing in our kids to help to become valuable members of the community. Thank you so much for funding the Crossing Guard Program!
The crossing guards are vital to the students getting around very busy streets of Kentfield safely.
{Individual Guard Reference} is the best!
{Individual Guard Reference} the crossing guard at the corner of Lyford and Tiburon Blvd is the absolute best. He is the nicest person, he greets all the students, chats with the adults and always has a smile all while keeping everyone safe. It's a joy to see him each morning, he should win crossing guard of the year.
The crossing guard program ensures safety of our students every day. I have seen near accidents between vehicles and children at busy intersections near schools without crossing guards. Thank you for funding this extremely important program.
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The crossing guards are wonderful and I appreciate their presence and support!
Our crossing guards are a joy to encounter, and super helpful in keeping us safe during pickup. It's easy for the kids to get excited or the parents to want to jump ahead if they're running late. When one person does it, others follow just out of auto pilot and creates a safety risk for the kids who follow the crowd. Having the crossing guards keep us all in check and crossing at the right times, aware of cars turning on red, etc is so vital
they do an amazing job keeping our children safe!
I think a crossing guard is imperative for the safety of all the children as well as drivers on Sir Francis Drake Blvd. it is 100% effective.
The crossing guards force speeding drivers on Sir Francis Drake to slow down or stop - which then allows cars to turn left from Glen Drive onto SFD. So it's safer for students to cross and also gets the cars moving so traffic doesn't back up on Glen Drive.
Crossing guards allow my kids to walk/ride to school. The shortage of crossing guards in Tiburon. Is a dangerous problem.
Please increase funding so to address guard shortage. Safe route access reduces traffic!
There are some very dangerous intersections close to Bel Aire. Crossing guards, especially at this age, are very helpful and appreciated.
the crossing guard was removed from our main intersection this year due to budget which is concerning. We advocate for more funding to support crossing gaurds.
the crossing guard at our intersection Bon Air/S. Eliseo was removed this year due to budget which is concerning. We support additional funds for crossing guards.
Crossing guards are a MUST HAVE for Sir Francis Drake. As it is, SFD is too busy and too fast already, and commuters do not pay sufficient attention at the major intersections. If SFD is to continue with its current use, then we must have those guards in place.
My son feels significantly safer with the crossing guard and specifically takes routes where there are guards. He has been riding his bike every day since 4th grade and we only allowed this because of the crossing guards. The guards have allowed us to keep at least one car off the road at peak traffic times! Please continue this program and keep our guards. There is no better way to spend our tax dollars than to protect our kids during commute hours and make sure they are able to get exercise and fresh air every day, safely. Thank you for all that you do!!
Crossing guards at busy crosswalks when more and more drivers (and e-bikers!) are in a rush and distracted is critical. In addition, I appreciate having a responsible/trusted adult posted on the way to school for other safety concerns. I know my son could ask for help if needed along the way to school. An added bonus is the friendly greeting every morning which is a positive way to start the day on a positive note!
Thank you for the crossing guards. I have seen them save children on 2 separate occasions. It gives kids independence and parents peace of mind.
Sir Francis Drake is extremely busy so the crossing guards are extremely important.
I wouldn't let my daughter walk to school without the crossing guards she uses on her way!
I am grateful they are there on the days that she rides.
Currently bike with my son - in future he will bike alone, and would not be comfortable with doing that if it weren't for the wonderful crossing guards

The crossing guards play an important role in getting the children to school safely whether they are riding bikes or walking the guards are keeping children safe everyday.
Our crossing guard *{Individual Guard Reference}* and *{Individual Guard Reference}* are awesome and know my son by first name and we have each other's phone numbers. They are a very important to keep our kids safe.
We have a handful of very busy intersections on SFD, the crossing guards, especially the one on Manor at SFD, and the others at Wolfe Grade and Laurel Grove, do so much for the kids and community! They are really amazing and we need them!
{Individual Guard Reference} and his son are AWESOME. Great for the community.
{Individual Guard Reference}, crossing guard at Manor and SFD is amazing.
Even with the crossing guards there are still some areas not covered that could use more crossing guards to feel safe.
Great program.
The crossing guards give me peace of mind.
We are concerned that there is no longer a crossing guard at the Stadium Rd intersection near Kent. We hope you will change your mind and replace him in the future. Thank you. Crossing guards are vital in our community to protect our children.
TK does not do car line so we have to park off campus and walk to her class. The crossing guards are very important and helpful since there is a ton of fast traffic on SFD. My biggest concern is bikers riding so fast on the sidewalk. I have almost been hit twice in 4 months by an e-bike walking on the sidewalk! My daughter is only 5 and I'm terrified of a bike hitting her.
We miss our old crossing guard at the corner of Sir Francis Drake and College Ave. the girls had gotten to know him for years and very disappointed that he is no longer there.
The intersections on SFD near Bacich and Kent must have crossing guards to protect us. It's like a highway on SFD and can be very unsafe.
Crossing guards are absolutely critical and the only reason it is safe for our children to walk and bike themselves to school.
We love the crossing guards, huge thank you to the community for running this survey.
In addition to the safety contributions, the individuals who work these crossing build and maintain a connection to the community. I find they presence to be an excellent touchstone for the school community.
We have lived at *{Location Reference}* for 10 years with both kids going through Bacich and Kent. SFD is a speedway without these guards. They are CRITICAL for the safety of our children.
Need better signage for vehicles to know which routes are "Safe Routes to School" and therefore may have more children riding bikes on the vehicle traffic flow around Bacich is not good. Turning left from Sir Francis Drake onto McAllister is difficult. Perhaps need a crossing guard at that intersection.
{Individual Guard Reference} at the corner of Manor and Sir Francis Drake is wonderful. He's so friendly and kind and always has a smile on his face. He's really become a positive part of our community!
The crossing guards at Bacich are wonderful!

The crossing guards at our school are such an important part of the community. They are kind, know the students by name, and are there even in the worst weather.
Our crossing guards are indispensable for families safety, especially given the lack of enforcement around speeds and careless driving in Marin.
Crossing guards are critical for ensuring the safety of students near Bacich, especially since there are intersections with limited traffic control (i.e. Manor merging to Sir Francis Drake).
The amount that is "good to spend" depends on other needs.
Crossing guards are one of the best investments the county can make with payoffs on various fronts - 1. Getting more kids to bike / walk and hence exercise 2. Take cars off the road and help in the fight against climate change 3. Provide peace of mind and a sense of security to parents.
As a parent that drives my kids to school, I rely on our crossing guards to direct drivers and pedestrians (and cyclists) so that everyone is safe.
We need our crossing guards to keep these kids safe. The amount of cars/traffic on SFD mixed with the loads full of children walking and bicycling to school makes for a dangerous situation without our crossing guards.
Crossing guards are essential to the safety of our children along the very busy, traffic-ridden Sir Francis Drake Blvd., at peak traffic hours. Crossing guards not only assist children and families in their own crossing, but their physical presence and appearance at these busy crossings provide a vital visual cue and warning to motorists on SFD Blvd.
Crossing guards are essential to the safety of our children along the very busy, traffic-ridden Sir Francis Drake Blvd., especially during peak traffic hours. Crossing guards not only assist children and families in their own safe crossing, but their physical presence and appearance at these busy crossings provide a vital visual cue and warning to motorists on SFD Blvd. of the presence of children/pedestrians.
Crossing guards are essential to the safety of our children along the very busy, traffic-ridden Sir Francis Drake Blvd., especially during peak traffic hours. Crossing guards not only assist children and families in their own safe crossing, but their physical presence and appearance at these busy crossings provide a vital visual cue and warning to motorists on SFD Blvd. of the presence of children/pedestrians.
This is vital to keeping our students safe as they commute to school in a environmentally friendly way. Sir Francis Drake is a busy thoroughfare and providing them with additional protection for safe arrival to school is necessary.
The crossing guards are great, we are lucky to have them.
N/A
Sir Francis Drake is a busy street, we should be taking all available measures to keep our kids safe.
Sir Francis Drake is a busy street, we should be taking all possible measures to keep our kids safe.
With todays distraction for drivers and the anger in the world, to have a guard protecting our children who are going to school while crossing intersections is vital. My child uses them all the way from Greenbrae so she uses, I believe, 5 or 6 guards. I would be very uncomfortable with her crossing some of these streets as a lot of drivers are not paying attention. Thank you for providing this service.

Urgent to have crossing guards on SFD at Wolfe Grade and Laurel Grove. Traffic routinely speeds by at 50mph+. Speed limits should be reduced to 25 on SFD between 101 and the hub too.
Crossing Guards on Sir Francis Drake are absolutely essential for the safety of the students. We encourage students to walk and roll to school in partnership with the Safe Routes Program. We NEED crossing guards, traffic on SFD is unpredictable and drivers need the extra safety signal.
The crossing guard at Sir Francis Drake and Wolfe Grade is critical. Traffic in particular coming from SR down Wolfe Grade is often at high speed and cars trying to make the light are putting everyone in danger, including cars trying to cross Sir Francis Drake and go up Wolfe Grade. In addition car line impacts this intersection and makes it a challenging job for crossing guards to keep all safe.
The Wolfe Grade and Sir Francis Drake intersection is congested and cars speed. Without crossing guards a life will be lost. The finding is critical.
The crossing guards are critical to getting our kids to school safely. I walk my son to school every day and we are so thankful that the crossing guards are there to help. And once my kids are a little older they will be able to walk to school without me, and it will be even more important that we have our school crossing guards. We are so grateful for them.
Appreciate the crossing guards, especially *{Individual Guard Reference}*. Grateful they are on duty and protecting the kiddos!
These crossing guards are so important for our safety! They are crucial to our community and promote safety, laws, being healthy and environmentally conscious by walking/biking to school.
We live near a very busy intersection right in front of Bacich Elementary School and have witnessed many occasions where the crossing guards have saved a potentially tragic situation. I let my daughter ride her bike to school because of these individuals, knowing she is safe. They are also extremely caring and engaging people.
The crossing guard at the intersection of Laurel Grove and Sir Francis Drake is a crucial part of the walk/bike experience to school and the only way that I feel comfortable letting my Kinder and 3rd grader walk home/school.
Our family totally relies on the crossing guard *{Individual Guard Reference}* to get our kids and family across Laurel Grove and SFD almost every morning!
Make us feel safe for our kids knowing that there are crossing guards.
We live on Laurel Grove, and my kids cross Sir Francis Drake at Laurel Grove. I would not let them ride bikes to school if there was no crossing guard. It's a very busy intersection, and people run the light rushing in the morning.
I do think there needs to be additional training set up through the schools for students on e-bikes or e-scooters given the high risk this causes especially seeing students double up on one scooter without helmets, etc.
I think the cross guard who is seen on Sir Francis Drake (the entrance of Bacich School) takes his role and responsibilities very seriously and is great with the children. He is very passionate about his job and it shows!
Crossing guards are essential in keeping the routes to school safe. The intersection at Kent Ave, College Ave and Woodland Rd can be very busy and confusing. My son usually rides his bike and crosses the street where a crossing guard is to ensure his own safety.
I love that they are there to help all of the kids get to school safely.
Grateful for them.

Crossing guards are essential to our children's safety. Please continue the program.
Crossing guards are essential to student safety. So many adults or teens are driving fast near schools.
With busy parents on cell phones, EVs that don’t make sound, construction crowding out sidewalks, we need MORE crossing guards.
Crossing guards are absolutely essential to safety of all people who are entering Bacich Elementary.
Very, very scary to think of how many kids would get hurt without a crossing guard.
We live on Wolfe Grade which is a very busy street in the morning. The intersection on Wolfe Grade and Sir Francis Drake is very dangerous as a lot of drivers do not stop at the red light when they turn right from SFD to Wolfe Grade. Every year I see some very close calls with kids getting hit by a car that is not paying attention or rushing through the light to get up Wolfe Grade. It is critical to have a good crossing guard there. Somebody should talk to the Sherriff/local police about watching that area more frequently too. So many people speed on Wolfe Grade during school hours and there are a lot of kids that use that street to get to Bacich and Kent.
We love our crossing guards - and having them during rush hour when crossing Sir Francis Drake Blvd is very important. Thank you.
The crossing guards are a vital part of our school community. They are friendly and know the children which provides comfort for parents knowing that there are more eyes supervising our children just outside of campus. We have to drive down a hill to get to school but with so many cars trying to do drop off we have shifted to dropping our daughter off near a crossing guard stop so she can walk the rest of the way to school. This has helped alleviate car congestion at the school, allows my daughter some independence for the last stretch before school, and a sense of community for both of us. With the amount of e-bikes and people driving while distracted/rushed/on phones, crossing guards are necessary for our school district.
We drive past two crossing guards on SFDB daily. I believe it would be incredibly unsafe for the school kids and drivers to not have a crossing guard. Thank you for funding them! I absolutely feel it saves lives.
Although we do not require a crossing guard on our path to school, we are just one block away from needing one. The quantity of children protected by these selfless guards is immense and I unfortunately feel certain there would be at least 1 if not more major injury to a child without them. Essential for school safety!!
Bike to school is mostly weather dependent. We have noticed less consistent/changes in staffing
Car speed down SFD, crossing guards are necessary for the safety of the students.
My kids count on the crossing guard being their daily to help them cross the street. Most days they walk or bike to school alone, so this is a critical to help the kids in the community stay safe. Thank you!
We’re very grateful for our local crossing guards!
Thank you to our crossing guards!
The crossing guards are great!
Our crossing guard is incredible and I would not let my kid walk to school without him due to heavy traffic on sir Francis drake.

My kid would not walk to school (near sir Francis drake) without a cross guard present.
We appreciate and value the crossing guards that are around and near Bacich elementary. I feel much safer - both as a driver and for the kids - knowing there is someone there to help the kids cross. We do not happen to cross on the particular streets where guards are on our way too or from school - but I wish we did!
They are always so friendly and make our days even brighter!
Always so friendly and help make days even brighter.
We will be transitioning to walking to school this spring and i look forward to the security and oversight crossing guards provide.
Would like to see the crossing guard put back at SFD and Bon Air Road.
The crossing guards on Sir Francis Drake are critical to safe walking or biking to school. They also keep drivers safe and prevent freak accidents that can destroy lives.
Crossing guards often stand on the wrong side of the crosswalk. They should be stationed at the side students are crossing from. So they can have students wait and be safe.
Considering all the money TAM has wasted coming up with bad plans for the freeway interchanges, etc., keeping these crossing guards is the least that citizens should expect.
All intersections where I see crossing guards are critical for the safety of children getting to school. I hate to imagine the problems if the crossing guards were not there! This is an important program.
All the cross walkers at Lome Verde have been very nice and friendly to my kiddos.
Make sure crossing guards are not on their phones while on duty.
{Individual Guard Reference} is awesome! She does a great job making sure our kids are safe and is always so kind!
We love *{Individual Guard Reference}* our crossing guard!
The crossing guards at all Novato schools are great with the kids. They make friends and keep our kids safe.
I think adding speed bumps is necessary. I, as well as several parents, have seen on several occasions drivers race through the intersection to the point where we've had to grab kids who were about to cross the street to avoid a getting hit. It's extremely scary and speed bumps would make a difference.
The loss of the crossing guard at the corner of Tamalpais and Center has made a huge impact on many families at our school who walk and ride from the other side of Tamalpais. Additionally, I know that a staff member at the school has almost been hit in the crosswalk at least 2 times at that intersection. She is an adult and knows good crosswalk safety skills but worry about children walking/riding alone without a crossing guard at that intersection.
The crossing guard added to the back of Loma Verde has literally been a life saver! And the crossing guards are always so friendly.
We love our crossing guard at Loma Verde — she is caring, helpful, and always cheerful and careful with our kids. Crossing Guards are a valued necessity.
The crossing guards help keep our kids and community safe. I have seen several instances where they have prevented accidents.

A crossing guard is desperately needed on Ignacio Blvd. at the entrance to Pacheco Plaza near Entrada Drive. We live in Pointe Marin and walk to school every day. We cross Ignacio every day, and almost every time we cross that street, a car drives through the crosswalk while we are crossing in the crosswalk. I have seen numerous people nearly hit by a car in that crosswalk.
Helps with traffic flow out of White Hill, and with drivers seeing kids. I respect that the guard is there early in all weather.
The ridiculous location of White Hill, down a narrow cul-de-sac off the most traveled road in Marin necessitates a crossing guard on Sir Francis Drake. If the guard is not there in the afternoon there is high risk of children being hit by the high-speed cars heading up Whites Hill or a traffic collision from cars attempting to cross over SFD with a left turn. It's a dangerous intersection and the campus is overloaded with students. Like many parents, we are forced to drive our son to school because the bus tickets are expensive and hard to get. The lack of equitable resources for public transportation to White Hill has increased the traffic tremendously. The guards keep kids safe especially along SFD.
Cars speed up and down SFD. Crossing guards on school days save lives.
We are so grateful for our crossing guards! So many drivers are driving too fast or are inattentive, so the crossing guards provide a necessary and important service to protect our kids!
We love crossing guards! Thank you so much for providing such a valuable and important service to our students!!!
{Individual Guard Reference}, the crossing guard on SF Drake Blvd for Bacich Elementary, is excellent.
Crossing guard is stationed at busiest, but not most dangerous, intersection (Calle Paseo vs. Via Escondido).
White Hill MUST HAVE a Crossing Guard five days/week both mornings and afternoons. It is such a busy, dangerous and fast intersection.
I think the crossing guards are great. They are always paying close attention and watching out for pedestrians.
The crossing guards are critical. They alert drivers/traffic that students are near and to pay more attention. They support youth to follow rules and be more conscious of traffic and safety. Youth need supervision. Some cars do not pay attention! Yes, the crossing guards are critical.
Olive Avenue is a very busy street. Without the crossing guard, it would be unsafe for children and adults.
Crosswalk *{Individual Guard Reference}* is the BEST! He is an integral part of our daily school experience! He cares so much for the kids and families and keeps us safe every day. There are so many times when drivers speed down Olive and he's kept us safe!
We are so appreciative of the crossing guards at Whitehill and RVC (by the Fairfax library)—thank you!
Having crossing guards around school intersections are a great way to ensure safety of our students and adults who accompany them.
THANK YOU for adding back the crossing guard to Cambridge & Arthur streets in Novato this school year. (I believe the last time someone was there was the 2018-2019 school year.) That intersection really needs one and I feel much more comfortable letting my 5th grade son bike by himself to/from Rancho with the crossing guard there. Thank you!

In my opinion, our crossing guard on Sunset Parkway would serve more students if moved to Leafwood Drive.
A crossing guard is needed outside San Marin high school
Appreciate the addition of the guard at Center and Sutro this year! Much needed.
I greatly appreciate our guards. Our school is on a busy street where cars regularly speed. I am also glad to see the added guard at vineyard and Trumball this year. I wish that the local PDs would increase escorts to enforce the speed linits
Crossing guards are crucial, though it seems two crossing guards would be beneficial at certain busy intersections. Wilson and Center Blvd being one of them. It's chaos on early release Wednesdays. A crossing guard would be useful at Center and Western or Paladini too. The middle schoolers on bikes fly across Center without even looking for cars.
We need a crossing guard on Leafwood Drive behind Lynwood!! Drivers cannot see pedestrians in the beginning of the crosswalk due to parked cars. It's a huge safety issue and many kids use this crosswalk every day to get to/from school.
The Sinaloa crossing guard needs to be better trained to relieve congestion at pickup. They also need to be reprimanded for parking their own car in a bike line, directly next to a sign reading "NO PARKING IN BIKE LANE"
Two guards are needed at San Ramon Way and San Marin Drive. A single guard can not manage crossing all 4 streets in this busy intersection.
Giving the crossing guards practical training would be wonderful some are naturals and some are not.
Safety first. Also, my kid is diagnosed with PTSD, depression and anxiety from bullying in the 5th grade that the school ignored until end of the year (San Ramon. So disappointed) now as we work with this diagnosis, I will say driving my kid to school every day there is a grandma who is a crossing guard. Every day they wave to eachother and it brings comfort to my kid and the day is better. I appreciate her with all my heart and soul because a suicidal 12 year old is heartbreaking.
Our crossing guard is very much needed. The street students cross, Olive Ave, is very busy and cars often do not slow down. I have witnessed many near misses due to this dangerous intersection. There is no stop sign or stop light where the children cross. Thank you so much for providing such a service
Crossing guards are needed in Novato. It would be too chaotic and dangerous in the mornings without the crossing guards navigating the kids, bike, and cars.
There should be crossing guards outside San Marin at dismissal.
Our crossing guard is a wonderful member of our community. He knows us all by name and makes us all feel so much for comfortable with the idea of our kids walking to school on their own when they're old enough.
The crossing guards are so vigilant and attentive, they are so essential to the safety of the children and adults who cross during busy rush times and careless drivers. I haven't seen any guards who weren't paying attention or relaxed. They're amazing!
Definitely yes, the crossing guards are helpful. Even if they are not all well trained, their mere presence is a strong reminder to drivers and others to be watchful as kiddos are making their way to school. If anything, it would be great to see more crossing guards at a few more intersections, like Novato Blvd at Wilson, and Simmons at Virginia is a tricky one, too.

Please consider adding a crossing guard on Paladini and Center in Novato. Kids on bikes are highly problematic here and any help that can be provided to try to help there would be greatly appreciated by many parents.
The placement of a crossing guard at Cambridge and Arthur has made a huge difference in the safety of that chaotic intersection. My son used to not want to cross the street and stressed that he was too afraid to cross without an adult but now runs down the street to cross without fear. I have seen countless drivers enter the intersection while someone is crossing to get through as fast as they can - many are teens but also adults. THANK YOU for putting a crossing guard back at this location.
I am extremely frustrated that there used to be a crossing guard at the corner of Tamalpais and Center, however that individual has been moved to the intersection of Diablo and center. This makes no sense as the elementary school children must cross the former intersection prior to reaching the ladder, and the majority of students never reach that second intersection. Tamalpais and Center needs a crossing guard. On multiple days coming home I have seen cars start into the intersection before realizing there are kids trying to walk. We are all lucky no child has been hit yet.
Does NUSD partner with AAA (American Automobile Association) to promote pedestrian children's safety and with the NPD (local police) for public safety, near our school sites?
Drivers are extremely dangerous and the crossing guards are essential to prevent casualties. Drivers are in their phones always and even parents after their own drop off get on them. They are a must at elementary schools.
Appreciate the safety provided when children are walking to school.
Yes, crossing guards are a definite help for safety. Some could use more training to learn how to encourage reasonable traffic flow. Traffic congestion can lead to frustrated and impatient drivers making illegal moves, and a well-executed pedestrian crossing can keep things moving a bit more smoothly than some of the crossing guards seem able to manage. Keep the program going, please!!
Crossing guards at major points of congestion is vital for kids safety AND allows for a more consistent traffic flow for drivers (which I believe lowers possible “traffic rage.”) And an extra benefit is watching crossing guard-to-student connections grow (I think it’s wonderful to have addition adults interacting with kids off campus! Thank you for providing this important community support!
People drive crazy fast on Sir Francis Drake Blvd. Crossing guards are absolutely necessary to remind drivers to slow down because kids are present and to make the road safer to cross. They are imperative to the safety of the community.
Given the motorist behavior in Marin and lack of traffic law enforcement, plus the lack of protective infrastructure for pedestrians and cyclists, our crossing guards are are only help.
Crossing guards are 110% needed. They keep our kids safe on dangerous roads. They also keep traffic moving that would otherwise be backed up from cars driving to/from school.
Crossing guards are so important. My son bikes to school everyday and has to navigate so much traffic near the school with distracted drivers trying to drop kids off everywhere. I am so grateful knowing he can cross safely to the school with the crossing guard.

Crossing guards are so needed! Thank you! We would like to see a little more consistency in training though. The one who works at Center/Wilson starts at the corner farthest from the kids approaching after school and sometimes blocks all lanes of vehicles for a kid to cross when that is unnecessary. This then causes backups and confusion. Also since he is farther from the kids, they sometimes start without him.
San Marin High School is in desperate need of a crossing guard in front of the school during the morning rush and during the school 6th/7th period. Also police presence or a crossing guard in the intersection of San Marin Dr and North Novato Blvd in truly needed. It will help with the flow of both cars and students.
My student requests a crossing guard at San Marin Drive and Novato Blvd. she will be biking to San Marin as a freshman next year and worries about the traffic and congestion at that intersection. We have heard from others that it is dangerous. We want to support her desire to ride to school as long as she feels safe to do so. Currently she does not want to ride unless they get some crossing support at that intersection because of things she's heard about the congestion and lack of safety crossing before and after school. She has ridden her bike to school every day 6-8th grade so this would be a great loss to her physically and psychologically as biking to school has been such a positive experience for her.
Crossing guards help immensely. Parents in cars will drive more carefully and students on bikes travel across roads more safely. Please keep crossing guards for heavily used school crossings. I would request that on be implemented in front of San Marin. It's an area that needs a crossing guard too!
A crossing guard is needed at San Marin and Novato Blvd. very dangerous to students and drivers
Crossing guards are really important.
My daughter will walk to San Marin HS next year because we live nearby. The crosswalk at San Marin Drive and San Carlos desperately needs a crossing guard. I drive through here every morning and kids are not looking for cars. Even though it is closer for my daughter to go this way next year, I am going to tell her to walk around and cross at San Ramon Way across from Kaiser because there is always a crossing guard at that intersection. Thank you!
I work at Sinaloa, and we have 3 crossing guards on my route home. They have been wonderful and have helped keep the roads safe for the students. When they aren't around it's pure caos! SOO many students walking and riding bikes. It can get crazy when schools let out and the stduents just dispurse all over the place.
It is really important to keep the CGP since drivers don't always obey the school signs or stop for pedestrians.
Been wanting a crossing guard right at a bus stop and crossing area.
I think crossing guards should have bikers walk their bikes on cross walks, because when I walk my bike, I almost get ran over by other bikes.
Crossing guards are extremely important in helping students and parents safely cross Sir Francis Drake.
Some are very friendly and engaging while others I see sitting in chairs and not really being helpful.
Parking can be difficult around st pats and we do rely on the crossing guard often to help us cross that busy intersection. So much safer.

Important to have crossing guards as kids are walking/riding to school during heavy commute times when drivers are in a rush and potentially not paying attention
It's very important to have crossing forwards during school arrival and dismissal.
When I was growing up older students were the crossing guards. I think having adults do this is safer for all.
The crossing guard is essential on Magnoila to ensure drivers slow down and students are safe before and after school.
Fantastic way to spend money. Keeps kids safe and commuters cordial.
I am most impressed with the crossing guards at Corte Madera Ave and Magnolia (Marin Primary). Drivers traveling through Larkspur and Corte Madera have no regard for other cars stopping for crossing pedestrians. I am most worried about the children on bikes. They don't have time to react to drivers who go around cars stopped for crossing of pedestrians. At least 3 times a week someone goes around me to the right when I have stopped for crossings. I am on that specific road twice a day for drop off and pick up at St Patrick. I am actually also afraid for the guards! We need guards and a police enforcement set up during school drop off and pick up hours.
I hope we consider adding a crossing guard at the corner of King and Locust. It is an extremely dangerous corner that my son uses daily. The pickup traffic backs up which blocks the crosswalk and he is little so it's hard for cars to see him. It is quite an inconvenience for him to walk down to the corner of Magnolia to be crossed by the only crossing guard on duty only to walk all the way back up King to get home. There are many students that use this crosswalk with no supervision after school. Thank you for your consideration.
Our crossing guard in front of St. Patrick School, *{Individual Guard Reference}*, is great! It's a busy four-way stop and she always makes sure we get across safely. It would be a lot more hairy without her!
I have witnessed a crossing save a life at intersections near Neil Cummins, MPMS and St. Patrick School more times than I can count. Bravo to the brave men and women who keep our kids safe.
{Individual Guard Reference} at Magnolia and King Streets in Larkspur is the best crossing guard!!
I think they are better than lights and stop signs in keeping drivers accountable. In addition to their safety purpose, crossing guards help create a feeling of community.
While we don't walk to school, we use the crossing guard every day as we park on the street and walk onto campus. We have a four-way intersection and I believe that this is a very important intersection that requires a crossing guard.
We love *{Individual Guard Reference}* at St Pats. She makes our morning. Thank you for all that you do for our community!
You can't put a price on safety. There are too many distracted drivers. The crossing guards are very important!
The Crossing guard for St. Patrick's (*{Individual Guard Reference}*) is wonderful!
Crossing guards are critical for ensuring everyone's safety during peak school times. Yeh program must continue.
Presence of the crossing guards is one the best uses of tax payer funds

Guards need more training. More often than not, they cause confusion and traffic back-ups. For example, should not lead kids into crosswalks after a car has already entered the intersection. Also gather up kids and make a crossing as opposed to multiple one and two groups.
Keep the crossing guards!!!
Our daughter has to cross SFD at a crosswalk with flashing lights and still finds it terrifying without a crossing guard as people blaze through without any regard to the pedestrians crossing, lights or no, when the guard is not on duty. We live in fear of her crossing to get to her school bus and she and we (her parents) were so relieved to see a guard stationed there regularly this year after no guards in the past 2.
Our son bikes to White Hill from San Anselmo. We are uncomfortable with him biking on Sir Francis Drake, so he uses the safe bike route (marked in green on the pavement) from downtown Fairfax to Olema Road, and then uses the crosswalk at the public bus stop across SFD.
Crossing guard program is a good use of funding only in certain situations. In a regular intersection with a four way stop it may not be the best use of funding, but on a street where the cross walk is not at a stop sign or not obvious it is a good use of funding.
The people who help the kids cross are great.
Yes, it is very important that there are always crossing guards since most of the time cars do not stop completely and do not respond.
Excellent use of funds.
It is a great help that there are crossing guards to control the traffic for the students.
For me it is very important that there is a crossing guard for the children, making us feel safer.

TYLin

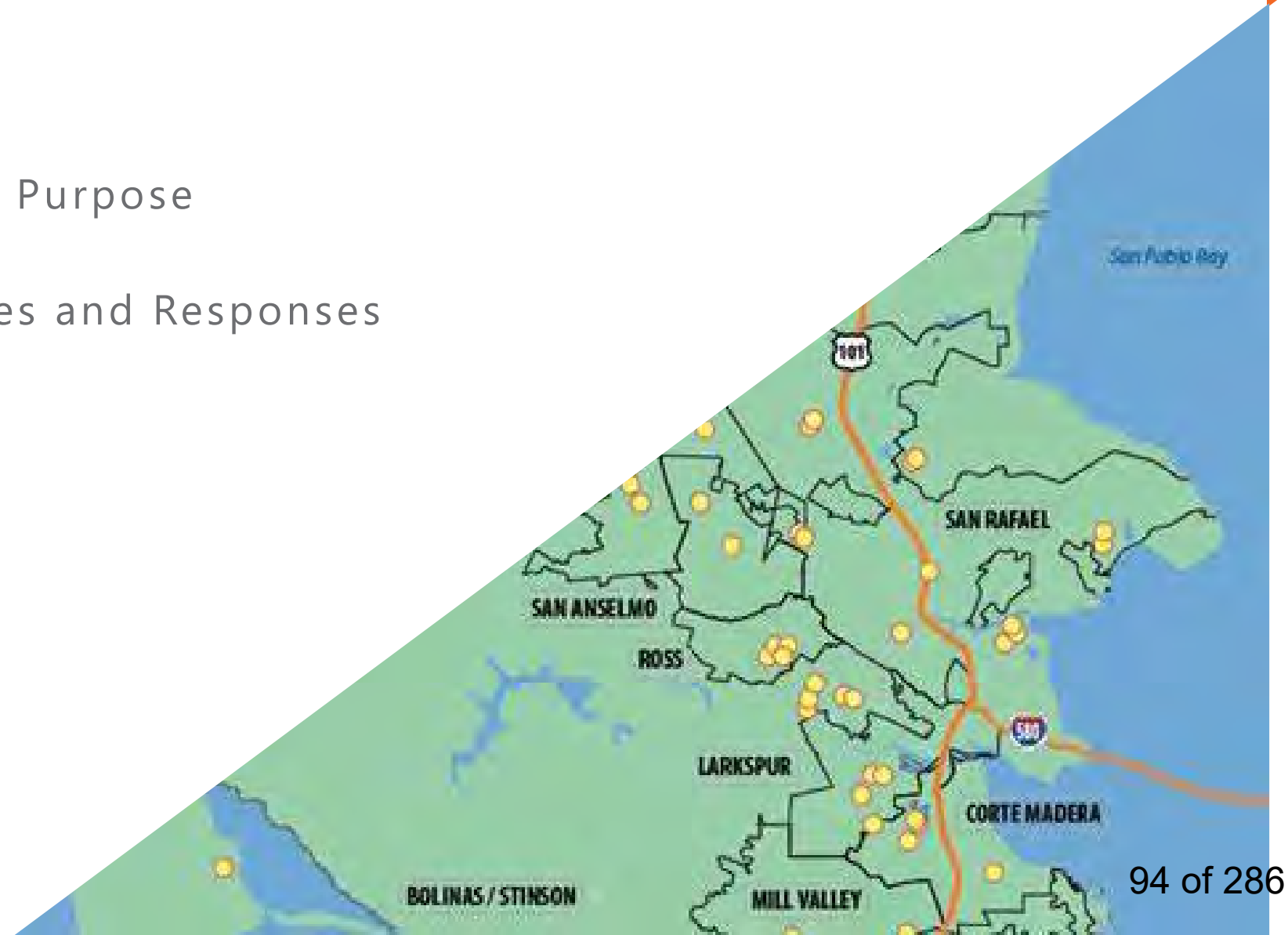
Photo Source: Transportation Authority of Marin website

TAM
Transportation Authority of Marin

Crossing Guard Program
2023/24 Assessment Report

Agenda

- Introduction
- Background and Purpose
- Survey Objectives and Responses
- Conclusion
- Q&A



Introduction

TY Lin conducted a survey as part of the required assessment for the Crossing Guard Program (Program) during the 2023-24 regular school year. The 2023-24 Assessment Report documents the assessment, and the findings based on the survey.

- The Fourth survey since the passage of Measure A, B, and AA
- Previous assessments were conducted during 2008-09, 2012-13, and 2016-17 school years

TY Lin coordinated the 2023-24 assessment with the Marin County Office of Education, School District offices, the Marin County Schools Superintendents, and individual schools.

Background & Purpose

TAM has been funding and managing the Crossing Guard Program since 2006. The Program provides trained crossing guards at key intersections throughout Marin County making it safer for students to walk or bike to school.

The Program was approved in 2004 and funded by Measure A in 2006 to provide the initial 54 crossing guards. Since then, the Program has grown and currently uses a mix of **Measure B & Measure AA** (Primary) funds to provide 96 crossing guards throughout Marin County during the school year.

FUNDING

2006 – 2019 Measure A – MC Transportation Sales Tax Expenditure Plan
2010 – Current **Measure B** – Vehicle Registration Fee
2019 – Current **Measure AA** – MC Transportation Sales Tax Renewal Expenditure Plan

Survey Objectives & Responses

Increased sample size from 9 to 43 schools in which 23,377 surveys were distributed to parents, students and faculty (29 elementary, 12 middle, and 2 combined). Below are the primary objectives of the survey:

1. To determine the level of awareness of Measure AA as the primary funding source for the Crossing Guard Program;
2. To determine whether or not the presence of crossing guards influence travel choices for students who walk or ride a bicycle to and from school on most school days or every school day; and
3. To determine whether or not the communities served by the Program consider the expenditure of Measure AA funds a good investment.

1,116 Complete Responses

- 1,061 from Parents
- 35 from Students
- 20 from Other

Survey Objectives & Responses

Objective 1: To determine the level of awareness of Measure AA as the primary funding source for the Crossing Guard Program

1. Have you seen crossing guards at intersections in Marin County on school days? **98% YES**
2. Do you know that funding for crossing guards in Marin County comes from the Transportation Authority of Marin Measure AA countywide sales tax? **31% YES. Increased from the 2016-17 survey result of 14%**

Survey Objectives & Responses

Objective 2: To determine whether or not the presence of crossing guards influence travel choices for students who walk or ride a bicycle to and from school on most school days or every school day

1. During the last month, I have used a crosswalk where a crossing guard is on duty….. **82% on most or every school day**
2. Do you regularly cross a street where a crossing guard is on duty on your way to or from school? **86% YES**
3. Is it more comfortable for you to walk or ride your bike to school knowing that there are crossing guards at some intersections? **98% YES**
4. Have you changed the route you take to school so that you can cross a street at a location where a crossing guard is on duty? **49% YES**
5. Did you change from being driven in a car to school to walking or biking because you know there are crossing guards at some intersections? **44% YES**

Survey Objectives & Responses

Objective 3: To determine whether or not the communities served by the Crossing Guard Program consider the expenditure of Measure AA funds as a good investment

1. Do you think the Crossing Guard Program is a good way to spend transportation funds? **98% YES**

Conclusion

The Program continues to achieve its primary objective of increasing the number of students who walk or ride their bicycle in lieu of being driven to school. The survey results indicate that the communities served by the Program see the crossing guards as an important and valuable aspect of travel to and from school. In addition to the responses to the questions detailed above, respondents were afforded the opportunity to provide additional information and/or comments. Examples are listed below. A large majority of the comments received reflect strong appreciation for the Program and for individual guards.

We absolutely love our crossing guard in front of Neil Cummins. His name is *{Individual Guard Reference}* and he cares deeply about the kids at the school and brightens their day.
We value *{Individual Guard Reference}*, the crossing guard on Hickory, so much. I feel comforted by the fact that he is there every day to ensure my son makes it safely to school.
We need more crossing guards in Larkspur / Corte Madera along the school routes. It also should be explored whether they can play a role at keeping pedestrians and bikers safe on the bike path between the towns as the increase in electric bikers has become unsafe there. Thank you!
The crossing guard outside Tam Valley school entrance is 100% necessary for safety. If she wasn't there it would not feel safe given the intersection and amount of kids and cars.

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Transportation Authority of Marin

DATE: September 26, 2024

TO: Transportation Authority of Marin Board of Commissioners

FROM: Anne Richman, Executive Director
Scott McDonald, Principal Transportation Planner

SUBJECT: Safe Routes Equity Pilot Program Update (Discussion), Agenda Item No. 6

RECOMMENDATION

This is a discussion item.

BACKGROUND

For the past 25 years, Safe Routes to Schools has provided high-quality programming to encourage walking, biking, and rolling to schools throughout Marin County. Core elements of this long-standing program include safety and skills education (bike and pedestrian skills); encouragement events (e.g., Walk & Roll Days, National Bike to School Day); and partnerships and community engagement (i.e., working with school and community stakeholders to address infrastructure concerns, safety messaging, school policies, etc.). In recent years, TAM's Safe Routes to Schools team has recognized the importance of engaging schools with systemic barriers to both program participation and active transportation more broadly.

With a keen focus on equity, within the Safe Routes to Schools Program, a new pilot program was developed last year to establish a model for further deepening engagement with equity priority schools that over time have not experienced the same level of engagement through traditional safe routes programming. Equity priority schools include sites with limited parent/family volunteers; lower levels of program participation; lower mode share rates of active trips and green trips to school; and/or the percent of students eligible for Free and Reduce School Lunch, a federal eligibility metric determined by family poverty level. Schools with more than 50% of students eligible for Free and Reduced School Lunch (FRSL) are considered Title 1 schools. For purposes of inclusion as an equity priority school, factors included comparatively high student FRSL eligibility (typically >30% in Marin County) and total student population, along with the program engagement and mode share factors listed above.

TAM's program contractor Parametrix has partnered with Strategic Energy Innovations (SEI) to deliver a student-focused pilot program across these equity priority schools to bridge these participation gaps. In winter and fall 2023, SEI worked with program stakeholders and school contacts to conceptualize and develop an engagement model, including resources, curricula, and educational materials, for equity priority schools. In spring 2024, SEI delivered a soft pilot with initial schools through their Youth Leading Active Communities (YLAC) program, providing supplemental Safe Routes programming to four equity priority schools: Dr. Martin Luther King, Jr. Academy (50.7% student FRSL eligibility); Lynwood Elementary School (44.0% student FRSL eligibility); James B. Davidson Middle School (66.8% student FRSL eligibility); and Hamilton School (61.9% student FRSL eligibility).

The YLAC approach emphasizes a student engagement model, geared toward empowering students to take an active role in decision-making around active transportation and to identify opportunities for active transportation in their communities. The cornerstone of this program is a five-lesson sequence in which students in classrooms or club settings engage in education pertaining to:

- The role that active transportation can play in reducing traffic, reducing emissions, and promoting public health
- Examining student population distributions and identifying “Park and Walk” and route recommendations
- Identifying safe and unsafe transportation behaviors from all road users
- Evaluating infrastructure and routes surrounding campus, including student walk audits and intersection audits
- Educating peers and promoting safer routes

In addition to the five-lesson curriculum, the pilot program offered support to supplement the longstanding elements of the Safe Routes program, assisting with encouragement events and campus engagement by working with students to lead assemblies and create student-to-student public service announcements.

Core successes from the spring 2024 soft pilot include the following:

- 50-65 students completed the immersive, five-lesson YLAC curriculum
- 600 students received peer-to-peer education on Safe Routes and active transportation through public service announcements, poster campaigns, and a student-led assembly
- 30+ student-led peer interviews
- 3 student walk audits/infrastructure audits
- Updates to Safe Routes collateral, including bilingual resources

In May of 2024, TAM’s Safe Routes to Schools Ad Hoc Committee convened to receive updates from the Safe Routes to Schools team regarding the equity priority schools engagement through this pilot program. Following the meeting, data from this past academic year was used to inform next steps for project implementation across additional priority equity schools to be included in the 2024-2025 school year. As the program expands into more equity priority schools the programming will remain comprehensive, while responding to a variety of school-specific needs.

DISCUSSION

As of fall 2024, this effort is planned to expand into a total of eight equity priority campuses to implement the full scale pilot program. These schools were selected based on participation in the soft launch pilot as well as program feedback and insight from Safe Routes to Schools program implementers, travel mode data, and the percentage of students eligible for free or reduced school lunch. The following schools will be included in the full-scale pilot:

1. Dr. Martin Luther King, Jr. Academy
2. Lynwood Elementary School
3. James B. Davidson Middle School
4. Hamilton School
5. Venetia Valley Elementary School
6. Coleman Elementary School
7. Lu Sutton Elementary School
8. Olive Elementary School

Prior to the start of the full-scale pilot, YLAC program Site Leads met with administrators and stakeholders from each school to gauge their unique interests, priorities, capacity, and surrounding infrastructure and determine the most effective delivery method. The menu of YLAC program components that will be rolled out to the schools includes its five-lesson transportation curriculum, discussed above; school assemblies; park and walk location identification; bilingual family survey distribution; and general Safe Routes to Schools event support.

Program evaluation will be conducted at each school at the end of the 2024/2025 school year and each year the YLAC program is implemented. Program success will be measured by evaluating metrics that fall under three categories: direct instruction services, site-specific information services, and encouragement and task force support. A full list of program metrics may be found in Attachment B. At a high level, a successful pilot will generate student awareness of and engagement with active transportation concepts, ultimately spreading to the broader school communities and influencing mode shift.

The full-scale pilot aims to bridge gaps in program engagement by tailoring programming to fit school and community needs while building and deepening trust and relationships. By implementing the full-scale YLAC pilot, the Safe Routes to Schools program aims to determine effective strategies for raising awareness and participation in equity priority schools that have proven hard to reach using more traditional means.

Two core determinations will include whether the YLAC approach effectively counterbalances the lower engagement levels that have impacted delivery and efficacy of the long-standing program elements *and* how the YLAC approach is impacting mode shift over time. For the first determination, SEI has developed a series of metrics that will be tracked throughout the program, including student educational hours, number of sites audited, number of students who "graduate" from the 5-session program, and scope and reach of peer engagement campaigns (shown in Attachment B). The second determination regarding mode shift will be aided by mode tallies in fall and spring and norming trends using data from schools with long-standing program participation.

FISCAL IMPACTS

This pilot program is among the elements of the overall Safe Routes to Schools contract between TAM and Parametrix, which was executed in July 2023 and has been budgeted for within TAM's annual budget.

NEXT STEPS

The YLAC team members have begun scheduling stakeholder conversations with each of the equity priority school sites and are working to incorporate feedback into school-specific program design and implementation for the coming year. As the YLAC program matures into its second year (the first year of implementing the full-scale pilot program) in 2024-2025, the Safe Routes team will continue to implement and adapt programming across the eight equity priority schools (four additional schools included). With increased implementation, the YLAC team will continue to work with stakeholders to collect quantitative and qualitative data on program outputs, including: student direct instruction services, site specific information, services, and encouragement and task force support. SEI staff will continue to provide status updates via bi-monthly meetings with TAM staff and the broader Safe Routes team.

ATTACHMENTS

Attachment A – PPT Presentation
Attachment B – Tasks & Metrics

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Safe Routes to Schools
Youth Leading Active Communities
Equity Priority Schools Pilot Program

Transportation Authority of Marin

Board of Commissioners

September 26, 2024

Safe Routes to Schools – Long-Standing Program Elements

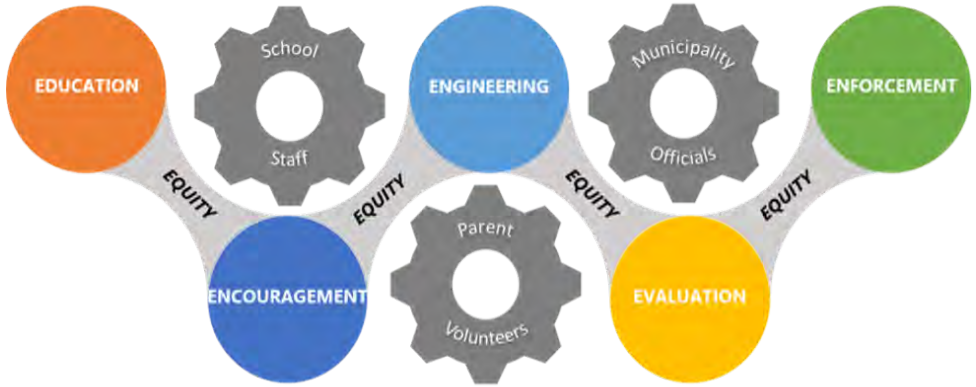
- **Safety & Skills Education**
  - Bike and Pedestrian Skills Classes with League-certified instructors

- **Encouragement**
  - Contests and events, including monthly Walk & Roll Days, National Bike to School Day, walking school buses, etc.

- **Partnerships & Community Engagement**
  - Working with local jurisdictions, school administrators, parents, and community partners to address:
    - Infrastructure concerns
    - Safety Messaging
    - School Policies
    - Recommended routes and/or Park & Walk locations

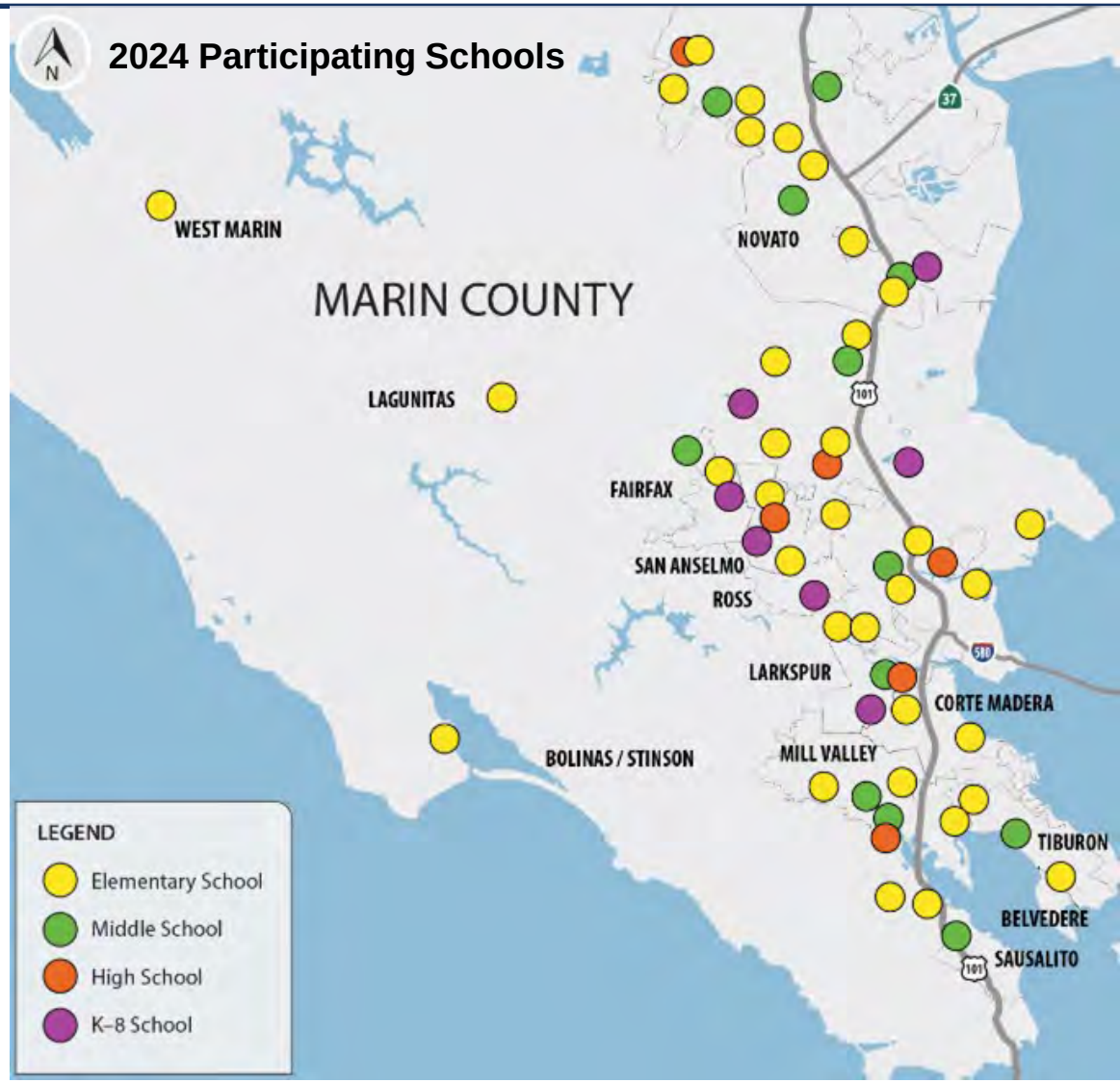
Result: SR2S is institutionalized and respected at 60 schools. School-aged children across the county participate in skills education and encouragement events.

Safe Routes to Schools



Results:

- County average of **at least 50% green trips** to/from school annually
- **413 safety class sessions** (~13,000 student hours) and **434 encouragement events** held during the 2023/2024 school year
- **Over 180 infrastructure projects** aimed at increasing safety and encouraging children to walk or bicycle to school planned or built since 2000, at a **cost of ~$55M**



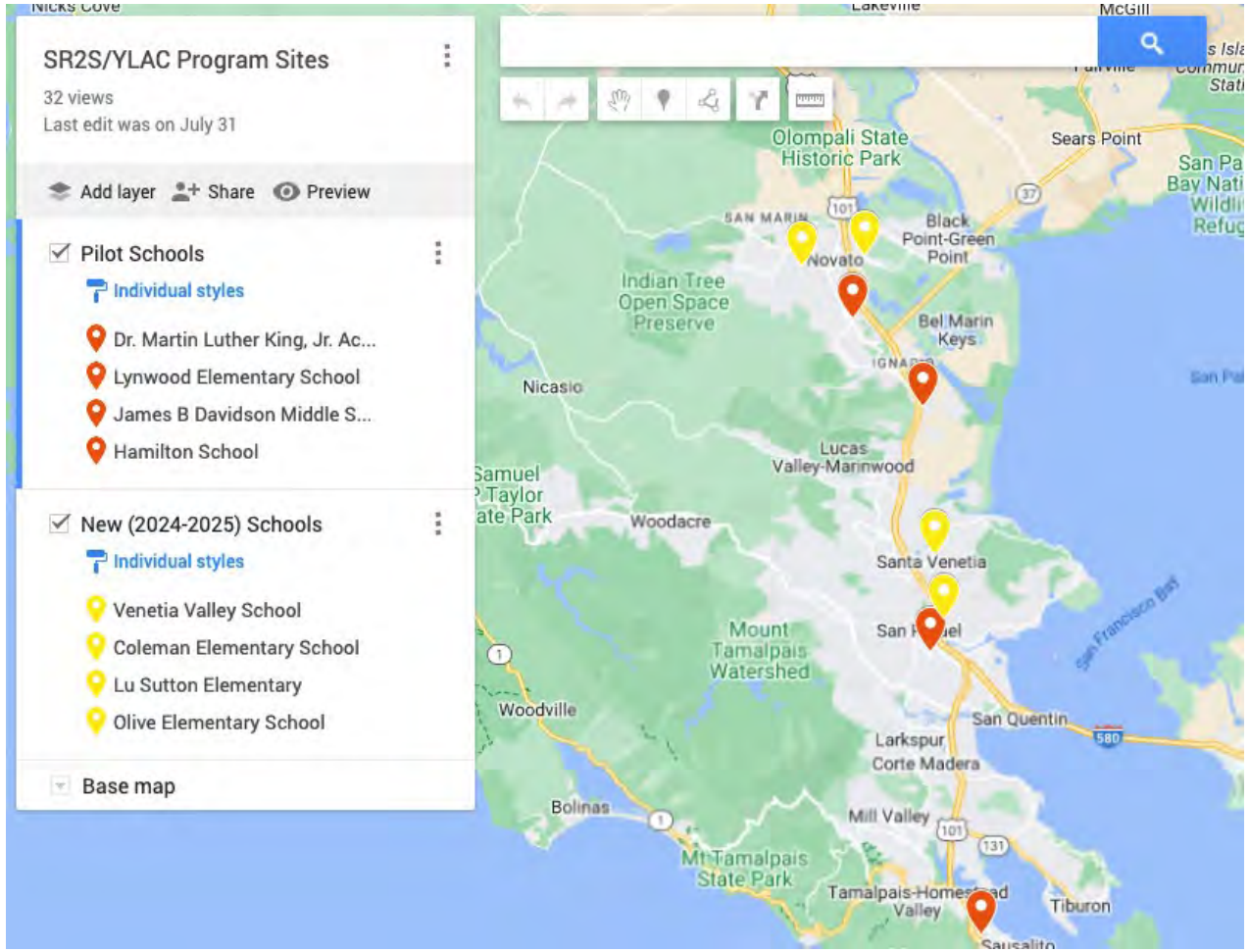
YLAC Purpose: Complement & Expand Existing SR2S Program

- **Bridge Gaps in Program Engagement**
  - Leverage student leadership and direct service model to counter lower levels of parent engagement & parent volunteerism in Equity Priority Schools
- **Tailor Programming to Fit School/Community Needs**
  - Adapt focus (content) and format (delivery) based on school interests, priorities, capacity, and surrounding infrastructure
- **Build and Deepen Trust and Relationships**
  - Maintain a strong, consistent presence on campus to build in-roads for additional SR2S connections, such as PTA contacts, event flyers, etc.
  - Build student culture around active transportation & green trips

YLAC Participating Schools & Selection Process

- **Priority Schools:**
  - **Dr. MLK Jr. Academy**
  - **Lynwood Elementary School**
  - **James B Davidson Middle School**
  - **Hamilton School**
  - Venetia Valley School
  - Coleman Elementary
  - Lu Sutton Elementary
  - Olive Elementary School

- **School Selection:**
  - SR2S teams identified eight schools, mediated by the following factors:
    - **Low rates of [core] program participation**
    - **Limited parent/family volunteers**
    - **Lower mode share rates of active/green trips to school**
    - **Familial poverty level (Free & Reduced School Lunch Rate/Title 1 Status)**
  - SEI developed youth-focused engagement strategy to bridge gaps.



YLAC 2023-2024 Progress

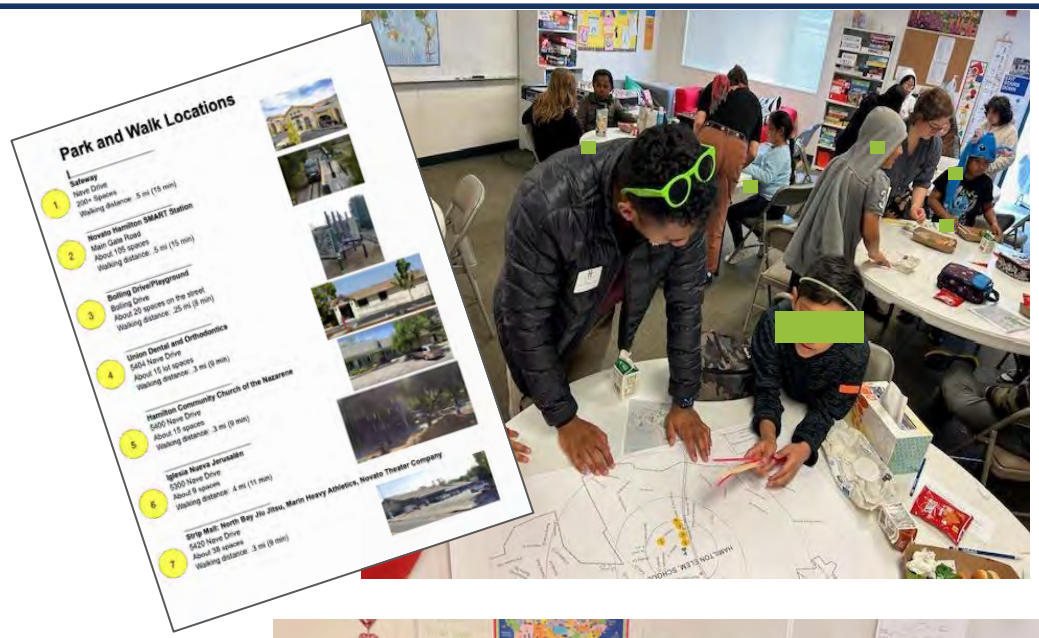
Five-Lesson Active Transportation Curriculum:

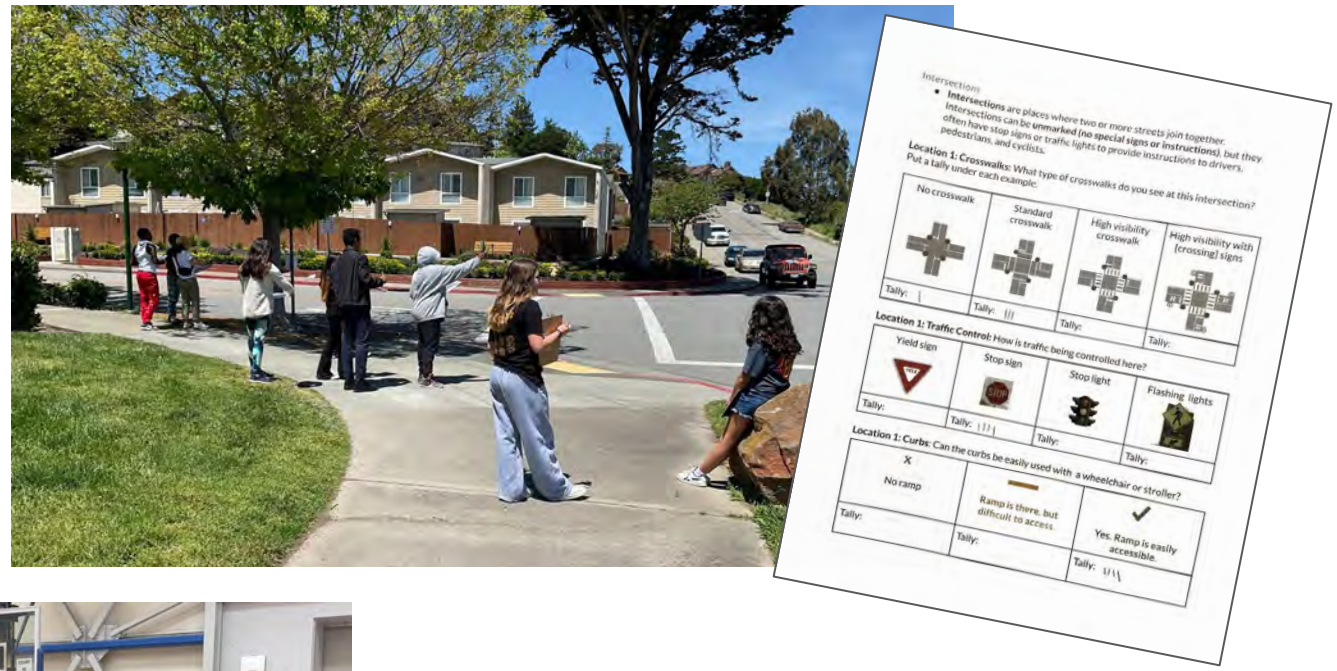
- **Intro to Active Transportation:** Students explore problems caused by driving and identify barriers to active transportation
- **Safe Routes for All:** Students examine dot maps and recommend Park and Walk locations
- **Making Safe Choices:** Students identify safe/unsafe behaviors and situations
- **Safety in Our Surroundings:** Students investigate infrastructure around campus
- **Spreading Safe Routes:** Students generate awareness/messaging for the community

Other Activities:

- **School Assembly**: Student PSAs and amplifying “National Bike to School Day”
- **Park and Walk identification** for each school site
- **Bilingual family survey** distribution
- **General SR2S event support:** Ruby Bridges Day, National Bike to School Day

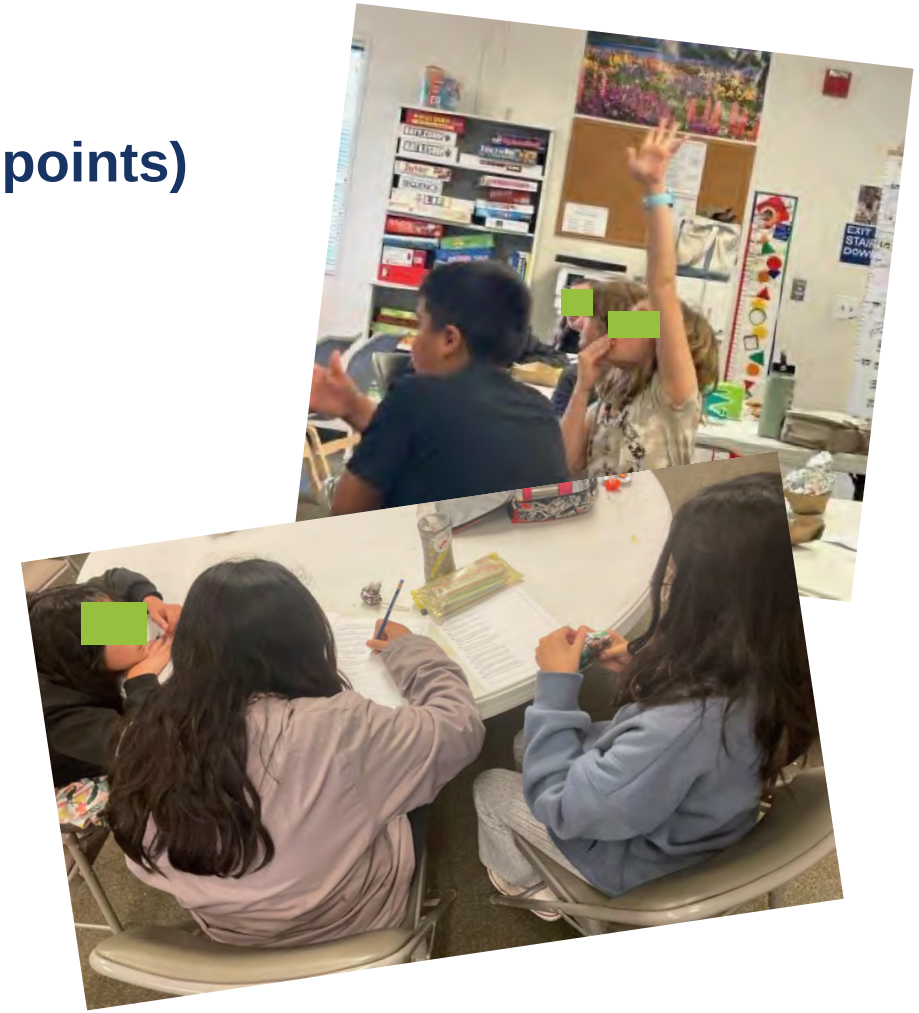
Program Activities





Key Successes of Student Leadership Model (YLAC)

- High levels of student enthusiasm
- High levels of content retention (weekly touchpoints)
- Deep engagement with issues
- Walking field trips and site observations
- Peer education
- Campus awareness
- Mode shift anecdotes



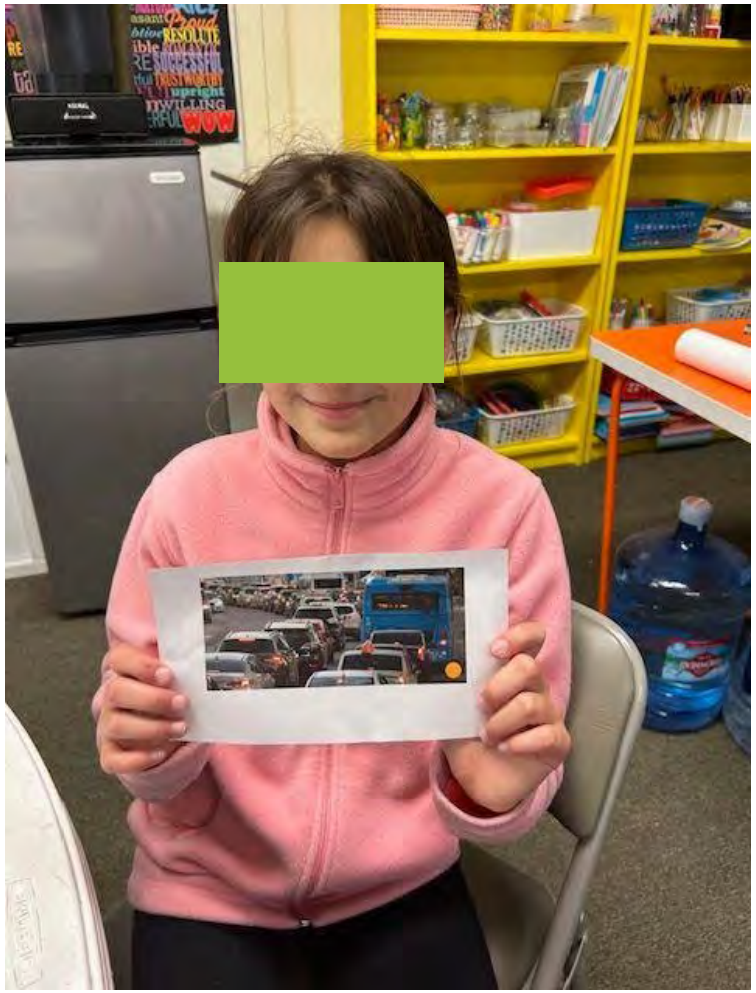
Pilot Metrics to Date

25-35 3rd – 5th grade direct participants	**25-30** direct 6th grade participants	**600** Estimated students indirectly engaged	**10** 35-50 minute in-class sessions	**6** 45-minute lunchtime sessions
30+ peer interviews	**13+** student posters around campus	**15** park and walk locations identified	**20** park and walk pledges	**3** Walking field trips
3 Bike to School Day events	**3** Safe Routes & Bike to School Day blurbs in school newsletters	**1** K-5 assembly presentation	Bilingual information and messaging sent home to YLAC families	Educator End of Program Surveys

Year 1: Promising Dovetails

- YLAC curriculum can be utilized broadly by all Safe Routes instructors
- Advancing best practices for accessible resources across program (curriculum, collateral)
- Providing extra hands for Walk, Bike, and Roll to School Days
- Identifying Park & Walk locations
- Major inroads to benefit additional program elements, e.g., PTA connections/volunteers
  - Result: collaboration & dialogue w/myriad of stakeholders

Year 1: Core Challenges



- Difficulty identifying champions within school administration & amongst educators
  - Similar to struggles with family volunteer recruitment
- Relationship building with schools is resource-intensive
- Given YLAC's early stage(s), it is difficult to predict the program's longer-term impacts

Looking Forward: What to Expect in Year 2

- **Participating School Expansion**
  - Venetia Valley School
  - Coleman Elementary
  - Lu Sutton Elementary
  - Olive Elementary School
- **New Offerings Menu (School Equity Approach) – customizing school programming**
  - SEI will continue conducting certain elements independent of school sites **(i.e., Park and Walk identification, survey distribution, task force representation)**
- **Metrics & Reporting**
  - Outputs document created incorporating TAM feedback
  - Generation of EOY reporting document
- **School conversations are underway!**

Questions & Discussion - Thank You!

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Equity Priority Schools Pilot: Core Tasks and Metrics

Direct Instruction Services

Tasks	Metrics
Lead instructional sessions with students	• Number of instructional sessions led by SEI educators • Number of student educational hours ○ Session duration * session frequency * student attendance • Number of Certificates issued/YLAC "Graduates" • Number student walk/intersection audits • Number of intersections/routes audited
Assemblies	• Number of assemblies • Student educational hours ○ Assembly duration x estimated # students

Site-specific Information services

Tasks	Metrics and Actions
Standalone student walk audits	• Summarize activity and learnings in site report
Bilingual survey distribution to families	• Digital distribution (school newsletters, QR code) • Number of responses • Incorporate information into site report
Park and Walk site identification	• Identify and curate park and walk locations for each site

Encouragement and Task Force Support

Tasks	Metrics
Attend Task Force Meetings on behalf of school	• Number of task force meetings attended • Activity summarized in site report
Encouragement event support	• Available to staff tables as needed
Deliver encouragement collateral and materials to schools	• N/A
Circulate SR2S newsletter blurbs to school administrators	• N/A

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Transportation Authority of Marin

DATE: September 26, 2024

TO: Transportation Authority of Marin Board of Commissioners

FROM: Anne Richman, Executive Director
Derek McGill, Director of Planning

SUBJECT: Countywide Transportation Plan Board Update and Authorize Release of the Draft Plan (Discussion), Agenda Item No. 7

RECOMMENDATION

The TAM Board provides feedback on the Draft Countywide Transportation Plan (CTP) Implementation Section and next steps prior to the release of the Draft Plan for a 30-day public comment period.

BACKGROUND

In 2023, TAM staff began work on the development of Marin County's first CTP and a countywide Community Based Transportation Plan (CBTP). Since the kickoff, staff have presented multiple elements of the CTP/CBTP including:

- Outreach and engagement plan, September 2023
- CTP Vision and major elements – Initial CTP Board Workshop, October 2023
- Draft Vision and equity definition, March 2024
- CTP Goals and Strategies – Second CTP Board Workshop, April 2024
- CTP Implementation and Priorities – Third CTP Board Workshop, July 2024

In addition to these key board milestones, staff have incorporated feedback from the general public through outreach and engagement conducted for the CTP, the technical advisory committee, the equity working group, and TAM's Bicycle/Pedestrian Advisory and Community Oversight Committees.

Staff are currently in development of the Draft CTP/CBTP and the plan is expected to be completed by the end of 2024. The CTP/CBTP is expected to guide TAM's policy-making, and advance safety, equity, and sustainability.

DISCUSSION/ANALYSIS

As the CTP has been developed over the course of the last year, there has been significant progress on the process elements of the draft plan, as well as the outcomes. Staff will present a quick refresher on the accomplishments to date and provide a recap of the feedback received at the July Board Workshop on implementation and priorities for TAM and the CTP.

Based on that feedback, and input from the CTP committees, staff will present an update on the remaining sections of the draft plan: implementation activities and performance measures.

FISCAL CONSIDERATION

There are no fiscal impacts associated with this presentation.

NEXT STEPS

Based on the input received at the discussion, staff will release the Draft CTP 2050 for a 30 day public and partner review period. Staff will then develop a final draft of the CTP 2050 for Board adoption in December.

ATTACHMENTS

Attachment A – Staff Presentation
Attachment B – CTP 2050 Draft Implementation Activities

Countywide Transportation Plan (CTP) Update

Transportation Authority of Marin

Board of Commissioners

September 26, 2024

CTP 2050 Accomplishments

- ✓ CTP 2050 Vision
- ✓ CTP Goals
- ✓ CTP Equity Definition
- ✓ CTP Needs
- ✓ CTP Strategies
- ✓ CTP Priorities
- ✓ CTP Network Maps
- ✓ CTP Implementation Action Items
- ✓ CTP 2050 Plan
- ✓ Board Workshops
- ✓ CTP Equity Working Group
- ✓ CTP TAC

Board and EWG Top Strategies

Top vote getters in each work session

Public Survey			Board	EWG
62%		Safe School Travel	*	
57%		High Quality Transit	*	
55%		Fix It First	*	
52%		Safe System Approach		
51%		Accessible & Walkable Communities		*
51%		Complete Active Transportation Network	*	
51%		Regional Connectivity	*	
44%		Flexible Ride Programs		*
42%		Adaptation to Climate Change		*
42%		Community Identified Investments		*
39%		Connected & Complete Community Corridors		
37%		Zero Emission Vehicles		
33%		Commute Alternatives and Travel Education		*
26%		Transportation Data & System Management	*	
22%		Visitor Travel Management		

High level Recap – July Board Workshop

Implementation
Future-proof projects and programs: be forward thinking in addressing equity, safety, and sustainability in prioritization, planning, design, and implementation.
Mixed feedback on funding criteria for discretionary funding consistent with CTP goals and strategies. Some interest in developing new CTP incentive-based funding programs.
Consensus around TAM providing multi-jurisdictional collaboration, planning, grant and technical support.
Desire for TAM to play a leadership role in developing a Complete Active Transportation Network.

1. Introduction
2. A Vision for the Future
3. Today's Planning Context
4. Emerging Challenges & Opportunities
5. Strategies & Implementation
6. Measuring Performance

CTP 2050 Draft Plan Outline

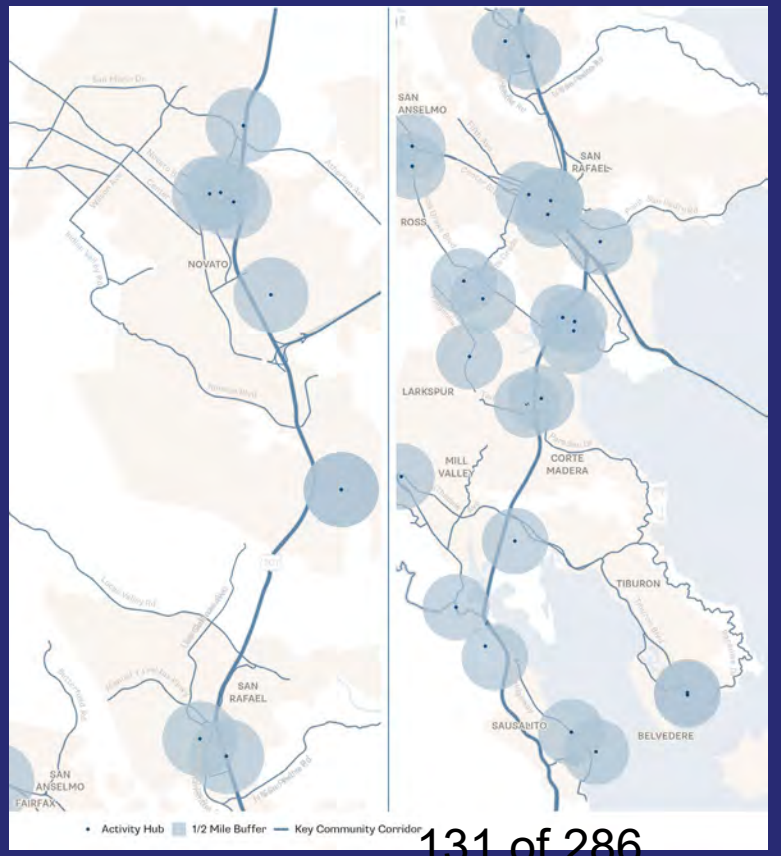
CTP 2050 Plan: Chapter 5. Strategies & Implementation

- ✓ The following information will be defined for all 15 strategies:
  - TAM's current role
  - Key partners
  - Roles that need to be filled to advance CTP 2050
  - Policy topics to consider
  - Specific near-term actions
  - Funding opportunities
  - Example projects
  - Performance Metrics

Accessible & Walkable Communities

- **TAM's current role:** Grant assistance and lead on first/last-mile services
- **Key partners:** cities/towns, downtown BIDs, Caltrans, transit operators, MTC
- **Roles Needed to Advance CTP 2050:** Policy consistency assistance and lead on multi-jurisdictional/discipline planning projects
- **Policy topics to consider for Activity Hubs:**
  - Local land use decisions including zoning and parking, and their relationship to transportation funding
  - Curb management, including parking for bikes/bikeshare and high-quality bus stops
- **Specific near-term actions for Activity Hubs:**
  - Countywide Active Transportation Plan
  - MTC TOC Policy Compliance
  - Complete Specific Plans to maintain existing PDAs
  - Work with cities to identify new PDAs and support access to regional planning and project funding
- **Example projects:**
  - Parking management projects
  - Pedestrian and bicycle circulation projects
  - Downtown streetscape improvements
  - Mobility hubs and shared services, such as Redwood Bikeshare Pilot Program
  - Increased transit service and capital investments
- **Performance measures:**
  - Percent of population within 15-minute walk of high-quality transit service
  - Percent of major transit station areas compliant with each of the four areas of MTC TOC Policy
  - Percent of overall housing units planned and permitted within PDAs or TPAs

Example Strategy Description



Implementation

Implementation would be network, programmatic or thematic (same as goals)

What is the approach for implementing different priorities?

	**Safe School Travel**	Programmatic
	**High Quality Transit**	Network
	**Fix It First**	Network
	**Safe System Approach**	Thematic/Goal
	**Accessible & Walkable Communities**	Network
	**Complete Active Transportation Network**	Network
	**Regional Connectivity**	Network
	**Flexible Ride Programs**	Programmatic
	**Adaptation/Mitigation for Climate Change**	Thematic/Goal
	**Community Identified Investments**	Thematic/Goal
	**Connected & Complete Community Corridors**	Network
	**Zero Emission Vehicles**	Programmatic
	**Commute Alternatives and Travel Education**	Programmatic
	**Transportation Data & System Management**	Programmatic
	**Visitor Travel Management**	Programmatic

Thematic Strategies:

- Map one-to-one onto the CTP 2050 Goals and appear in the 2050 Vision statement
- ill not be accomplished through one-off programs or projects but instead must be woven through all TAM programs, projects, planning efforts, funding decisions, and policy guidance

	**Safe System Approach**
	**Adaptation / Mitigation for Climate Change**
	**Equity Community Investments**

Strategies & Implementation

Network Strategies:

- Goal is to focus spatial network planning & project development by all partners
- Some of the priority networks are defined in the CTP, while others are more locally defined and will continue to be locally prioritized
- May also include some programmatic elements

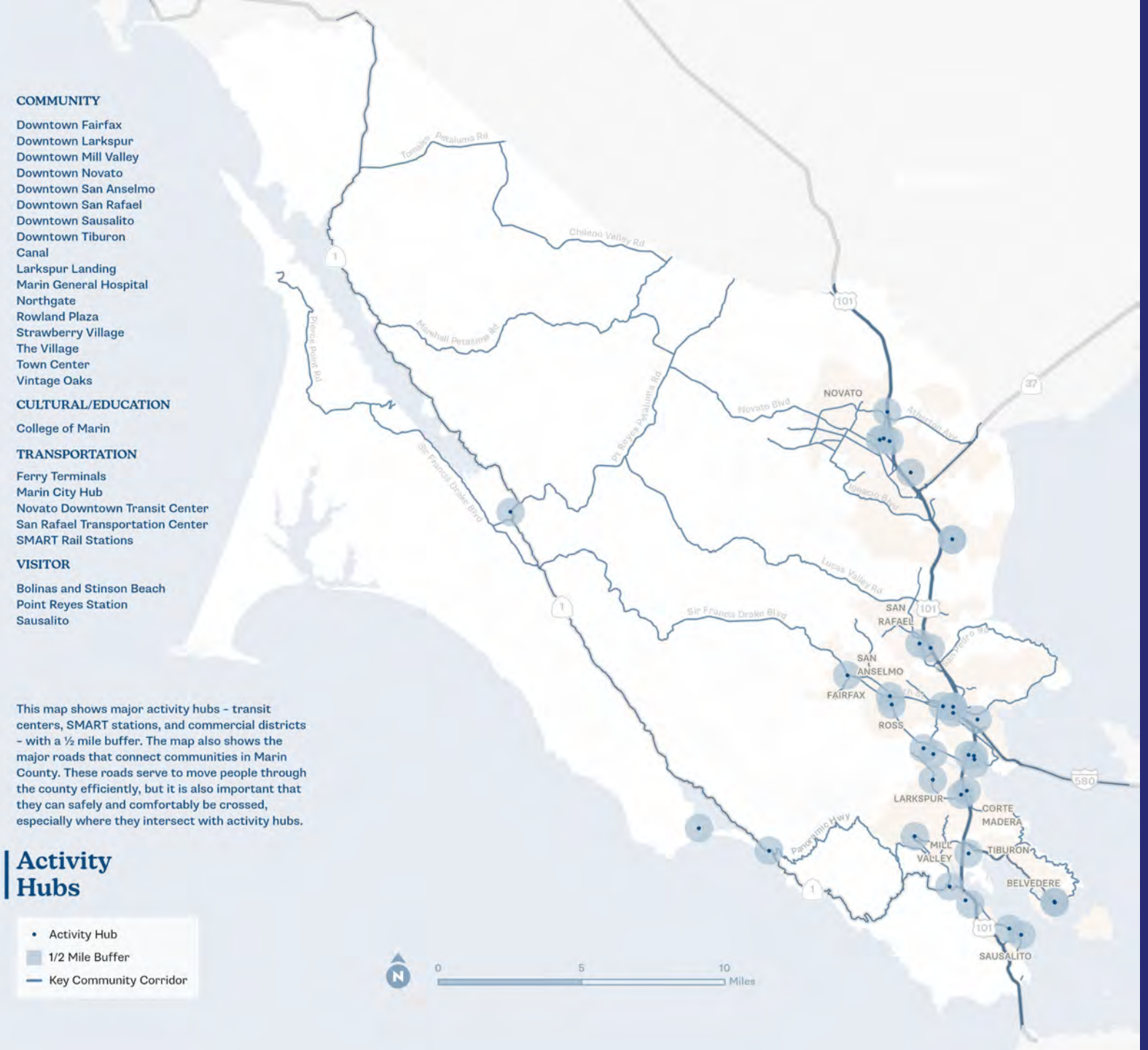
	**Fix It First**
	**High Quality Transit**
	**Accessible & Walkable Communities**
	**Connected & Complete Community Corridors**
	**Complete Active Transportation Network**
	**Regional Connectivity**

Strategies & Implementation

CTP 2050 Active Transport Network

CTP 2050 Transit Priority Network

CTP 2050 Activity Hubs



Programmatic Strategies:

- May require a combination of information curation and promotion, digital platform and tool development, agency coordination, and physical infrastructure investments
- Will be most effective if managed at a regional/countywide scale and will require dedicated staff time at TAM, partner agencies, or a combination of the two

	**Safe School Travel**
	**Visitor Travel Management**
	**Transportation Data & System Management**
	**Travel Education and Assistance Programs**
	**Flexible Ride Programs**

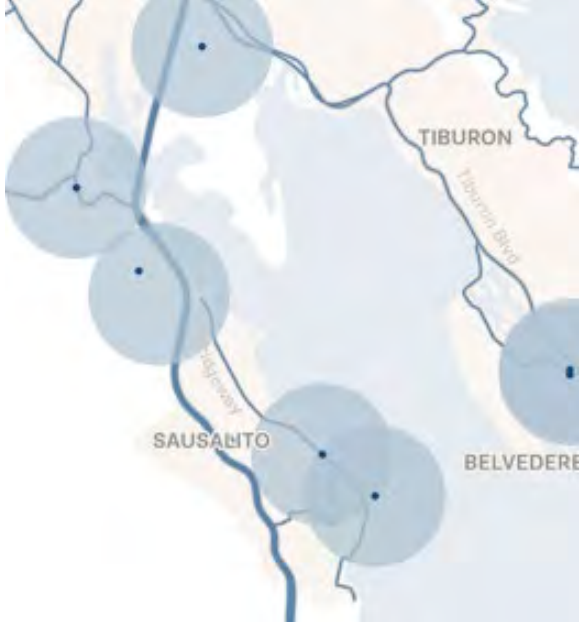
Strategies & Implementation

CTP 2050 Recreational and Visitor Travel

Corridor Case Study: Bridgeway, Sausalito

All the key partners and strategies need to be involved in future project & planning efforts

Visitor/Recreation Route



Activity Hubs

Transit Priority Route

Primary AT Route

High Collision Network

Sea Level Rise Zone

Implementation Next Steps

- Next steps Identifies lead agencies and key partners
- Not all actions will be led by TAM
- Implementation will depend on resource availability
- Actions are organized by:
  - Early Actions
  - Advancing Works in Progress
  - Initiating New Efforts
  - Establishing New Processes

Implementation Next Steps

Early Actions

- ✓ Form a TAM Technical Advisory Committee
- ✓ Continue Equity Working Group
- ✓ Evaluate Existing Programs for CTP Alignment
- ✓ Measure AA review

Advancing Work in Progress (apply CTP 2050 Priorities)

- ✓ Transportation Project Planning
- ✓ Land Use Planning & Project Reviews
- ✓ MASCOTS
- ✓ SLR Planning
- ✓ MTC TOC Policy Compliance
- ✓ LSRP Adoption
- ✓ Advancing Projects on State Highway System

Implementation Next Steps

Initiate New Efforts

- ✓ Countywide Active Transportation Plan & Coordinated Grant Approach
- ✓ Traffic Signal Modernization Study and Implementation
- ✓ Update to Coordinated Countywide School Transportation Study
- ✓ Work with Local Jurisdictions to identify new PDAs
- ✓ Advance Mobility Hubs
- ✓ VMT Toolkit Development and VMT Policy Adoption
- ✓ Explore future of Flexible Transit Services
- ✓ Support ZEV Funding Opportunities

Implementation Next Steps

Establish New Processes

- ✓Establish Data Management Program
- ✓Establish School Transportation Committee
- ✓Establish Marin Visitor Travel Collaborative

- ✓ Goal of a Performance driven plan
- ✓ Performance measures will be used for plan progress & updates
- ✓ Measures include:
  - ✓ Investment Data (Project Sponsor & TAM)
  - ✓ Policy Tracking (Local Jurisdictions)
  - ✓ Travel Data (TAM & Others)

CTP 2050 Plan: Chapter 6. Measuring Performance

CTP Schedule

- ✓ Work remains on schedule!

Early Oct	Early Nov	Nov	Dec
Release Draft CTP for Review & Comment	Comments Due	Prepare Final CTP	Board Adopts Final CTP

DRAFT CTP 2050 IMPLEMENTATION ACTIVITY	LEAD	KEY PARTNERS
Early Actions		
TAM Technical Advisory Committee (TAC)	TAM	Local Jurisdictions & Transit Operators
TAM Equity Working Group (EWG)	TAM	Community partners
Evaluation of existing programs & CTP Alignment	TAM	Local Jurisdictions & Transit Operators
Measure AA Review	TAM	Local Jurisdictions & Transit Operators
Advancing Work in Progress (apply key CTP 2050 priorities)		
Transportation Project Planning & Development	TAM, Local Jurisdictions, Transit Operators	MTC, Caltrans
Land Use Planning & Development	Local Jurisdictions	TAM, ABAG, Transit Operators
Marin Sonoma Coordinated Transportation Study (MASCOTS)	Transit Operators	TAM, SCTA, MTC
Sea Level Rise Study	TAM	Local Jurisdictions, BCDC, Caltrans
MTC TOC Policy Compliance, Specific Plans for existing PDAs	TAM	Local Jurisdictions, MTC
Marin-Sonoma Narrows Project and closure of HOV gap on US-101	TAM	Caltrans, Transit Operators. MTC
Advancement of Part-Time Transit Lanes on US-101	TAM	Caltrans, Transit Operators, MTC
Richmond San Rafael Bridge Forward suite of corridor improvements	BATA	TAM, CCTA, Golden Gate Transit, Caltrans
Redwood Bikeshare Pilot	TAM, SCTA	Local Jurisdictions
Local Road Safety Plan Adoption & Vision Zero Implementation	Local jurisdictions	TAM, Caltrans
Initiate New Efforts (organize around CTP 2050 Vision, Goals, and Strategies)		
Traffic Signal Modernization Study and Implementation	TAM	TAC
Update to Coordinated Countywide School Transportation Study	TAM, Marin Transit, and MCOE	TAC, School districts, EWG
Countywide Active Transportation Plan & Coordinated Grant Approach	TAM	TAC, EWG
Identify new PDAs	Local Jurisdictions	TAM, MTC
Advance Mobility Hubs	TAM, Local Jurisdictions & Transit Operators	TAC, EWG
VMT Toolkit Development and VMT Policy Adoption	TAM	TAC, EWG
Explore future of Flexible Transit Services	MTC/MTCD	TAM, Transit Operators
Support ZEV Funding Opportunities	MCE	TAM, Local Jurisdictions

Establish New Processes (organize around CTP 2050 Vision, Goals, and Strategies)		
Establish Data Management Program	TAM	Local Jurisdictions & Transit Operators
Establish School Transportation Committee	TBD	TAM, MCTD, MCOE and School Districts
Establish Marin Visitor Travel Collaborative	TBD	TAM, County, Transit Operators, NPS, Caltrans

Transportation Authority of Marin

DATE: September 26, 2024

TO: Transportation Authority of Marin Board of Commissioners

FROM: Anne Richman, Executive Director
Mikaela Hiatt, Associate Transportation Planner

SUBJECT: Update on the Sea Level Rise Adaptation Planning for Marin County's Transportation System Project (Discussion), Agenda Item No. 8

RECOMMENDATION

Discussion item only. The TAM Board reviews and provides feedback on the Sea Level Rise Adaptation Planning for Marin County's Transportation System Project.

BACKGROUND

TAM has been coordinating with partner agencies and stakeholders in Marin County and the region to advance adaptation planning for sea level rise. The Measure AA ½-Cent Transportation Sales Tax Expenditure Plan sets aside 1% of the transportation sales tax under "Category 2.3: Develop projects to address transportation impacts from sea level rise (SLR)". The expenditure plan states:

> "This funding would be utilized to support protecting and adapting Marin's roadways and related infrastructure to the effects of sea level rise and flooding. These funds can be used to serve as seed money to find solutions, attract matching grants and leverage private investments to meet the challenges and vulnerabilities identified in numerous planning efforts including those of Bay Wave, and CSMART."

On April 27, 2023, the TAM Board reviewed the scope of work and approved the contract with ARUP, the consultant to this planning effort. This effort is intended to build off previous adaptation planning efforts conducted in Marin County and the region to develop an implementation plan for TAM to support Marin County's Transportation System. At the February 22, 2024 TAM Board Meeting, TAM staff presented on the progress made to date including the completion of the Existing Plan Review Memo and the development of the Identification of Vulnerable Locations. This included a review of the 19 Focus Areas throughout the County where there was the highest concentration of sea level rise and flood risk; transportation, community, and lifeline assets exposed to impacts; and Equity Priority Communities.

DISCUSSION/ANALYSIS

Following the February TAM Board meeting, the project team used the feedback from the Board to finalize the Vulnerable Locations Memo and transition to drafting the Adaptation Summaries.

With the information gathered from the Vulnerable Locations task, ARUP and its subconsultant WRT helped develop Deep Dive adaptation summaries for seven focus areas in Marin County. The focus area deep dives were identified by screening out the focus areas where extensive work pertaining to sea level rise is underway, such as State Route 37 and Stinson Beach, as well as through a consolidation of the focus areas based on watersheds. The Adaptation Summaries include information

on the challenges that face each focus area due to sea level rise and flooding, potential options for addressing the challenges at each of the locations within the focus areas, and the partner and stakeholder opportunities within each area.

The Adaptation Summaries have been reviewed by the Technical Advisory Committee (TAC) and through individual meetings with each of the respective cities' and towns' staff, the County of Marin, MTC, BCDC, Caltrans, Golden Gate Transit, and SMART, and were shared with Marin Transit. The TAC and each of the agencies reviewed the Adaptation Summaries twice and provided comments. These comments are currently being reviewed by the consultant team and integrated into the final version of the summaries.

To gather stakeholder input, TAM hosted two online focus groups on the topics of environment and equity on August 21 and 23, respectively. Local environmental advocates, active transportation advocates, and community-based organizations participated in lively discussions on the study, recommendations for public engagement strategies, and guidance on elements the project team could delve into further.

TAM staff presented to the Administration, Planning, and Projects (APP) Executive Committee on September 9th. The APP Executive Committee provided feedback on the stakeholder engagement and outreach strategies, the adaptation summary deep dives and focus areas, and next steps in the governance and implementation strategy development.

Staff will return to the Board in the coming months with additional updates on the Governance Review and Implementation Plan tasks along with the Draft and Final Report. As the County of Marin's Sea Level Rise Governance Study is underway, TAM's study intends to use the Governance Review task to continue to evaluate potential partnerships and governance structures, BCDC's guidelines for Senate Bill 272 Subregional Adaptation Plans, and funding opportunities that connect with the other elements of the Adaptation Summaries, Implementation Approach, and Final Report. This effort will support identifying next steps, stakeholder involvement, connect the Adaptation Summaries with future efforts such as the SB 272 Subregional Plans, and guide the Measure AA program development.

FISCAL CONSIDERATION

Funding for the Sea Level Rise Adaptation Planning for Marin County's Transportation System Agreement is available through Measure AA, Category 2.3 Sea Level Rise. The current contract amount is $550,000, expected to be spent over the next fiscal year.

NEXT STEPS

Staff will continue to develop Tasks 5 through 8 of the plan and present further information to the TAM Board in the coming months.

ATTACHMENTS

Attachment A – Staff Presentation
Attachment B – Draft Adaptation Summaries
Attachment C – Vulnerable Locations Memo

Sea Level Rise Adaptation Planning for Marin County's Transportation System

Transportation Authority of Marin

Board of Commissioners
September 26, 2024

Project Overview

TAM Sea Level Rise Adaptation Planning

Objectives

1. Identify potential SLR solutions for Marin roadways, communities, & critical assets
2. Guide future implementation of infrastructure & TAM funding programs *focused on SLR*

Stakeholder Engagement

TAM Sea Level Rise Adaptation Planning

Technical Advisory Committee

- 6 meetings
- Public agency partners
- Caltrans, TAM, Marin County DPW/CDA, BCDC, MTC, Sausalito, San Rafael, Corte Madera

Stakeholder Focus Groups

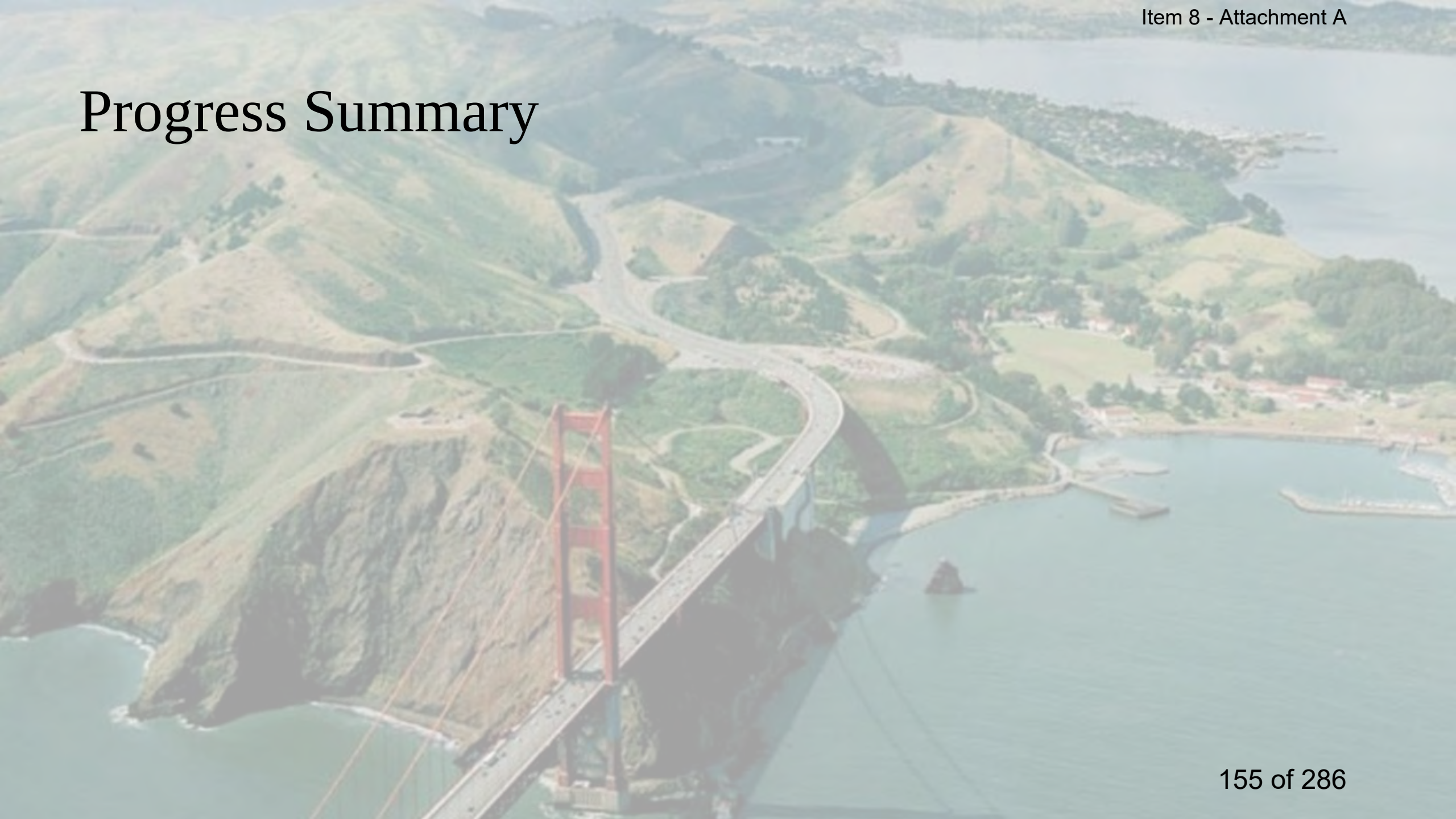
- ~15 meetings
- San Rafael, Mill Valley, Corte Madera, Larkspur, County, Novato, Tiburon, Belvedere, Sausalito, SMART, GGT, Marin Transit, Caltrans, MTC, & BCDC
- Environment
  Equity

Environment and Equity Focus Groups

- Environment Focus Group
  - Bringing together all asset owners into the conversation
  - GHG reduction and connection to adaptation planning
  - Connecting to federal and regional baseline standards

- Equity Focus Group
  - Meet people where they are
  - Capacity building in communities
  - Highlight guiding principles and values up front

Progress Summary



Progress Summary

February Board Meeting Update:

- **Existing Plan Review**
  - Summary of work done in the County and region to date
- **Vulnerable Locations**
  - Flood Exposure and Sea Level Rise
  - Presence of Critical Assets
  - MTC Equity Priority Communities


Transportation Authority of Marin

Sea Level Rise Adaptation Planning for Marin County's Transportation System Project

Existing Plan Review Memo

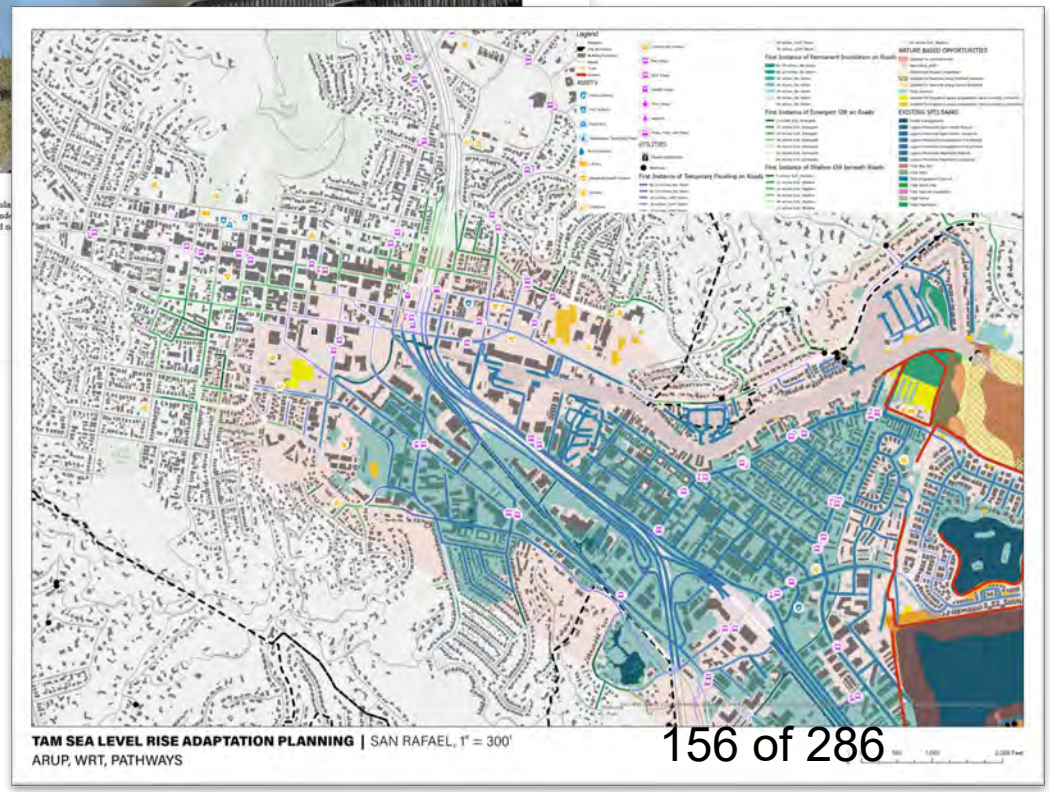
Reference: Draft

V1 | September 8, 2023

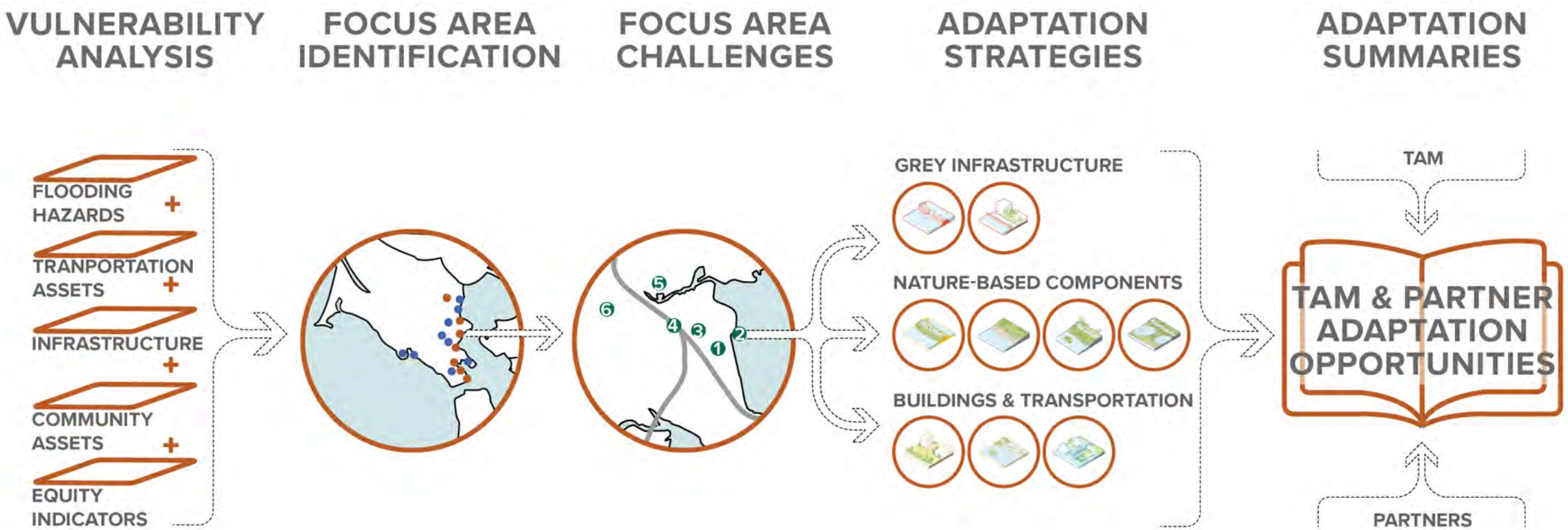
This report takes into account the particula requirements of our client. It is not intende not be relied upon by any third party and n undertaken to any third party.

Job number 295823-00

Arup US, Inc.
560 Mission Street, Suite 700
San Francisco, CA 94105
USA
arup.com



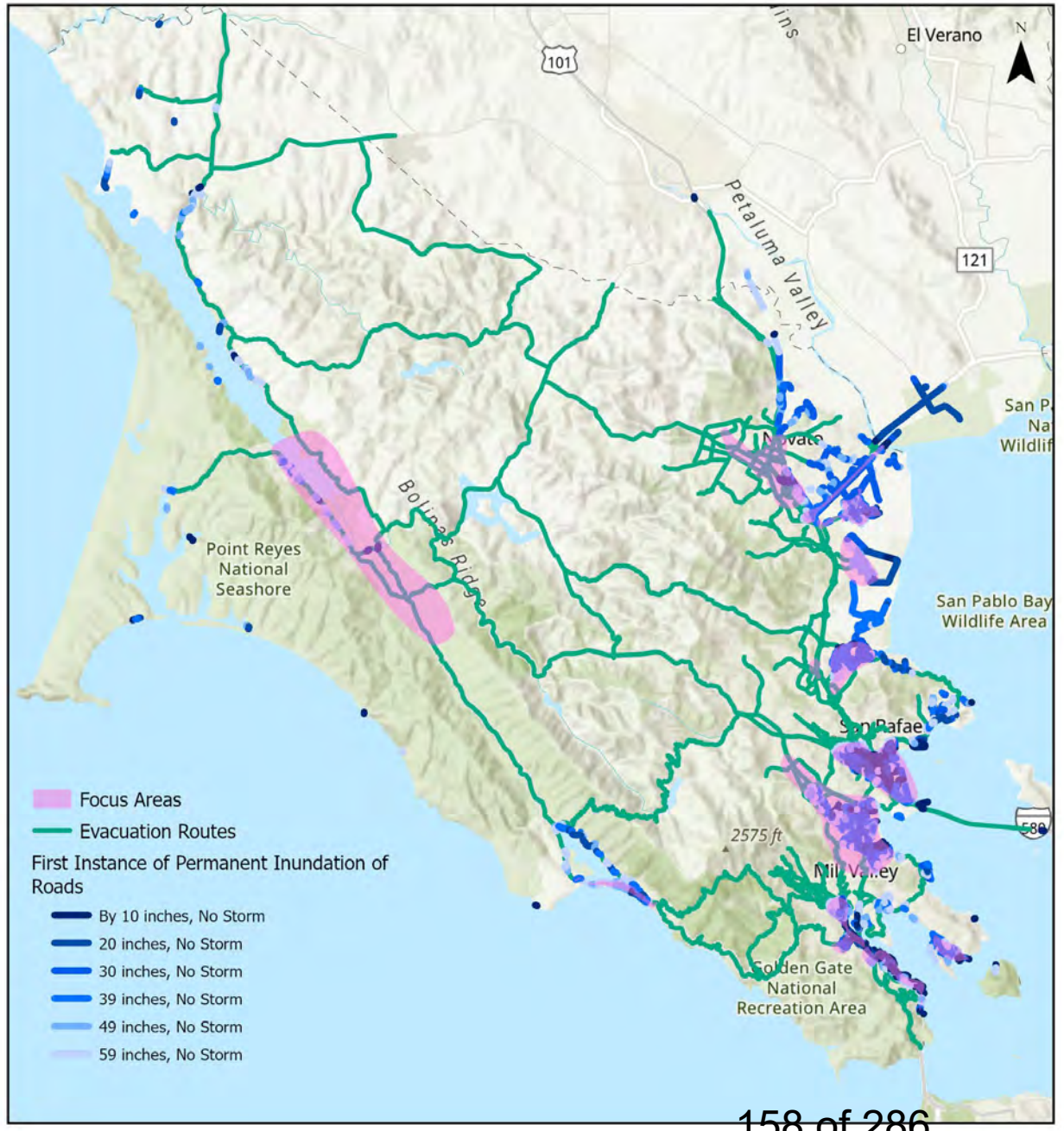
Vulnerability & Adaptation Approach

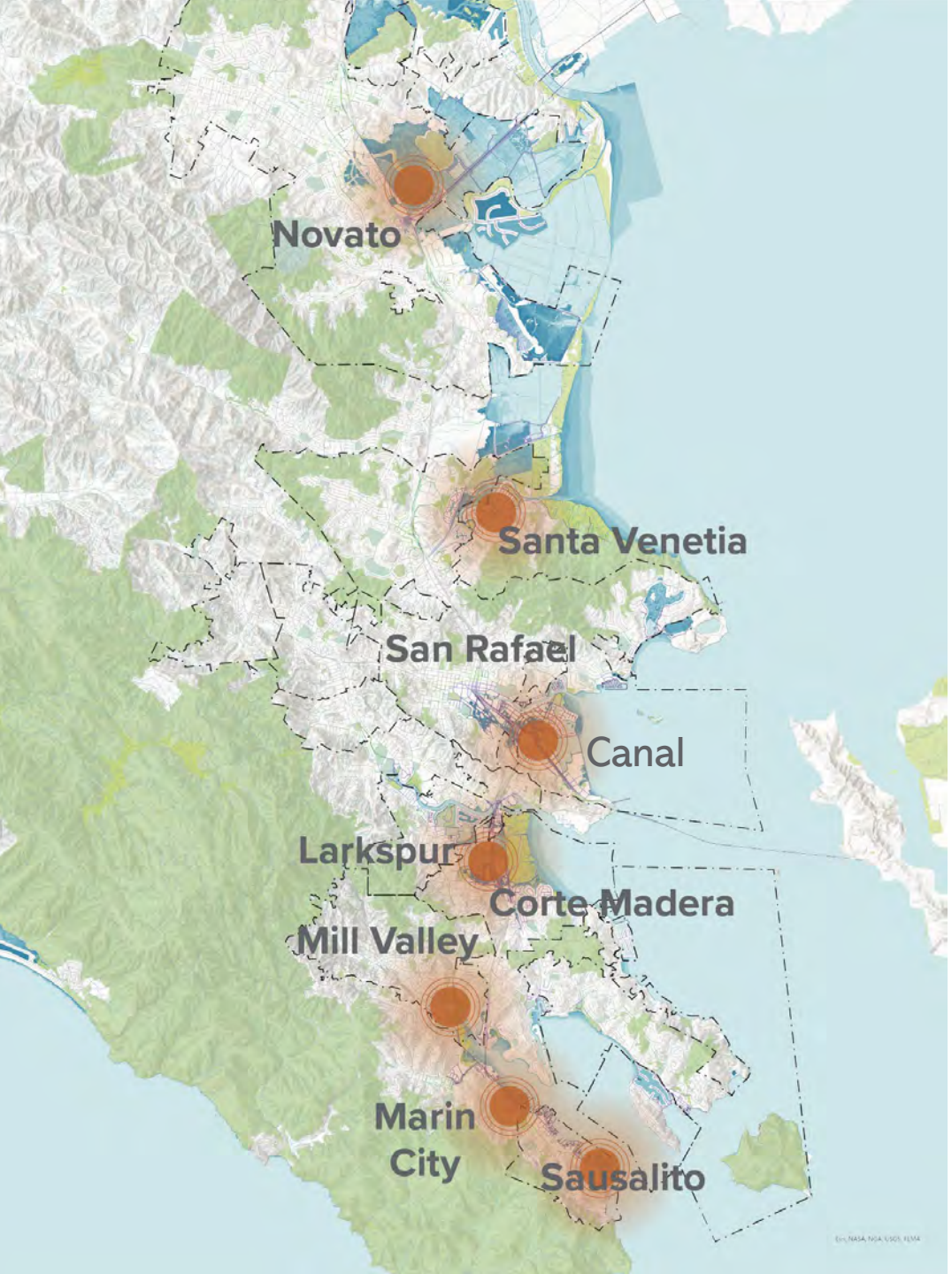


Vulnerability Focus Areas | Adaptation Solutions

Deep Dive Site Screening

- 19 vulnerability focus areas identified
- Filtered by combined flooding impacts
- Filtered by transportation opportunities
- Filtered by ongoing projects
- Grouped areas by watershed





Deep Dives

South to North:

(1) Sausalito

(2) Tam Junction / Marin City

(3) Mill Valley

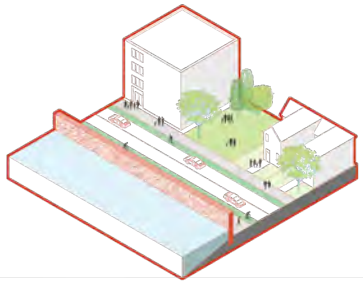
(4) Corte Madera / Larkspur / Kentfield

(5) San Rafael – Canal

(6) San Rafael – Freitas Parkway + Santa Venetia

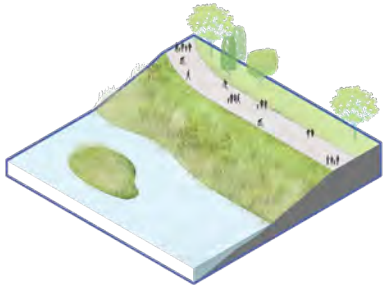
(7) Novato

Site Explorations

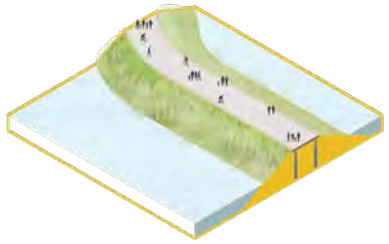


Sea Wall

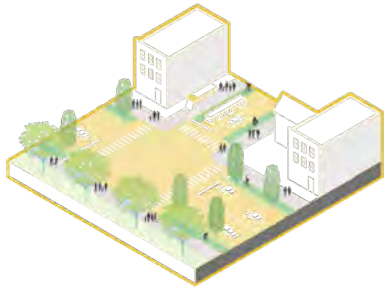
Tide Gate



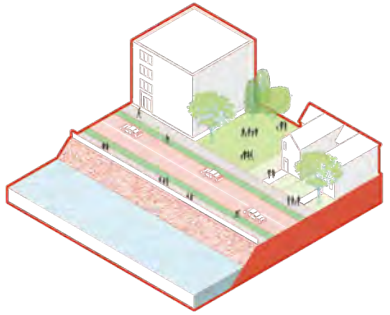
Ecotone Slope



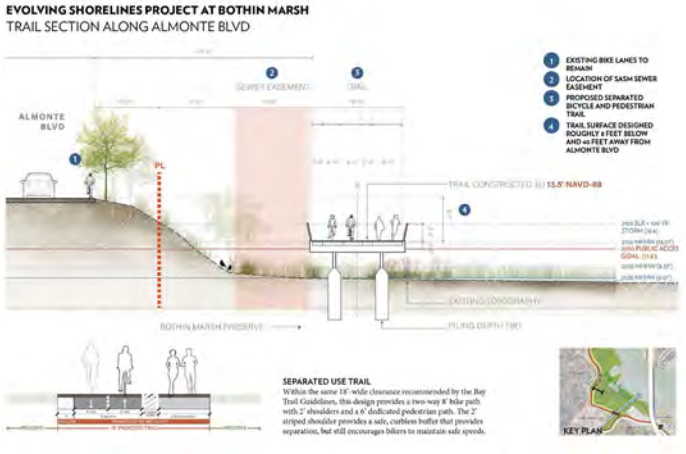
Elevated Levee

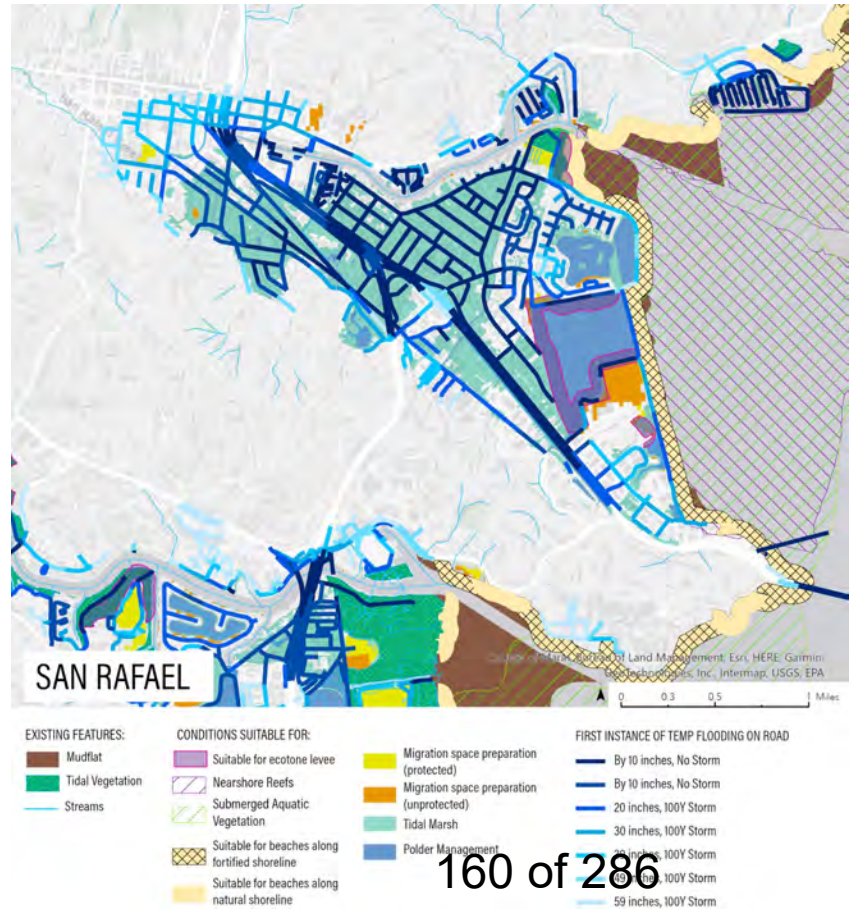


Complete Street

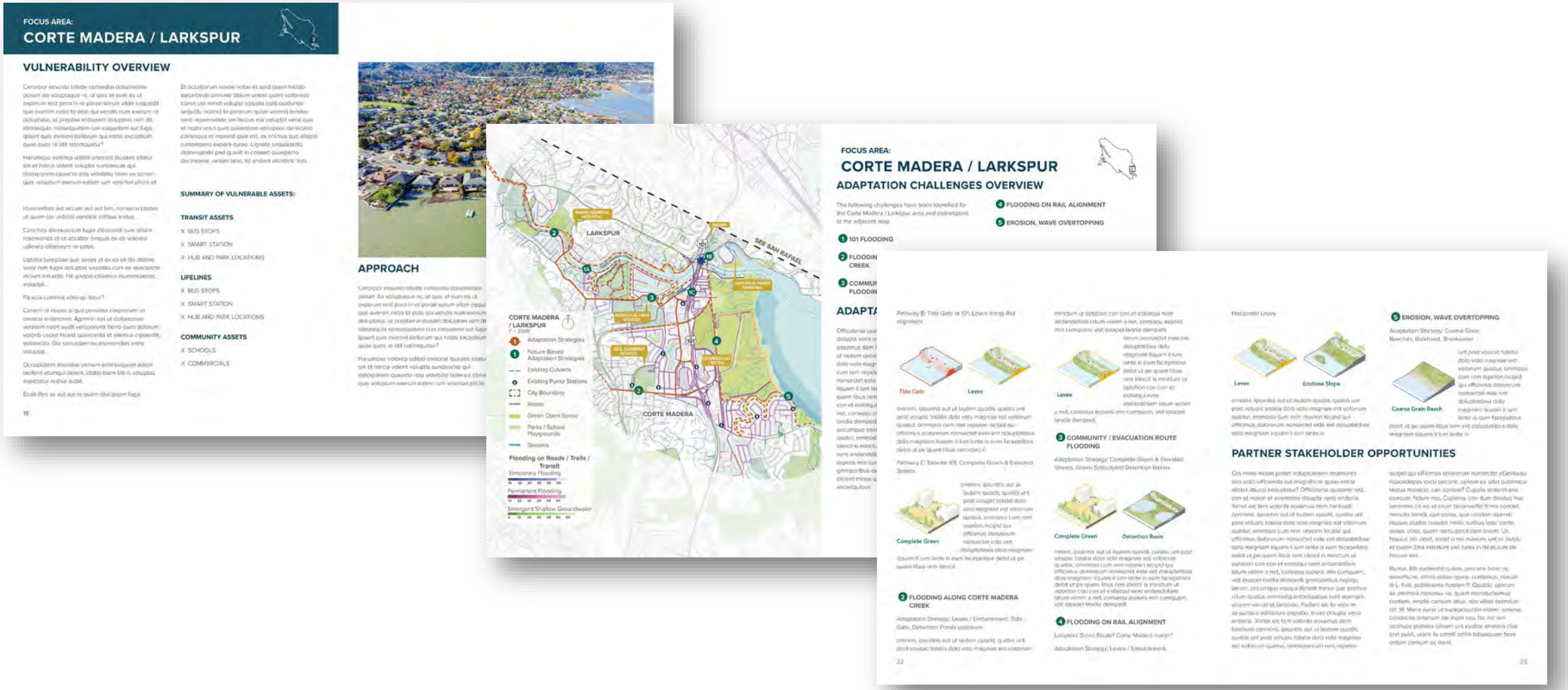


Super Levee





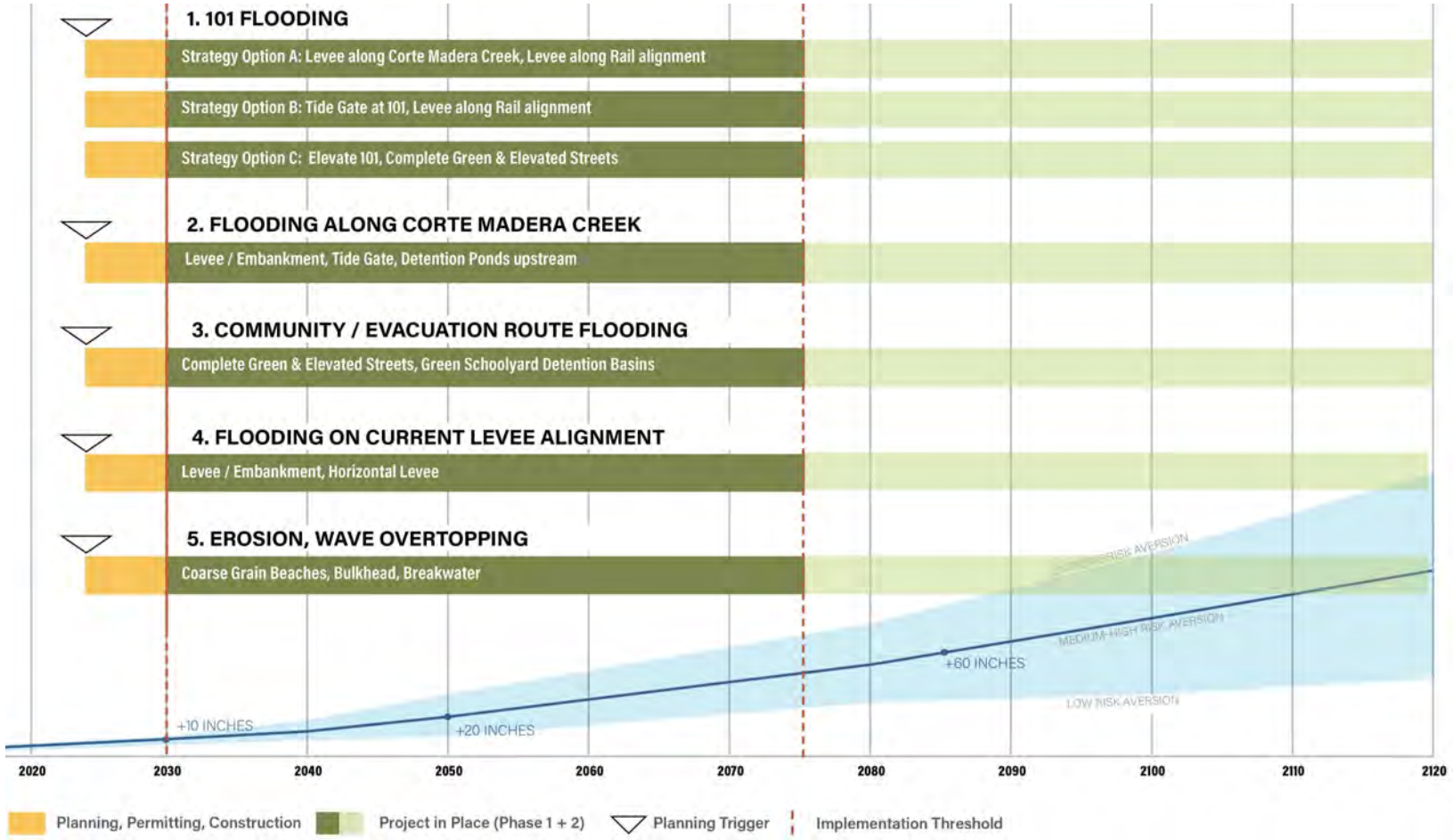
Adaptation Summaries



Corte Madera/Larkspur Example

Adaptation Pathways

DRAFT



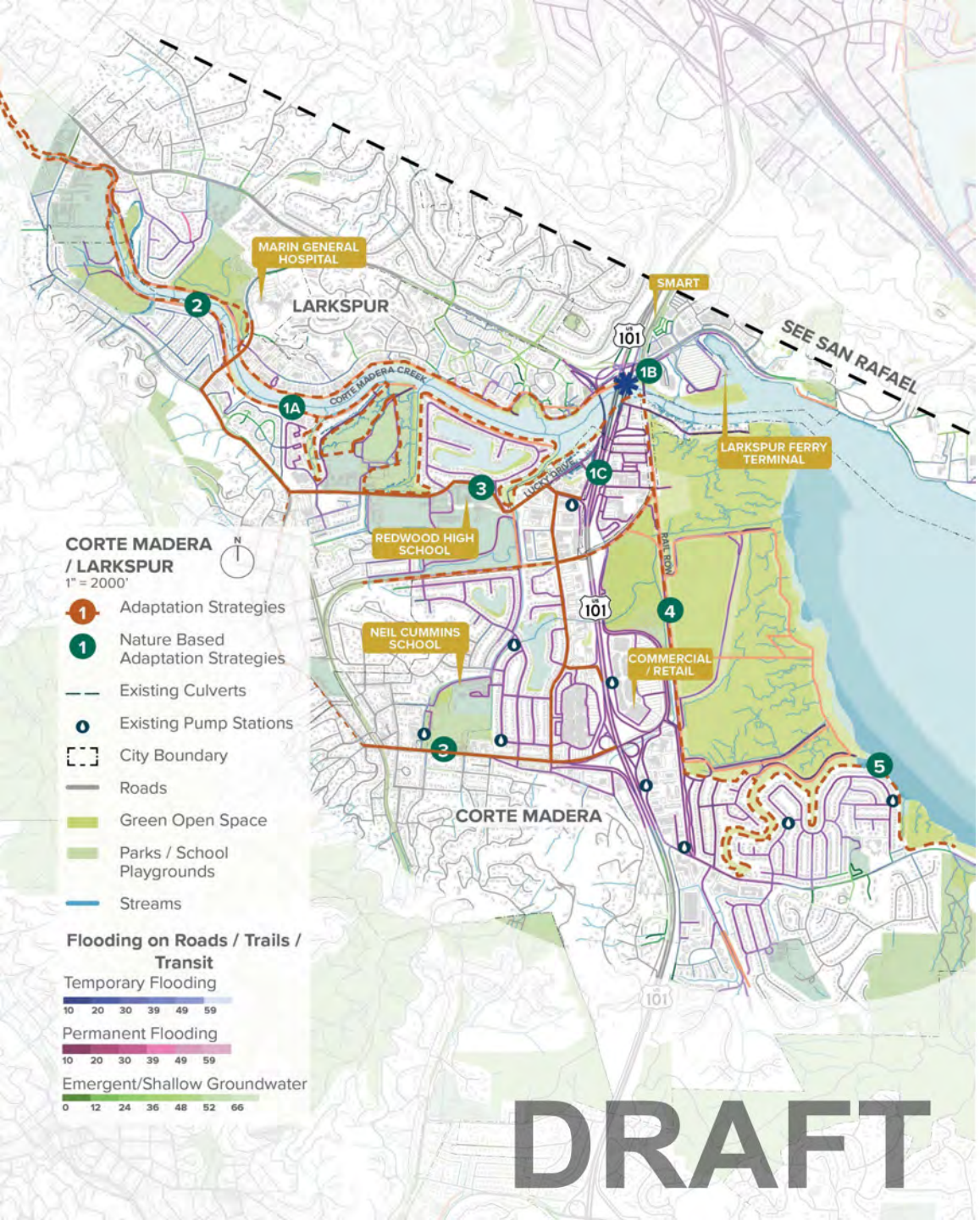
Corte Madera / Larkspur

Transportation Flooding

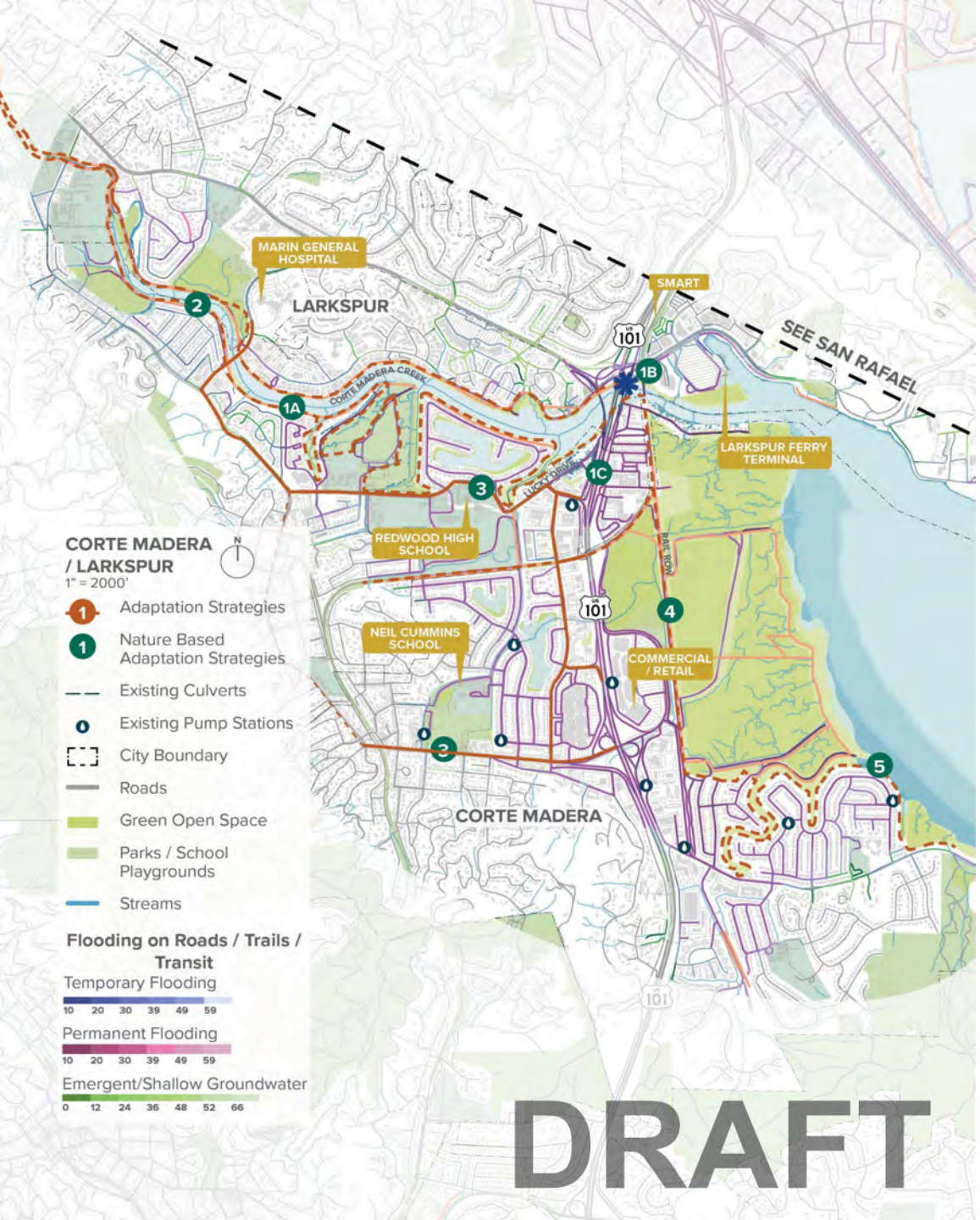
- Roadways shown in **dark pink** face permanent flooding this century if no action is taken and sea level rise eventuates on a moderate trajectory

- Roadways shown in **purple** face intermittent storm flooding which can occur today and more routinely with sea level rise

- Roadways shown in **green** are those exposed to emergent or shallow groundwater flooding exacerbated by sea level rise

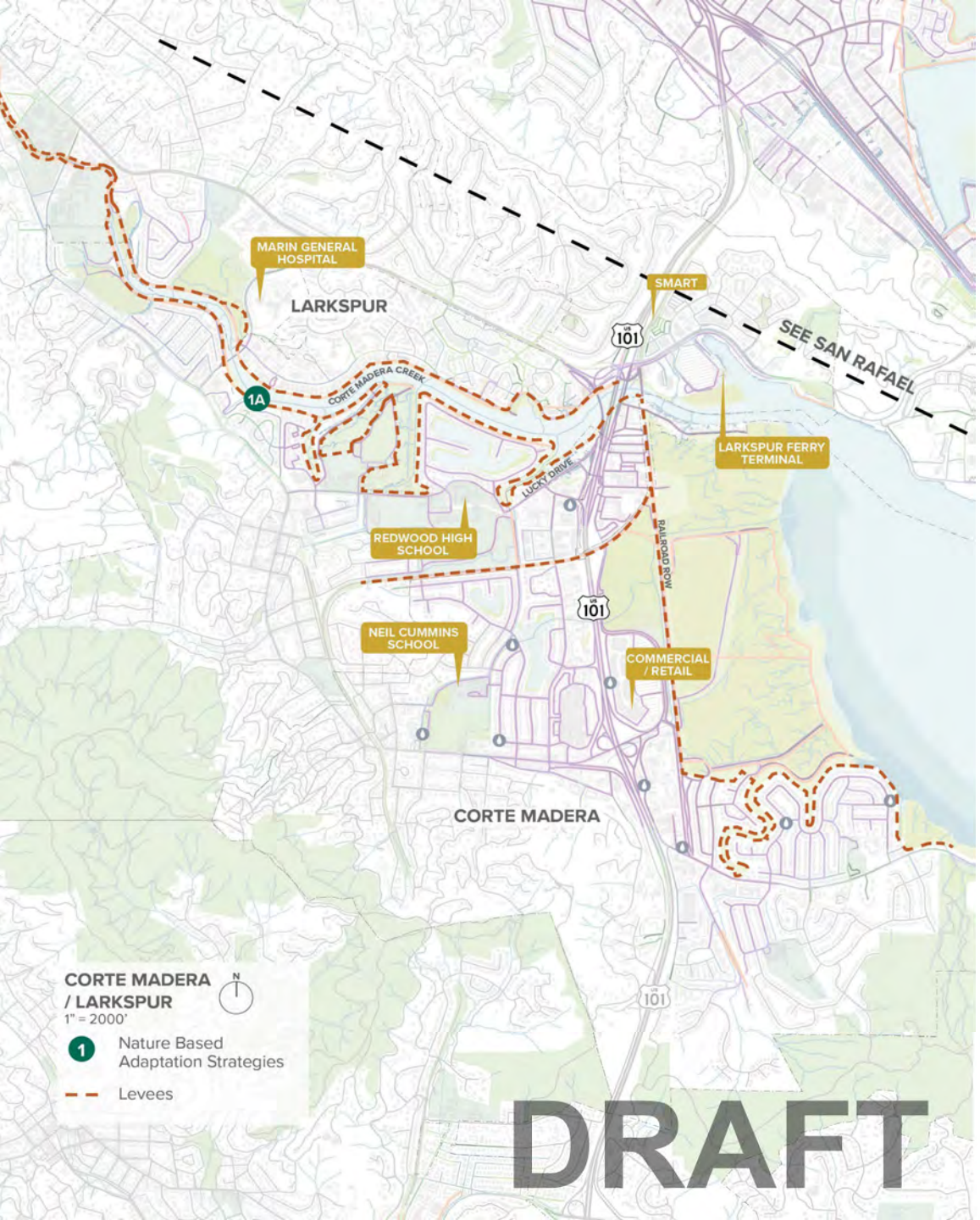


Corte Madera / Larkspur



- **Key Challenges & Strategies**

1. 101 Flooding
   - Strategy Option A: Levee along Corte Madera Creek, Levee along Rail alignment
   - Strategy Option B: Tide Gate at 101, Levee along Rail alignment
   - Strategy Option C: Elevate 101, Complete Green & Elevated Streets
2. Flooding Along Corte Madera Creek
   - Strategy: Levee / Embankment, Tide Gate, Detention Ponds upstream
3. Community / Evacuation Route Flooding
   - Strategy: Complete Green & Elevated Streets, Green Schoolyard Detention Basins
4. Flooding on Rail Alignment
   - Strategy: Levee / Embankment, Horizontal Levee
5. Erosion, Wave Overtopping
   - Strategy: Coarse Grain Beaches, Bulkhead, Breakwater

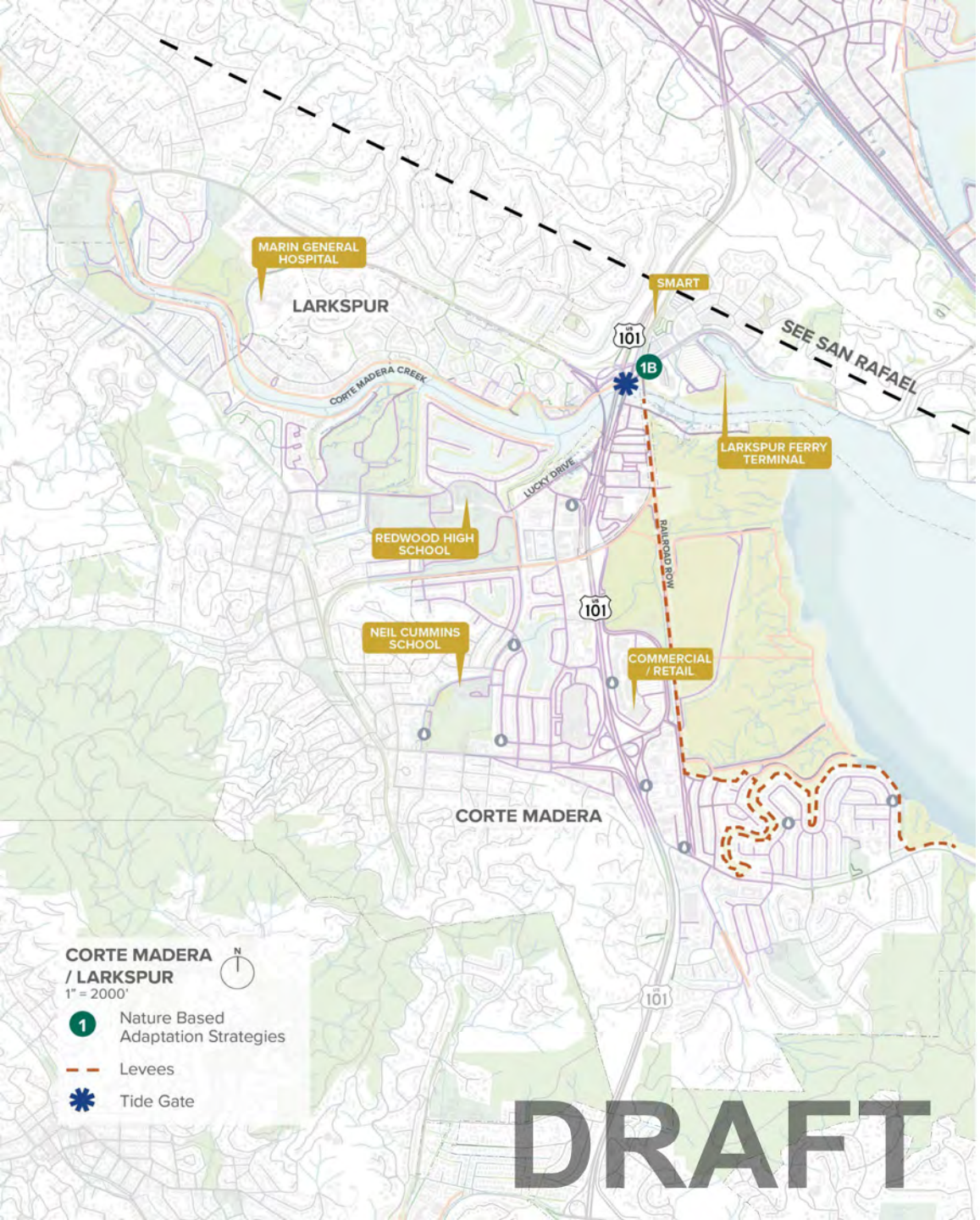


Corte Madera / Larkspur

Key Challenges & Strategies

1. 101 Flooding

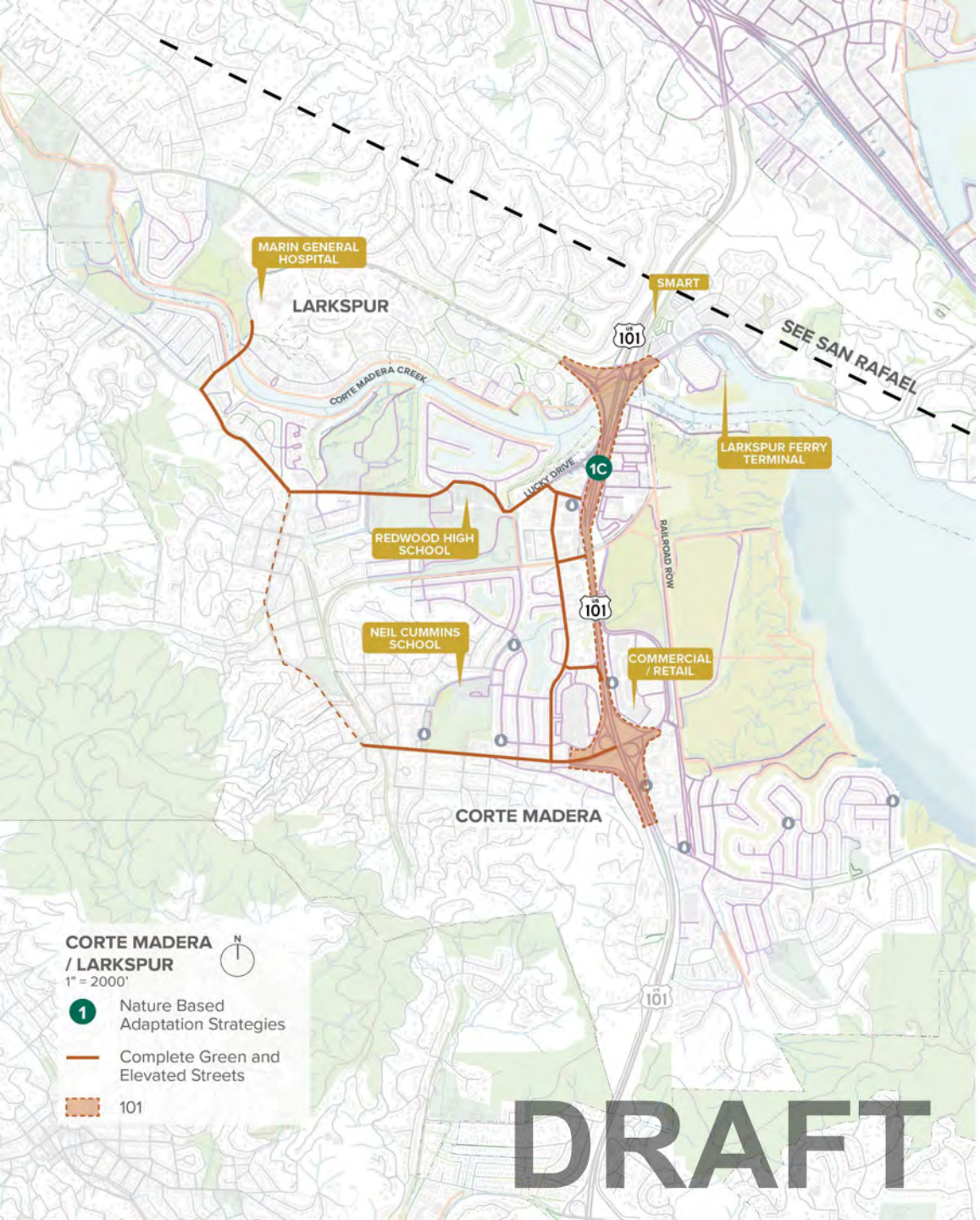
- Strategy Option A: Levee along Corte Madera Creek, Levee along Rail alignment



Corte Madera / Larkspur

Key Challenges & Strategies

1. 101 Flooding
   - Strategy Option B: Tide Gate at 101, Levee along Rail alignment



Corte Madera / Larkspur

Key Challenges & Strategies

1. 101 Flooding
   - Strategy Option C: Elevate 101, Complete Green & Elevated Streets
     - Policy as a part of implementation

Takeaways

TAM Sea Level Rise Adaptation Planning

- Ongoing studies and projects in Marin County and regionally
- Permitting presently does not perfectly align with sea level rise solutions
- Continual community engagement is necessary
- Adaptation concepts involve interventions beyond the roadway ROW
- Inter-agency coordination necessary to lead to sea level rise protection benefits

Next Steps

TAM Sea Level Rise Adaptation Planning

- Layer in partners & collaborators
- Discuss governance structures
  - County Governance Study
  - Senate Bill 272 and the Subregional Plans
- Estimate costs and timelines and identify funding sources
- Discuss policy and TAM Measure AA program
  - Voluntary Adaptation Policy

Questions & Discussion

Thank you!

Mikaela Hiatt

TAM Associate Transportation Planner

mhiatt@tam.ca.gov

DRAFT
ADAPTATION SUMMARIES

28 AUGUST 2024

SEA LEVEL RISE ADAPTATION PLANNING FOR MARIN COUNTY'S TRANSPORTATION SYSTEM

TRANSPORTATION AUTHORITY OF MARIN

FOCUS AREA:

SAUSALITO

VULNERABILITY OVERVIEW

Sausalito's ideal location along Richardson Bay makes it highly susceptible to coastal flooding and sea level rise. Gate 5 road and Gate 6 road are already experiencing quasi-permanent flooding issues, highlighting the immediate impact of rising waters. Bridgeway, the main downtown thoroughfare, is exposed to intermittent storm flooding and shallow groundwater, posing significant risks during extreme weather events.

Bridgeway is a vital component for Sausalito's transportation network, featuring 16 stops that serve the community. However, the southern end of Bridgeway is projected to face permanent inundation with 49 inches of sea level rise. Other areas of this road are expected to experience temporary flooding at 30 inches of sea level rise during a 100-year coastal storm event. Additionally, emergent groundwater on Bridgeway is anticipated at 36 inches of sea level rise. The ferry terminal, another key transportation hub, along with its parking lot, also face permanent inundation without significant interventions.

Sausalito's economy, heavily reliant on tourism, waterfront businesses, and the maritime industry, faces risks from sea level rise. Flooding and erosion may damage key tourist attractions, marinas, and commercial areas, leading to economic losses and reduced revenue. The impact on Bridgeway, a vital transportation artery for locals and visitors alike, could further exacerbate these economic challenges by disrupting the flow of goods, services, and tourists into and out of the city.

Rising sea levels also threaten local ecosystems, including wetlands and tidal marshes, which provide natural flood protection and critical habitat for wildlife. The loss of these ecosystems would not only impact biodiversity but also reduce the natural resilience of Sausalito's coastline against future sea level rise. For example, Old Town Swede's Beach is already experiencing frequent flooding, and with just a 20-inch rise in sea levels, surrounding properties will likely see more severe and regular flooding. Shoreline erosion is a growing concern at Dunphy Park and Galilee Harbor. With a 36-inch rise in sea level, the area will face both more regular and impactful coastal flooding and routine shallow groundwater issues. As these natural barriers degrade, the city's vulnerability to coastal impacts will increase.

SUMMARY OF VULNERABLE ASSETS

TRANSIT ASSETS

16 BUS STOPS

1 PARK AND RIDE HUB AREA

3 ARTERIAL- BRIDGEWAY, RICHARDSON STREET, AND SAN CARLOS AVENUE

7 COLLECTORS, & NETWORK OF LOCAL STREETS

1 INGRESS/EGRESS ROUTE

ONGOING ADAPTATION PLANNING

- Dunphy Park – Multiple Restoration Projects
- Sausalito Marine - Eelgrass Preserve

A royal tide event floods Gate 5 Road, January 2024. Photo by WRT

APPROACH

In developing strategies at the focus area level, we emphasized several key themes critical to success. First, we initiated a dialogue with Marin's transportation agencies and neighboring communities to align on shared goals and opportunities—a conversation that continues with this adaptation summary for Mill Valley. Recognizing that TAM does not own assets and must rely on strong partnerships, we prioritized the inclusion of nature-based solutions, ensuring they remain a focal point in the planning process. We also conducted a thorough analysis of TAM's role, adopting a 'control, collaborate, and advocate' approach. Additionally, we acknowledge the importance of balancing protection with risk, working towards adaptation strategies that integrate both elements. Finally, we are committed to finding a balance between near-term actions and long-term planning, guided by the 'adaptation pathways' approach.


SEE TAM JUNCTION / MARIN CITY
GATE 5 ROAD
GATE 5 ROAD
MARINSHIP PARK
GALILEE HARBOR
DUNPHY PARK
FERRY TERMINAL
BRIDGEWAY
RICHARDSON BAY
SAUSALITO
US 101
SAUSALITO
1" = 1200'
N
Adaptation Strategies
Nature Based Adaptation Strategies
Existing Culverts
Existing Pump Stations
City Boundary
Roads
Floating Piers
Green Open Space
Parks / School Playgrounds
Streams
Flooding on Roads / Trails / Transit
Temporary Flooding
10 20 30 39 49 59
Permanent Flooding
10 20 30 39 49 59
Emergent/Shallow Groundwater
0 12 24 36 48 52 66

FOCUS AREA:

SAUSALITO

KEY ADAPTATION CHALLENGES & POTENTIAL STRATEGIES

The following challenges have been identified for the Sausalito area and correspond to the adjacent map.

1 INUNDATION OF ACCESS AND INFRASTRUCTURE

Strategy: Elevate Roads and Utilities, Breakwater, Eelgrass

2 SUBSIDENCE AND FLOODING

Strategy: Complete Green & Elevated Streets, Levee/Seawall, Pump Station(s)

3 SHORELINE EROSION

Strategy: Breakwaters, Eelgrass, Cobble Berm/ Coarse Beach

4 BRIDGEWAY FLOODING

Strategy: Complete Green & Elevated Streets

5 FERRY TERMINAL & PARKING LOT FLOODING

Strategy: Complete Green & Elevated Streets/Paths

6 FLOODING OF OLD TOWN SWEDE'S BEACH

Strategy: Coarse Grain Beach, Breakwater

ADAPTATION OPPORTUNITY DESCRIPTIONS

1 INUNDATION OF ACCESS AND INFRASTRUCTURE

Location: Gate 6 Road

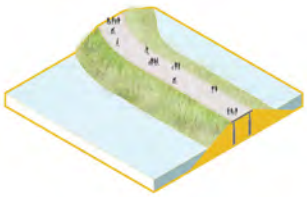
Potential Adaptation Strategy: Elevate Roads and Utilities, Breakwater, Eelgrass

Near-term, proactive elevation of key road, parking, utilities, and dock connections in the Gate 6 area could improve and maintain ingress/egress to docks and houseboats. Longer-term subtidal and intertidal habitat restoration for eelgrass, oysters, cord grass, and other species could help attenuate wave energy, and reduce shoreline erosion.

2 SUBSIDENCE AND FLOODING

Location: Gate 5 Road

Potential Adaptation Strategy: Complete Green & Elevated Streets, Levee/Seawall, Pump Station(s)



Levee

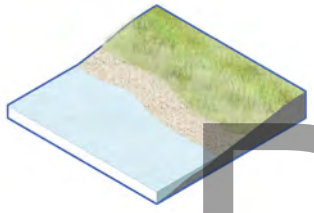
A district-scale adaptation plan for Marinship is needed to develop a long- term perimeter protection and interior drainage strategy, likely involving levees, seawalls, and/or bulkheads as well as culverts and pump

stations. Near-term roadway elevation projects with natural stormwater detention features (e.g., bioswales, vegetated basins) would alleviate some existing flooding issues affecting roads and parking areas, providing time to implement longer-term strategies.

3 SHORELINE EROSION

Location: Dunphy Park, Galilee Harbor

Potential Adaptation Strategy: Breakwaters, Eelgrass, Cobble Berm/Coarse Beach



Coarse Grain Beach

Subtidal and intertidal habitat restoration efforts for eelgrass, oysters, cord grass, and other species are already underway in this area. Continuing with these strategies, adjusting based on observations, can help attenuate wave energy, reduce erosion, and maintain a favorable shoreline profile. Cobble berms or coarse grain beach nourishment can be utilized in concert with habitat improvements as needed.

4 BRIDGEWAY FLOODING

Location: Bridgeway

Potential Adaptation Strategy: Complete Green & Elevated Streets

Complete Green

Near-term, proactive elevation of low-lying sections of Bridgeway along with associated underground utilities would improve and maintain critical ingress/egress throughout Sausalito. Inclusion of stormwater detention features (e.g., bioswales, vegetated basins) would provide additional time to plan and implement longer-term, city-scale flood protection infrastructure.

5 FERRY TERMINAL & PARKING LOT FLOODING

Location: Sausalito Ferry Terminal

Potential Adaptation Strategy: Complete Green & Elevated Streets/Paths

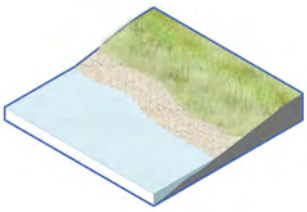
Complete Green

A district-scale adaptation plan for downtown is needed to develop a long- term perimeter protection and stormwater drainage strategy, likely involving seawalls and/or bulkheads as well as culverts and pump stations. Near-term roadway elevation projects along low-lying sections of the Ferry terminal parking area with stormwater detention features (e.g., bioswales, vegetated basins would improve and maintain critical access to ferry service, providing additional time to implement longer-term strategies.

6 FLOODING OF OLD TOWN SWEDE'S BEACH

Location: Swede's Beach

Adaptation Strategy: Coarse Grain Beach, Breakwater



Coarse Grain Beach

Offshore measures, such as a breakwater structure, can help attenuate wave energy, reduce erosion, and preserve the shoreline profile at

Swede's Beach, particularly when sediment loss reaches critical levels. Additionally, cobble berms or coarse grain beach nourishment can be employed to support the beach profile, providing further protection as sea level rise progresses.

FOCUS AREA:

TAM JUNCTION / MARIN CITY

VULNERABILITY OVERVIEW

Tam Junction and Marin City possess key transportation networks and natural areas. With both SR-1 and US-101 running through this focus area, it makes it highly vulnerable to coastal hazards. The Sausalito Canal and the Bothin Marsh Preserve, an important wetland for fishing and bird watching, are also at risk. These areas are susceptible to flooding, erosion, and other impacts from sea level rise and severe storms, posing threats to infrastructure, ecosystems, and communities.

The transportation infrastructure in Tam Junction and Marin City faces significant risks from flooding and inundation. US-101 and its ramps, especially Exit 445B (Mill Valley; Stinson Beach), are prone to frequent flooding, which can lead to temporary shutdowns and disrupt commuter traffic. Moreover, Donahue access is susceptible to temporary flooding with 30 inches of sea level rise coupled with a 100-year storm, obstructing access to the Gateway Shopping Center in Marin City. Coyote Creek's potential for overtopping and the inundation of Tam Junction pose further threats to the transportation network.

The Bay Trail, a popular route for running, walking, and biking, is already experiencing notable flooding issues. This is particularly evident along the stretch near Highway 101 and Tam Junction, where permanent flooding is anticipated with 20 inches of sea level rise. Similarly, The Charles F. McGlashan Pathway, which runs along Coyote Creek, faces the risk of permanent inundation with a rise of 10 inches in sea level. These trails suffer from marsh subsidence, lack of sediment, and emergent groundwater, even without sea level rise. Ongoing erosion and overtopping of the marsh and trail are making the area increasingly difficult to navigate.

SUMMARY OF VULNERABLE ASSETS

TRANSIT ASSETS

HIGHWAY 101

24 BUS STOPS

2 INGRESS/EGRESS ROUTES

1 HUB, PARK, AND RIDE AREA

LIFELINES

1 POLICE STATION

COMMUNITY ASSETS

1 LIBRARY

1 SCHOOL

1 COMMERCIAL SHOPPING CENTER

COMMUNITY ASSETS

3 PUMP STATIONS

ONGOING ADAPTATION PLANNING

- Transforming Marin City's Urban Wetland
- Mill Valley Flood Management and Storm Drain Master Plan

A man walks to a car stuck in a flooded section of the Highway 101 onramp in Marin City, October 2021. Photo by Sherry LaVars/Marin Independent Journal.

APPROACH

In developing strategies at the focus area level, we emphasized several key themes critical to success. First, we initiated a dialogue with Marin's transportation agencies and neighboring communities to align on shared goals and opportunities—a conversation that continues with this adaptation summary for Mill Valley. Recognizing that TAM does not own assets and must rely on strong partnerships, we prioritized the inclusion of nature-based solutions, ensuring they remain a focal point in the planning process. We also conducted a thorough analysis of TAM's role, adopting a 'control, collaborate, and advocate' approach. Additionally, we acknowledge the importance of balancing protection with risk, working towards adaptation strategies that integrate both elements. Finally, we are committed to finding a balance between near-term actions and long-term planning, guided by the 'adaptation pathways' approach.


SEE MILL VALLEY
8
7
COYOTE CREEK
6
5
4
RIDGEVIEW CT.
VILLA GARDEN DR.
MANZANITA PARK & RIDE LOT
MILL VALLEY - SAUSALITO PATH
MARIN CITY STORMWATER POND
1
MARIN GATEWAY SHOPPING CENTER
2
DR. MARTIN LUTHER KING JR. ACADEMY
MARIN CITY
DONAHUE ST
3
DRAKE AVE
SEE SAUSALITO
TAM JUNCTION / MARIN CITY
1" = 1200'
N
Adaptation Strategies
Nature Based Adaptation Strategies
Existing Culverts
Existing Pump Stations
City Boundary
Roads
Green Open Space
Parks / School Playgrounds
Streams
Flooding on Roads / Trails / Transit
Temporary Flooding
10 20 30 39 49 59
Permanent Flooding
10 20 30 39 49 59
Emergent/Shallow Groundwater
0 12 24 36 48 52 66

FOCUS AREA:

TAM JUNCTION / MARIN CITY

KEY ADAPTATION CHALLENGES & POTENTIAL STRATEGIES

The following challenges have been identified for the TAM Junction / Marin City area and correspond to the adjacent map.

1 FLOODING OF 101 & BAY TRAIL

Strategy:

- A: Elevate on Causeway / Viaduct
- B: Elevate on Embankment, Coarse Beach, Breakwater, Pump Station
- C: Sea Wall / Bulkhead, Coarse Beach, Breakwater, Pump Station

2 STORMWATER FLOODING

Strategy: Detention Pond Improvement

3 FLOODING OF DONAHUE ACCESS

Strategy: Complete Green & Elevated Streets

4 LIMITED EVACUATION ROUTES/ CONNECTIVITY

Strategy: Evacuation route gap closure

5 INUNDATION OF 101 & HWY 1 RAMPS

Strategy: Complete Green and Elevated Streets

6 COYOTE CREEK OVERTOPPING / TAM JUNCTION INUNDATION

Strategy: Levee, Tide Gate

7 MARSH / TRAIL SUBSIDENCE AND LACK OF SEDIMENT

Strategy: Breaching Creek Channels

8 MARSH / TRAIL EROSION & OVERTOPPING

Strategy: Coarse Grain Beach, Trail Relocation "Ring the Marsh"

ADAPTATION OPPORTUNITY DESCRIPTIONS

1 FLOODING OF 101 & BAY TRAIL

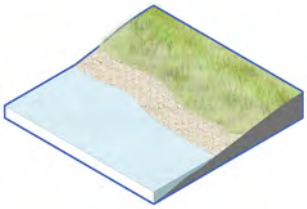
Location: Highway 101, Bay Trail

Potential Adaptation Strategy:

- Strategy A: Elevate on Causeway / Viaduct
  - Elevating SR-101 on a causeway or viaduct would involve raising the infrastructure above the anticipated future sea levels with storm scenarios considered. This approach would allow water to flow beneath the structure, minimizing flood risk to the highway while maintaining transportation and access. However, this approach would not

provide flood protection for the surrounding community.

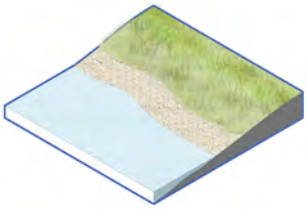
- Strategy B: Elevate on Embankment, Coarse Beach, Breakwater -



Coarse Grain Beach

This strategy involves elevating the shoreline on an embankment, complemented by a coarse grain beach and offshore breakwater either using natural or man-made features (e.g., oyster reef or rubble-mound). The embankment would raise the SR-101 and the Bay Trail above the anticipated future sea levels with storm scenarios considered, while the beach and breakwater would absorb wave energy and reduce shoreline erosion. This strategy would provide flood protection for the surrounding community and would also require stormwater drainage improvements including culverts and a pump station.

- Strategy C: Seawall / Bulkhead, Coarse Beach, Breakwater -



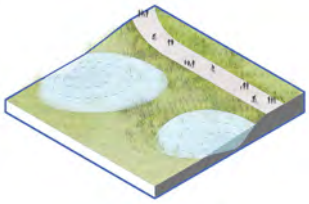
Coarse Grain Beach

Constructing a seawall or bulkhead, in combination with an offshore breakwater either using natural or man-made features (e.g., oyster reef or rubble-mound). The seawall or bulkhead would act as a vertical barrier to protect SR-101, the Bay Trail, and the surrounding community from anticipated future sea levels with storm scenarios considered, while the beach and breakwater would absorb wave energy and reduce shoreline erosion. This strategy would also require stormwater drainage improvements including culverts and a pump station.

2 STORMWATER FLOODING

Locaton: Marin City Stormwater Pond

Potential Adaptation Strategy: Detention Pond Improvement



Detention Basin

This option focuses on enhancing the Marin City Stormwater Pond to improve its capacity and functionality as a detention pond. By upgrading the pond, it can better manage stormwater runoff, reducing the risk of flooding during heavy rainfall and accommodating higher water levels associated with sea level rise. The improvements would help protect the surrounding area by effectively controlling stormwater and mitigating the impacts of future flood events. To address sea level rise, a future pump station needs to be considered to control water levels in the pond when the outfall location is inundated.

3 FLOODING OF DONAHUE ACCESS

Location: Donahue Street

Potential Adaptation Strategy: Complete Green & Elevated Streets

Complete Green

A district-scale adaptation plan for Marin City is needed to develop a long- term perimeter protection and interior drainage strategy, likely involving levees, seawalls, and/or bulkheads as well as culverts and pump stations. A near-term roadway

elevation project focused on Donahue Street with natural stormwater detention features (e.g., bioswales, vegetated basins) would alleviate some existing flooding issues affecting critical ingress/egress, providing time to implement longer-term strategies.

4 LIMITED EVACUATION ROUTES/ CONNECTIVITY

Location: Connection between Ridgeview Ct. and Villa Garden Dr.

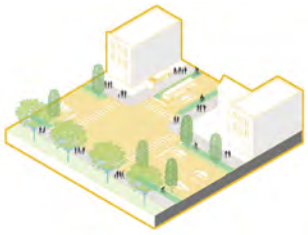
Potential Adaptation Strategy: Evacuation route gap closure

There exists a 500-foot gap between Ridgeview Court and Villa Garden Drive, which if connected, would create an additional evacuation and ingress/egress route for the Marin City community as well as Tam Valley. This gap closure could be permanently open to all vehicles or open to bus, bikes, and pedestrians only on a daily basis and then opened for vehicles during emergencies.

5 INUNDATION OF 101 & HWY 1 RAMPS

Location: Highway 101, Highway 1

Potential Adaptation Strategy: Complete Green and Elevated Streets



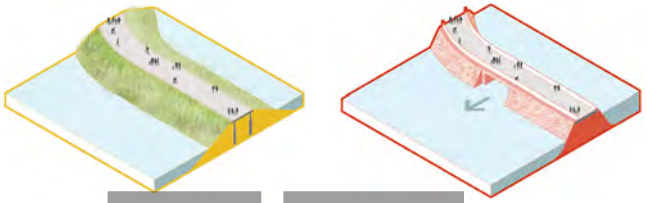
Complete Green

Near-term, proactive elevation of low-lying sections of Highway 101 and Highway 1 on/off ramps along with associated underground utilities could improve and maintain critical ingress/egress and transit throughout southern Marin. Vertical clearance issues beneath SR-101 could limit the feasibility of this strategy. Inclusion of stormwater detention features (e.g., bioswales, vegetated basins) would provide additional time to plan and implement longer-term flood protection strategies like those listed above.

6 COYOTE CREEK OVERTOPPING / TAM JUNCTION INUNDATION

Location: Coyote Creek

Potential Adaptation Strategy: Levee, Tide Gate



Levee Tide Gate

A levee improvement and tide gate solution for Coyote Creek would involve enhancing the existing levee system to better protect the Tam Junction area from flooding, particularly during high tides and storm events. The levee improvements would include raising and reinforcing the levees to ensure they can withstand higher water levels and increased storm surges anticipated with sea level rise. In the long-term, installing a tide gate at the mouth of Coyote Creek would help regulate the flow of tidal waters, preventing saltwater from flowing upstream during high tides thereby reducing the risk of tidal flooding in the surrounding areas. The tide gate would allow freshwater to flow out during low tide, which eventually would require pumping after sea level rise reached a critical point. Together, these measures would provide robust protection against both storm-driven and tidal flooding, albeit with substantial environmental tradeoffs requiring thorough consideration.

7 MARSH / TRAIL SUBSIDENCE AND LACK OF SEDIMENT

Location: Bothin Marsh, next to Coyote Creek

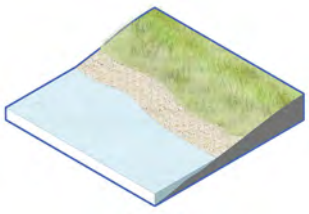
Potential Adaptation Strategy: Breaching Creek Channels

Intentionally breaching the north side levee of Coyote Creek would restore the natural hydrological connection to Bothin Marsh, allowing high flow events to flood the marsh and deposit sediment. This sediment replenishment would mitigate marsh subsidence, helping maintain the marsh's elevation relative to rising sea levels and enhancing the longevity of the Bay Trail's current alignment. By reintroducing these natural processes, the marsh would restore a portion of its role as a dynamic, ecologically diverse system, while also serving as a natural buffer that provides flood protection to the surrounding area through wave and surge attenuation.

8 MARSH / TRAIL EROSION & OVERTOPPING

Location: Bothin Marsh, along Mill Valley-Sausalito Path

Potential Adaptation Strategy: Coarse Grain Beach, Trail Relocation "Ring the Marsh"



Coarse Grain Beach

Relocating the Mill Valley-Sausalito Path involves creating a coarse-grain beach and redesigning the Bay Trail to encircle the marsh ("Ring the Marsh"). The coarse-grain beach at the backshore of the marsh would act as a natural barrier to reduce erosion and protect Tam Junction from wave action and overtopping during storm events. Relocating the trail to a higher elevation around the marsh would ensure continued access while reducing the risk of damage from flooding. This approach not only preserves the marsh's ecological function but also enhances the resilience of the trail and surrounding community against sea level rise and erosion.

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FOCUS AREA:

MILL VALLEY

VULNERABILITY OVERVIEW

The City of Mill Valley touches Richardson Bay, part of San Francisco Bay, and extends upland towards Mount Tamalpais. The coastal areas of the city include Bothin Marsh, contain transit centers, commercial districts, and residences, among other assets and services. Onramps to US-101 corridor and key ingress/egress routes are vulnerable to flooding and sea level rise due to elevation, existing drainage capacity, and proximity to creeks and Richardson Bay.

The local transportation network includes 18 bus stops but faces significant challenges due to drainage issues along E Blithedale Ave. Particularly, the section following the US-101 exit already experiences shallow groundwater. If not addressed with proper adaptation strategies, stormwater will continue to lead to frequent flooding and disruptions. Miller Ave is also vulnerable to shallow groundwater and permanent inundation with 10 inches of sea level rise, impacting students commuting to Tamalpais High School.

Flooding along Arroyo Corte Madera del Presidio is increasingly affecting local homes, restaurants, and retail stores that lie parallel to it. Similarly, Bothin Marsh is experiencing erosion and trail overtopping, affecting habitat and recreational areas. Just north of the Marsh is Bayfront Park, which already faces challenges from coastal flooding. As Mill Valley's multiple schools and large outdoor spaces see many individuals daily, effective flood management is crucial to protect both residential areas and community resources.

SUMMARY OF VULNERABLE ASSETS

TRANSIT ASSETS

18 BUS STOPS

LIFELINES

2 SCHOOLS

UTILITIES

2 PUMP STATIONS

1 WASTEWATER TREATMENT PLANT

1 POWER SUBSTATION

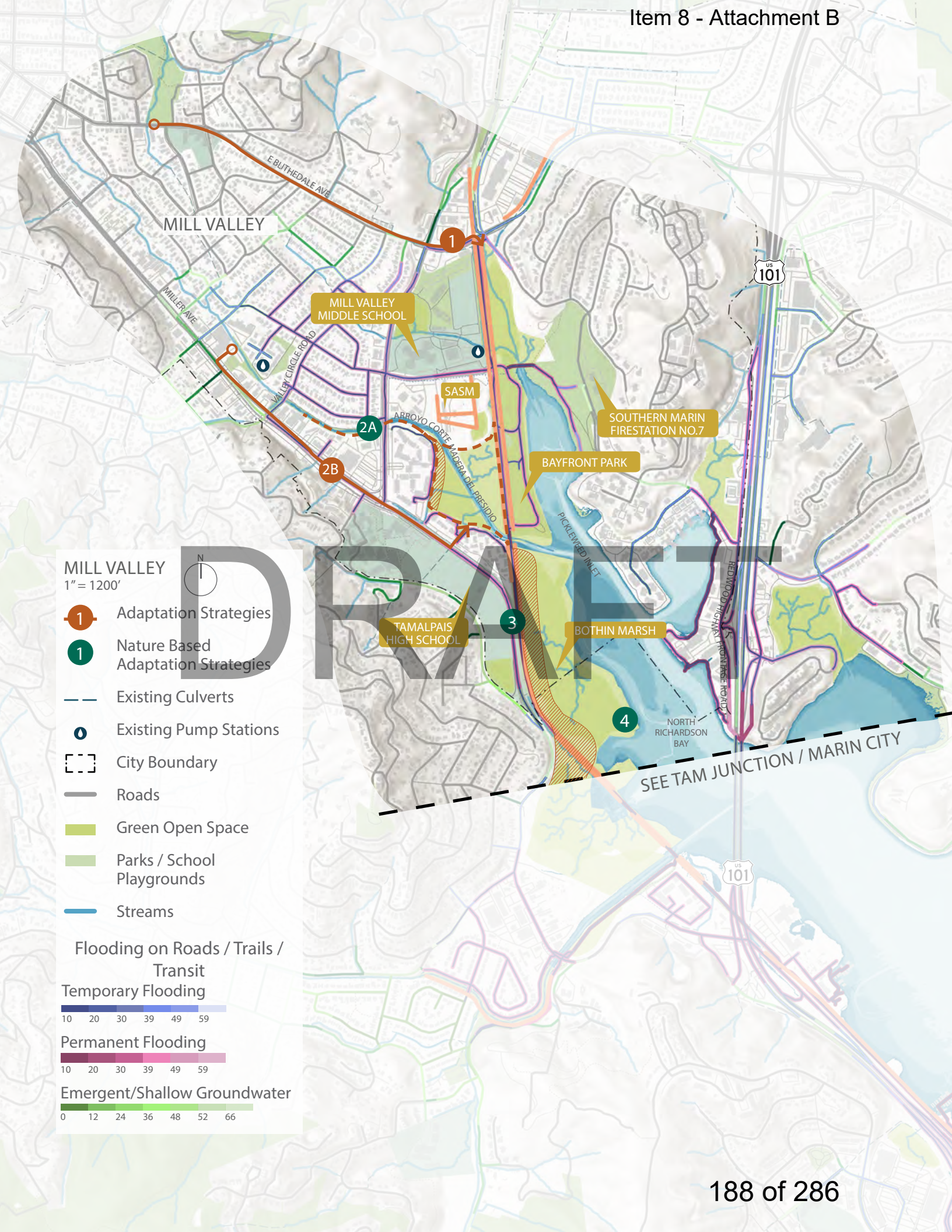
ONGOING ADAPTATION PLANNING

- Mill Valley Flood Management and Storm Drain Master Plan
- Evolving Shorelines Project at Bothin Marsh

A king tide event in January 2022 floods Miller Avenue and the Bay Trail. Photo by: Josh Edelson AFP.

APPROACH

In developing strategies at the focus area level, we emphasized several key themes critical to success. First, we initiated a dialogue with Marin's transportation agencies and neighboring communities to align on shared goals and opportunities—a conversation that continues with this adaptation summary for Mill Valley. Recognizing that TAM does not own assets and must rely on strong partnerships, we prioritized the inclusion of nature-based solutions, ensuring they remain a focal point in the planning process. We also conducted a thorough analysis of TAM's role, adopting a 'control, collaborate, and advocate' approach. Additionally, we acknowledge the importance of balancing protection with risk, working towards adaptation strategies that integrate both elements. Finally, we are committed to finding a balance between near-term actions and long-term planning, guided by the 'adaptation pathways' approach.


MILL VALLEY
E BLITHEDALE AVE
MILLER AVE
VALLEY CIRCLE ROAD
MILL VALLEY MIDDLE SCHOOL
SASM
ARROYO CORTE MADERA DEL PRESIDIO
SOUTHERN MARIN FIRESTATION NO.7
BAYFRONT PARK
PICKLEWEED INLET
TAMALPAIS HIGH SCHOOL
BOTHIN MARSH
REDWOOD HIGHWAY FRONTAGE ROAD
NORTH RICHARDSON BAY
SEE TAM JUNCTION / MARIN CITY
US 101
1
2A
2B
3
4
MILL VALLEY
1" = 1200'
N
Adaptation Strategies
Nature Based Adaptation Strategies
Existing Culverts
Existing Pump Stations
City Boundary
Roads
Green Open Space
Parks / School Playgrounds
Streams
Flooding on Roads / Trails / Transit
Temporary Flooding
10 20 30 39 49 59
Permanent Flooding
10 20 30 39 49 59
Emergent/Shallow Groundwater
0 12 24 36 48 52 66

FOCUS AREA:

MILL VALLEY

KEY ADAPTATION CHALLENGES & POTENTIAL STRATEGIES

The following challenges have been identified for the Mill Valley area and correspond to the adjacent map.

1 DRAINAGE ISSUES ALONG BLITHEDALE

Strategy: Culvert & Pump Station

2 FLOODING ALONG ARROYO CORTE MADERA DEL PRESIDIO

Strategy:

- A: Levee, Horizontal Levee/Ecotone Slope
- B: Culvert and Pump Station

3 MILLER AVENUE / BOTHIN MARSH / TRAIL FLOODING & OVERTOPPING

Strategy: Complete Green & Elevated Streets, Horizontal Levee

4 BOTHIN MARSH OPEN SPACE PRESERVE HABITAT LOSS

Strategy: Coarse Grain Beaches

ADAPTATION OPPORTUNITY DESCRIPTIONS

1 DRAINAGE ISSUES ALONG BLITHEDALE

Location: Arroyo Corte Madera del Presidio, along Blithedale, to Pickleweed Inlet / Richardson Bay

Potential Adaptation Strategy: Culvert and Pump Station

This solution includes near-term upgrades to culverts along Blithedale Avenue to enhance stormwater drainage, improving ingress, egress, and evacuation routes for Mill Valley. In the longer term, a pump station would need to be installed to manage water levels during high tides. As sea levels rise, the pump station will become essential for conveying stormwater to Richardson Bay, as a gravity-based system will no longer reliably function with future tidal inundation of the outfall.

2 FLOODING ALONG ARROYO CORTE MADERA DEL PRESIDIO

Location: Connecting from pump station near Valley Circle Road along Arroyo Corte Madera del Presidio

Potential Adaptation Strategy:

- Strategy A: Levee, Horizontal Levee/Ecotone Slope -

Ecotone Slope

This strategy involves constructing a levee along the creek to provide a physical barrier against both inland and coastal flooding. A horizontal levee, or ecotone slope, could be integrated into the design to create a gradual transition from the aquatic

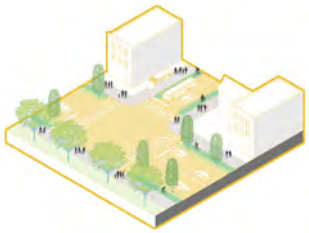
environment to upland areas. This approach enhances flood protection, supports habitat restoration, and allows species to migrate upslope as the high tide line shifts with sea level rise. The horizontal levee would also help reduce erosion and maintain natural floodplain functions.

- Strategy B: Culvert and Pump Station
  This approach focuses on enhancing the existing drainage infrastructure by upgrading culverts to re-route stormwater coming from the southern tributaries of the Arroyo Corte Madera Del Presidio drainage area and installing a pump station. The improved culverts would divert stormwater flow during heavy rainfall events to alleviate pluvial and fluvial flooding issues in the low-lying areas surrounding the existing creek alignment. he pump station would actively manage water levels, particularly during high tide or storm surge events. As sea levels rise, the pump station will become essential for conveying stormwater to Richardson Bay, as a gravity-based system will no longer reliably function with future tidal inundation of the outfall.

3 MILLER AVENUE / BOTHIN MARSH / TRAIL FLOODING & OVERTOPPING

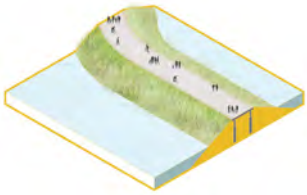
Location: Miller Avene, next to TAM High School and Bothin Marsh

Potential Adaptation Strategy: Complete Green & Elevated Streets, Horizontal Levee



Complete Green

This solution involves transforming Miller Avenue into a "Complete Green & Elevated Street" by elevating the roadway and integrating green infrastructure elements. The elevated street would be designed to remain above future flood levels, ensuring continued accessibility including during emergency evacuations. Green infrastructure, such as permeable surfaces and bio-swales, would help manage stormwater runoff.



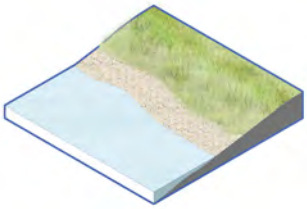
Levee

Additionally, a horizontal levee would be incorporated alongside Bothin Marsh, creating a gradual slope that transitions from the marsh to the upland areas. This horizontal levee would provide flood protection, support ecological diversity, and allow species to migrate as sea levels rise.

4 BOTHIN MARSH OPEN SPACE PRESERVE HABITAT LOSS

Location: North Richardson Bay along Redwood Highway Frontage Road

Potential Adaptation Strategy: Coarse Grain Beaches



Coarse Grain Beach

Implementing coarse grain beaches along the shoreline of Bothin Marsh would help protect and restore habitat. These beaches would be composed of larger, more stable sediments that can better withstand wave action and erosion, providing a natural buffer against sea level rise and storm surges. The coarse grain beaches would help reduce the rate of habitat loss by stabilizing the shoreline, preventing further erosion, and maintaining the marsh's ecological integrity. This approach also supports the resilience of the marsh to provide vital habitat for wildlife and other ecological functions as environmental conditions change.

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FOCUS AREA:

CORTE MADERA / LARKSPUR

VULNERABILITY OVERVIEW

The Town of Corte Madera is located on San Francisco Bay in central Marin County, along the US-101 Corridor on the San Francisco Bay. Approximately 10,000 people live in this low-lying coastal town. Historically, much of this area was marshland, which leaves most lower elevation residential and commercial areas in the Town vulnerable to coastal flooding. The City of Larkspur, located in central Marin, encompasses Corte Madera Creek and touches San Francisco Bay, exposing it to coastal and riverine flood hazards.

US-101 is critical for the region, but it faces permanent inundation with 10 inches of sea level rise. The highway connects key locations such as homes, schools, and the Town Center at Corte Madera. It is also crucial for commuters, linking to the Larkspur Ferry Terminal that connects the area to San Francisco. Moreover, 42 bus stops—both local and Golden Gate Transit—serve the area. Roadways in Larkspur also provide vital connectivity to Marin General Hospital.

Flooding along Corte Madera Creek poses a serious threat to numerous homes bordering the Creek and Larkspur Lagoon. Despite the attractive waterfront locations, these communities are highly prone to coastal flooding. Similarly, the houses in Mariner Cove and Marina Village face flooding from a 100-year storm, even without sea level rise. The current levee along the old railroad tracks has proved insufficient. With 11 schools in this focus area, any flooding would lead to significant disruptions and inconveniences, highlighting the urgent need for improved flood management.

SUMMARY OF VULNERABLE ASSETS

TRANSIT ASSETS

3 HUB, PARK, AND RIDE AREAS

2 FERRY STOPS

42 BUS STOPS

HIGHWAY 101

1 SMART STATION

LIFELINES

3 FIRE STATIONS

3 POLICE STATIONS

1 MUNICIPAL

1 HOSPITAL

COMMUNITY ASSETS

11 SCHOOLS

1 LIBRARY

UTILITIES

1 POWER SUBSTATION

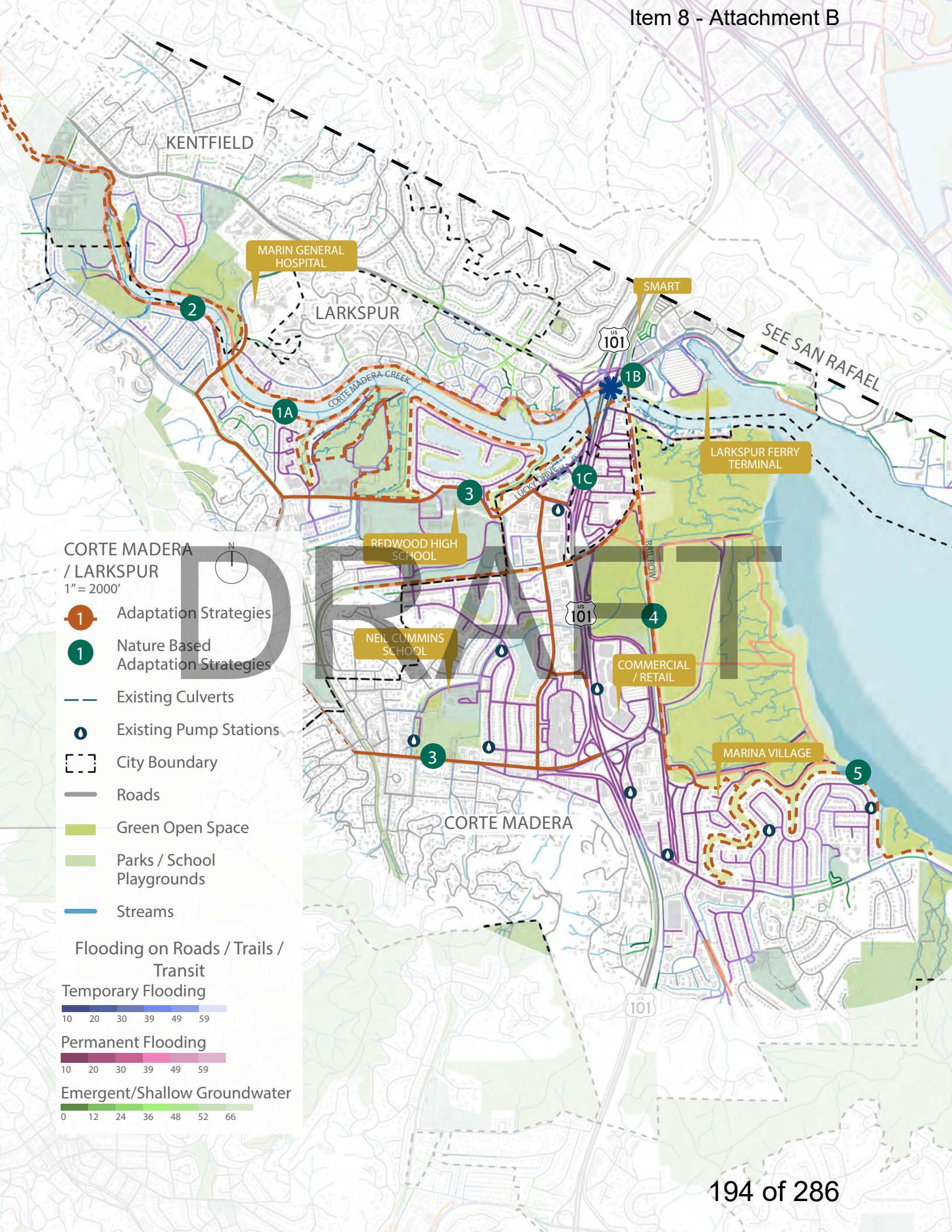
Community Flooding. Photo from Town of Corte Madera Climate Adaptation Plan

ONGOING ADAPTATION PLANNING

- The Corte Madera Climate Adaptation Assessment
- Mariner Cove & Marina Village
- Corte Madera Ecological Reserve Expansion and Restoration
- Corte Madera Creek - College of Marin "Dog Park" Habitat Restoration
- Corte Madera Creek - College of Marin Ecology Study Area Habitat Enhancement
- Corte Madera Creek - College of Marin Lot 13 Habitat Restoration
- Corte Madera Creek - Southeastern Creekside Marsh Culvert Replacement and Habitat Enhancement

APPROACH

In developing strategies at the focus area level, we emphasized several key themes critical to success. First, we initiated a dialogue with Marin's transportation agencies and neighboring communities to align on shared goals and opportunities—a conversation that continues with this adaptation summary for Mill Valley. Recognizing that TAM does not own assets and must rely on strong partnerships, we prioritized the inclusion of nature-based solutions, ensuring they remain a focal point in the planning process. We also conducted a thorough analysis of TAM's role, adopting a 'control, collaborate, and advocate' approach. Additionally, we acknowledge the importance of balancing protection with risk, working towards adaptation strategies that integrate both elements. Finally, we are committed to finding a balance between near-term actions and long-term planning, guided by the 'adaptation pathways' approach.


KENTFIELD
MARIN GENERAL HOSPITAL
LARKSPUR
SMART
SEE SAN RAFAEL
CORTE MADERA CREEK
LARKSPUR FERRY TERMINAL
LUCKY DRIVE
REDWOOD HIGH SCHOOL
RAILROW
NEIL CUMMINS SCHOOL
COMMERCIAL / RETAIL
MARINA VILLAGE
CORTE MADERA
US 101
2
1A
1B
1C
3
4
5
CORTE MADERA / LARKSPUR
1" = 2000'
Adaptation Strategies
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Temporary Flooding
10 20 30 39 49 59
Permanent Flooding
10 20 30 39 49 59
Emergent/Shallow Groundwater
0 12 24 36 48 52 66

FOCUS AREA:

CORTE MADERA / LARKSPUR

KEY ADAPTATION CHALLENGES & POTENTIAL STRATEGIES

The following challenges have been identified for the Corte Madera / Larkspur area and correspond to the adjacent map.

1 101 FLOODING

Strategy:

- A: Levee along Corte Madera Creek, Levee along Rail Alignment
- B: Tide Gate at 101, Levee along rail alignment
- C: Elevate 101, Complete Green & Elevated Streets

2 FLOODING ALONG CORTE MADERA CREEK

Strategy: Levee / Embankment, Tide Gate, Detention Ponds Upstream

3 COMMUNITY / EVACUATION ROUTE FLOODING

Strategy: Complete Green & Elevated Streets, Green Schoolyard Detention Basins

4 FLOODING ON CURRENT LEVEE ALIGNMENT

Strategy: Levee / Embankment, Horizontal Levee

5 EROSION, WAVE OVERTOPPING

Strategy: Coarse Grain Beaches, Bulkhead, Breakwater

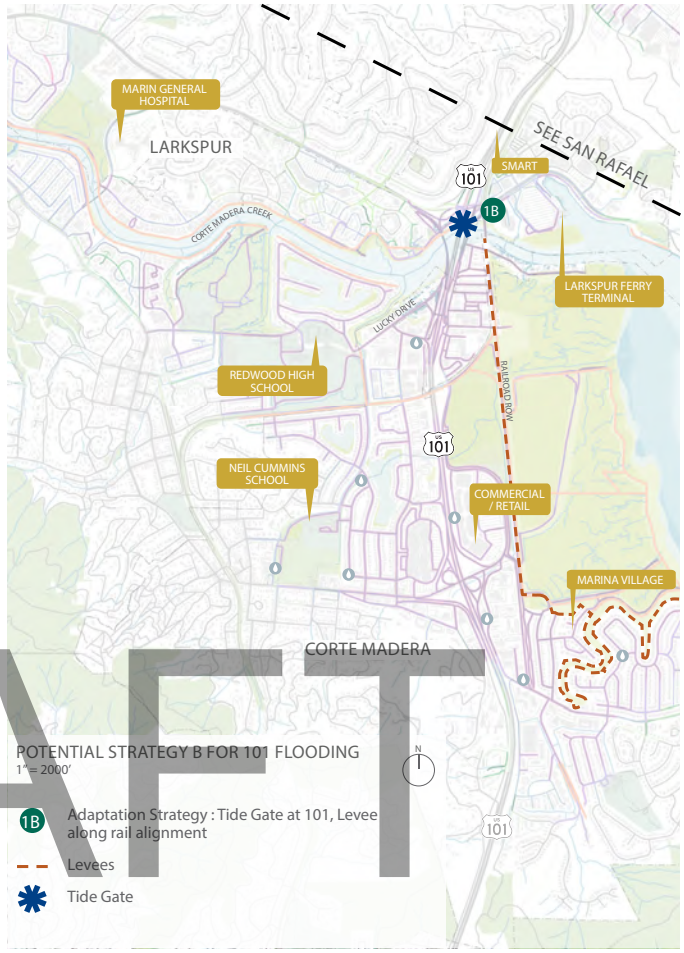
ADAPTATION OPPORTUNITY DESCRIPTIONS

1 101 FLOODING

Location: Highway 101

Potential Adaptation Strategy:

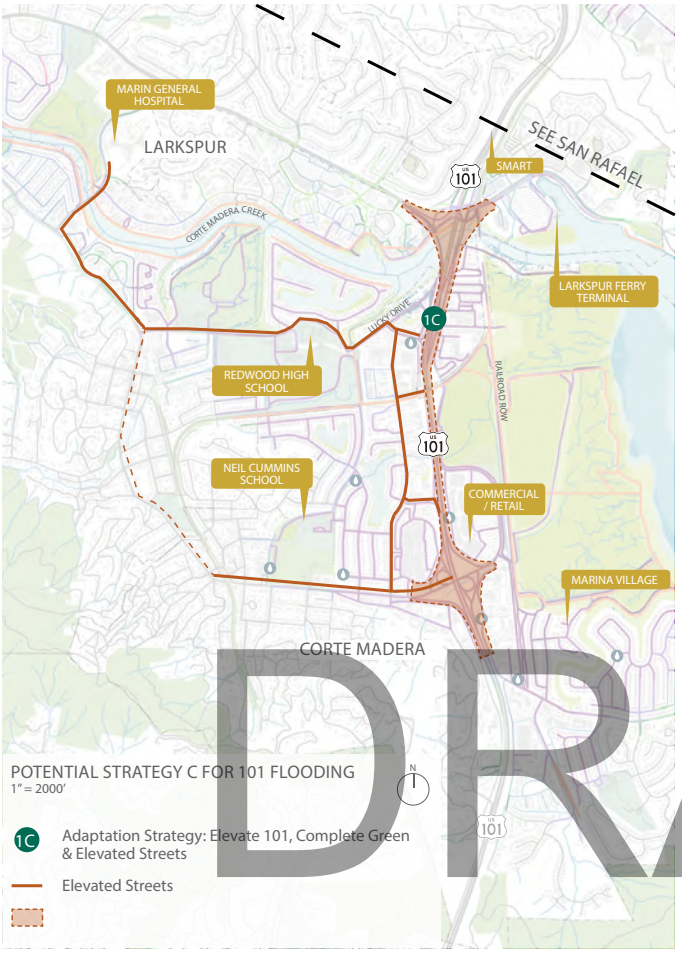
- Strategy A: Levee along Corte Madera Creek, Levee along Rail Alignment – Constructing a large system of levees along Corte Madera Creek and the former rail alignment would protect Highway 101, Corte Madera, Larkspur, as well as portions of Greenbrae and Kentfield from flooding by creating a continuous line of defense against coastal and riverine flooding. These levees would ensure the highway and nearby infrastructure remain safe and operational during storm events and high tides, while providing comprehensive flood protection for the surrounding communities. Interior drainage improvements would also be necessary to convey stormwater across levees to the creek or the bay.



Strategy A: Levee along Corte Madera Creek, Levee along Rail Alignment

Strategy B: Tide Gate at 101, levee along rail alignment

- Strategy B: Tide Gate at 101, Levee along rail alignment – Installing a tide gate at Hwy 101 and constructing a levee along the former rail alignment would protect Highway 101, Corte Madera, Larkspur, as well as portions of Greenbrae and Kentfield from flooding and shorten the line of defense compared to extending levees along Corte Madera Creek. Some levee improvements would likely be required upstream of the tide gate to reinforce both sides of the creek to ensure they can withstand inland flood events. In the long-term, installing a tide gate would help regulate the flow of tidal waters up Corte Madera Creek, thereby reducing the risk of tidal and coastal flooding in the surrounding areas. The tide gate would allow freshwater to flow out during low tide, which eventually would require pumping after sea level rise reached a critical point. These measures could have substantial environmental tradeoffs requiring thorough consideration.
- Strategy C: Elevate 101, Complete Green & Elevated Streets – Elevating Hwy 101 above anticipated flood levels using either an embankment or viaduct would provide



Strategy C: Elevate 101, Complete Green & Elevated Streets

long-term protection for the highway against sea level rise and storm surges. Elevating Tamalpais Dr, Doherty Dr, and Lucky Dr on embankments would mitigate the flooding of key evacuation routes, ensuring that these critical roadways remain accessible during flood events. Incorporating green infrastructure, such as permeable surfaces and bio-swales, would help manage stormwater runoff. Interior drainage improvements would also be necessary to convey stormwater across elevated roadways to the creek or the bay. This strategy would not protect portions of the community outboard of the elevated roadways.

2 FLOODING ALONG CORTE MADERA CREEK

Location: Corte Madera Creek

Potential Adaptation Strategy: Levee / Embankment, Tide Gate, Detention Ponds upstream

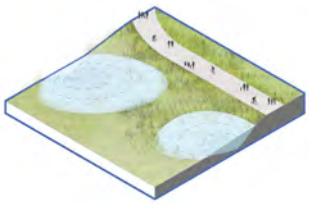
To address flooding along Corte Madera Creek, see strategies 1A and 1B to consider flood protection through levees along the creek and potentially a tide gate. To further manage riverine flooding, areas for detention ponds upstream could be identified to store water and prevent significant overland flow.

3 COMMUNITY / EVACUATION ROUTE FLOODING

Location: Redwood High School, Neil Cummins School

Potential Adaptation Strategy: Complete Green & Elevated Streets, Green Schoolyard Detention Basins

Complete Green



Detention Basin

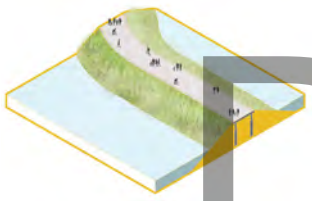
Elevating Tamalpais Dr, Doherty Dr, and Lucky Dr on embankments would mitigate the flooding of key evacuation routes, ensuring that these critical roadways remain accessible during flood events. Incorporating green infrastructure, such as permeable surfaces and bio-swales, would help manage stormwater runoff. Interior drainage improvements would also be necessary to convey

stormwater across elevated roadways to the creek or the bay. Constructing detention basins on public property, such as recreational areas or school ballfields, could temporarily capture and store excess stormwater during heavy rainfall, reducing flood risks in surrounding areas.

4 FLOODING ON CURRENT LEVEE ALIGNMENT

Location: SMART Route, Corte Madera Marsh

Potential Adaptation Strategy: Levee / Embankment, Horizontal Levee



Levee

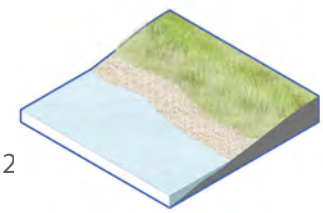
Constructing a horizontal levee along the former rail alignment would provide effective flood protection for some of the surrounding developed areas and sections of the 101 freeway. The horizontal levee would create a gradual transition from wetland to upland, providing flood protection and allowing habitat migration as sea levels rise. This strategy only provides long-term protection if tied into a district-scale flood protection system.

5 EROSION, WAVE OVERTOPPING

Location: San Clemente Creek, Corte Madera Marsh

Potential Adaptation Strategy: Coarse Grain Beaches, Bulkhead, Breakwater

Implementing coarse grain beaches along the bay facing shoreline of San Clemente Creek would help protect and restore habitat.



Coarse Grain Beach

These beaches would be composed of larger, more stable sediments that can better withstand wave action and erosion, providing a natural buffer against sea level rise and storm surges. Offshore measures, such as a breakwater structure, can help attenuate wave energy, reduce erosion, and preserve the shoreline profile. Additionally, floodwall or bulkhead structures can be used on the backshore of beaches to protect surrounding properties from flooding and overtopping.

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FOCUS AREA:

SAN RAFAEL - CANAL

VULNERABILITY OVERVIEW

The City of San Rafael is situated on San Rafael Bay, part of the San Francisco Bay. Approximately 60,000 people reside in the city, which contains wetlands and rivers (Gallinas Creek, South Fork Gallinas Creek, and San Rafael Creek) that border or cross important infrastructure. US-101 and I-580 converge in San Rafael, and this interchange is a critical asset due to it being a low-lying asset susceptible to flooding and a key connection point for regional traffic.

Flooding represents a severe threat to essential evacuation routes such as Bellam Blvd, which is expected to experience permanent inundation at 10 inches of sea level rise. US-101 and I-580 are also at risk, with I-580 facing permanent flooding under the same sea level scenario. As I-580 leads into the Richmond-San Rafael Bridge, it is crucial for maintaining connectivity between Marin County and the East Bay.

Developed areas along Kerner Blvd and Shoreline Pkwy will see temporary inundation with 10 inches of sea level rise. On the other hand, shoreline erosion is leading to noticeable trail overtopping, which impacts the key recreational spot San Rafael Bay Shoreline Path. Jean and John Starkweather Shoreline Park also experiences stormwater flooding, which is further exacerbated by 10 inches of sea level rise and emergent groundwater.

SUMMARY OF VULNERABLE ASSETS:

TRANSIT ASSETS

HIGHWAY 101 & HIGHWAY 580

RICHMOND-SAN RAFAEL BRIDGE

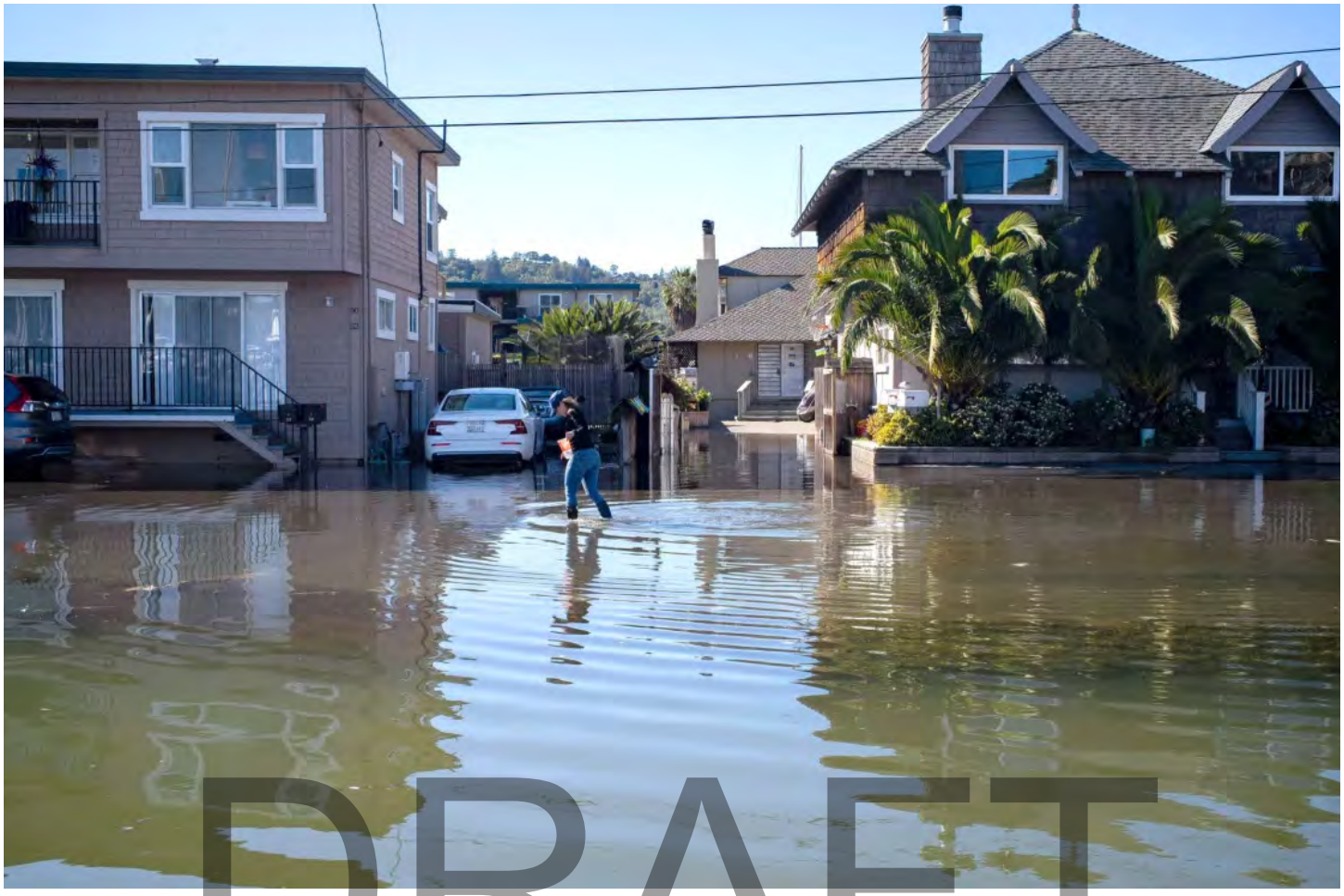
71 BUS STOPS

1 SMART STATION

4 HUB & PARK LOCATIONS

ONGOING ADAPTATION PLANNING

- San Quentin Pump Station Reconstruction
- Spinnaker Marsh Restoration
- Tiscornia Marsh Restoration and Sea Level Rise Adaptation Project
- Sea Level Rise Adaptation Transportation Infrastructure (US-101)



A king tide event in the San Rafael Canal neighborhood. Photo by George Alfaro/Kneedeep Times.

APPROACH

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TRANSIT CENTER
SAN RAFAEL HIGH SCHOOL
MARIN YACHT CLUB
LOWRIE YACHT HARBOR
PICKLEWEED COMMUNITY CENTER
JAMES B DAVIDSON MIDDLE SCHOOL
SAN RAFAEL
HOME DEPOT
SEE CORTE MADERA/ LARKSPUR
SAN RAFAEL
1" = 1800'
Adaptation Strategies
Nature Based Adaptation Strategies
Existing Culverts
Existing Pump Stations
City Boundary
Roads
Green Open Space
Parks / School Playgrounds
Streams
Flooding on Roads / Trails / Transit
Temporary Flooding
10 20 30 39 49 59
Permanent Flooding
10 20 30 39 49 59
Emergent/Shallow Groundwater
0 12 24 36 48 52 66
DRAFT

FOCUS AREA:

SAN RAFAEL - CANAL

KEY ADAPTATION CHALLENGES & POTENTIAL STRATEGIES

The following challenges have been identified for the San Rafael area and correspond to the adjacent map.

1 FLOODING OF DEVELOPED AREAS

Strategy: Horizontal Levee, Detention Pond

2 SHORELINE EROSION & TRAIL OVERTOPPING

Strategy: Levee, Coarse Beach, Breakwater

3 FLOODING OF EVACUATION ROUTES

Strategy: Elevate on Embankment

4 101 & 580 FLOOD HAZARD

Strategy:

- A: Elevate Transportation Assets (Highways, SMART rail, major roads)
- B: Tide Gate Upstream (Grand Ave OR Ped Crossing) + floodwalls along San Rafael Creek
- C: Tide Gate Downstream (Pickleweed Park)

5 STORMWATER FLOODING

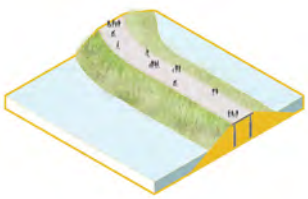
Strategy: Green Schoolyard Detention Ponds/Basins

ADAPTATION OPPORTUNITY DESCRIPTIONS

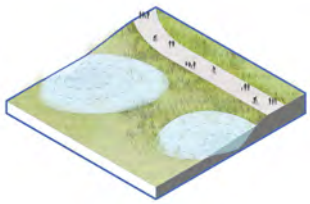
1 FLOODING OF DEVELOPED AREAS

Location: Marsh north of Home Depot

Potential Adaptation Strategy: Horizontal Levee, Detention Pond



Levee



Detention Basin

Constructing a horizontal levee and detention pond improvements north of the Home Depot property would provide effective flood protection for some of the surrounding developed areas and sections of the 580 freeway. The horizontal levee would create a gradual transition from wetland to upland, providing flood protection and allowing habitat migration as sea levels rise. The detention pond would capture and store stormwater runoff, reducing flooding risks by managing peak flows during heavy rainfall or high tides. These strategies only provide long-term protection if tied into a district-scale flood protection system.

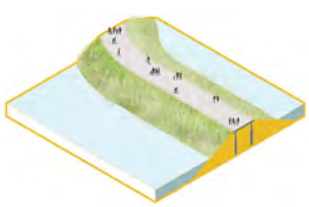
2 SHORELINE EROSION AND TRAIL OVERTOPPING

Location: Along the SF Bay Trail Shoreline

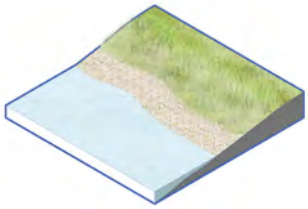
Potential Adaptation Strategy: Levee, Coarse Beach, Breakwater

A district-scale adaptation plan for the canal district

is needed to develop a long- term perimeter protection and interior drainage strategy, likely involving levees and seawalls as well as culverts and pump stations.



Levee



Coarse Grain Beach

Constructing a levee, coarse beach, and breakwater along the existing Bay Trail alignment offers a solution to address shoreline erosion and coastal storm overtopping. The levee would act as a barrier against rising sea levels and storm surges, protecting the trail and the community, if tied into a districtwide flood protection system. A coarse beach in front of the levee would help absorb wave energy and reduce erosion, while an offshore breakwater would further dissipate wave forces before they reach the shore, enhancing some subtidal habitat areas.

3 FLOODING OF EVACUATION ROUTES

Location: Bellam Blvd, Canal St, Kerner Blvd

Potential Adaptation Strategy: Elevate on Embankment

Elevating Bellam Blvd, Canal St, and Kerner Blvd on an embankment would mitigate the flooding of key evacuation routes, ensuring that these critical roadways remain accessible during flood events, including those caused by heavy rainfall, storm surges, or sea level rise. While this strategy is best exemplified by Bellam Blvd, it can be adapted to other vulnerable evacuation routes in the area, enhancing overall community resilience. Incorporating green infrastructure, such as permeable surfaces and bio-swales, would help manage stormwater runoff.

4 101 & 580 FLOOD HAZARD

Location:

- A. San Rafael creek - Grand Ave,
- B. San Rafael creek,
- C. Marin Yacht club- levee improvement along bay trail

Potential Adaptation Strategy:

- Strategy A: Elevate Transportation Assets (Highways, SMART rail, major roads) - Elevating key transportation infrastructure, such as Hwy 101 and 580, the SMART rail, the San Rafael Transit Hub and major roads would protect the assets themselves from flooding. By raising these assets above anticipated flood levels, this strategy ensures continued operation and connectivity during extreme weather events or rising sea levels, reducing the risk of closures and disruptions and safeguarding access and mobility for the community. However, this approach would not provide flood protection for the surrounding community.
- Strategy B: Tide Gate Upstream (Grand Ave, Ped Crossing) + floodwalls along San Rafael Creek - Installing a tide gate upstream on the San Rafael Canal near Grand Ave and constructing floodwalls along San Rafael Creek up to Pickleweed Park, would better protect central San Rafael and the Canal District from flooding, particularly during high tides and storm events. The floodwall improvements would include raising and reinforcing both sides of the canal to ensure they can withstand higher water levels and increased storm surges anticipated with sea level rise. In the long-term, installing a tide gate would help regulate the flow of tidal

Strategy A, B & C for 101 & 580 Flooding

- waters up San Rafael Creek, thereby reducing the risk of tidal flooding in the surrounding areas. The tide gate would allow freshwater to flow out during low tide, which eventually would require pumping after sea level rise reached a critical point. These measures could have substantial environmental tradeoffs requiring thorough consideration.
- Strategy C: Tide Gate Downstream (Pickleweed Park) - Installing a tide gate downstream on the San Rafael Canal near Pickleweed Park, would better protect central San Rafael and the Canal District from flooding, particularly during high tides and storm events. Some floodwall improvements would likely be required upstream of the tide gate to reinforce both sides of the canal to ensure they can withstand inland flood events. In the long-term, installing a tide gate would help regulate the flow of tidal waters up San Rafael Creek, thereby reducing the risk of tidal flooding in the surrounding areas. The tide gate would allow freshwater to flow out during low tide, which eventually would require pumping after sea level rise reached a critical point. These measures could have substantial environmental tradeoffs requiring thorough consideration.

5 STORMWATER FLOODING

Location: San Rafael High School, James B Davidson Middle School

Potential Adaptation Strategy: Green Schoolyard Detention Ponds/Basins

Constructing detention basins on public property, such as recreational areas or school ballfields, could temporarily capture and store excess stormwater during heavy rainfall, reducing flood risks in surrounding areas. By integrating green infrastructure into these spaces, the basins would not only manage stormwater effectively but also offer educational and ecological benefits, as well as water quality improvements.

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FOCUS AREA:

SANTA VENETIA

VULNERABILITY OVERVIEW

Santa Venetia, situated in Eastern Marin along San Pablo Bay, is home to approximately 4,200 residents. Gallinas Creek—which connects to San Pablo Bay and branches out through Santa Venetia—poses a significant risk of overtopping, impacting surrounding communities. The area is particularly vulnerable to flooding due to its historical development on marshland, leading to challenges with both groundwater emergence and creek-related inundation.

The 2-mile stretch of US-101 running through Santa Venetia and its access roads are affected by shallow groundwater, even in the absence of sea level rise. This poses a challenge for maintaining road integrity and safety. Additionally, essential transportation assets—the SMART route, 19 bus stops, and the San Rafael Airport—are vulnerable to both groundwater and permanent flooding, which can disrupt transportation and daily commutes. Flooding of evacuation routes and surrounding communities further complicates emergency response and accessibility.

Community impacts are exacerbated by the overtopping of Gallinas Creek, causing frequent flooding in neighborhoods and roads. With a 20-inch rise in sea level, the area is anticipated to face permanent flooding, significantly affecting residential properties and infrastructure. The community must prepare for these changes by implementing flood mitigation measures and improving drainage systems to protect homes and roads from frequent and severe flooding events.

SUMMARY OF VULNERABLE ASSETS

TRANSIT ASSETS

HIGHWAY 101

19 BUS STOPS

1 AIRPORT

1 INGRESS/EGRESS ROUTE

LIFELINES

1 FIRESTATION

2 POLICE STATIONS

UTILITIES

9 PUMP STATIONS

ONGOING ADAPTATION PLANNING

- McInnis Marsh Habitat Restoration
- Proposed Santa Venetia Levee Upgrade

Water in Las Gallinas Creek approaches homes in the Santa Venetia November, 2020. Photo by Alan Dep/ Marin Independent Journal.

APPROACH

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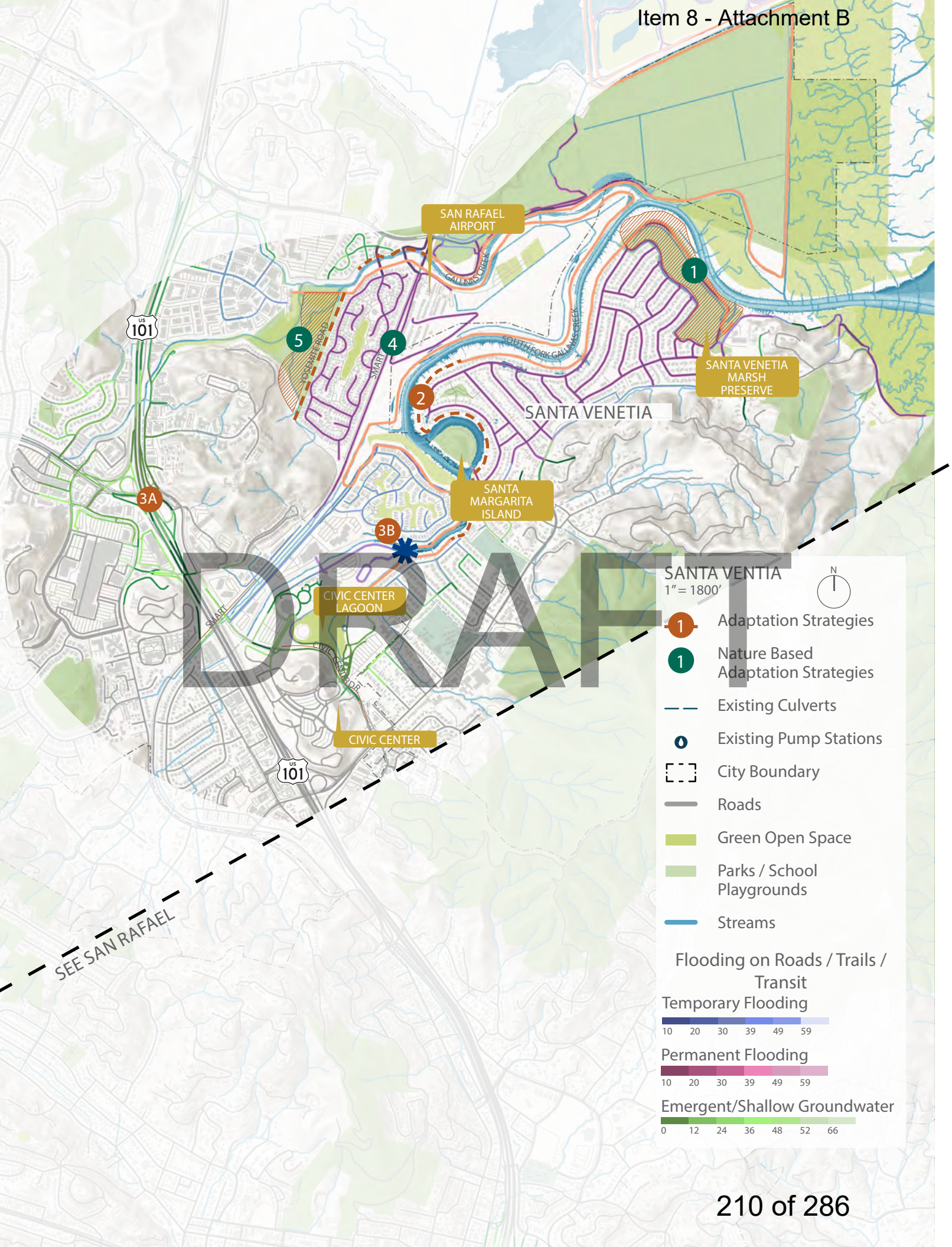
SAN RAFAEL AIRPORT
GALLINAS CREEK
SOUTH FORK GALLINAS CREEK
SANTA VENETIA MARSH PRESERVE
SANTA VENETIA
SANTA MARGARITA ISLAND
CIVIC CENTER LAGOON
CIVIC CENTER
YOSEMITE ROAD
SMART
US 101
1
2
3A
3B
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DRAFT
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Emergent/Shallow Groundwater
0 12 24 36 48 52 66

FOCUS AREA:

SANTA VENETIA

KEY ADAPTATION CHALLENGES & POTENTIAL STRATEGIES

The following challenges have been identified for the Santa Venetia area and correspond to the adjacent map.

1 CREEK OVERTOPPING

Strategy: Horizontal Levee

2 NEIGHBORHOOD / ROAD FLOODING

Strategy: Bulkhead / Sheet Pile

3 GROUNDWATER EMERGENCE AT 101 AND ACCESS ROADS

Strategy:

- A: Complete Green & Elevated Streets, Pump Station
- B: Tide Gate

4 FLOOD HAZARDS ON SMART ROUTE & COMMUNITY

Strategy: Elevate Transit on Embankment, Horizontal Levee

5 FLOODING OF EVACUATION ROUTE & COMMUNITY

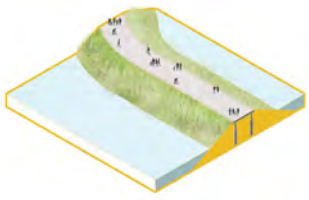
Strategy: Horizontal Levee, Elevation of Roads on Embankment

ADAPTATION OPPORTUNITY DESCRIPTIONS

1 CREEK OVERTOPPING

Location: Along Santa Venetia marsh preserve and Yosemite Road

Potential Adaptation Strategy: Horizontal Levee



Levee

Constructing a horizontal levee along the eastern perimeter of the Santa Venetia neighborhood would provide flood protection if connected into perimeter defenses along the South Fork Gallinas Creek. The horizontal levee would create a gradual transition from wetland to upland, allowing habitat migration as sea levels rise. A horizontal levee could also be used to protect the neighborhood between North Fork Gallinas Creek and the SMART rail alignment (accessed by Yosemite Rd.). This levee would have similar benefits if tied into a complete perimeter defense systems for this neighborhood.

2 NEIGHBORHOOD / ROAD FLOODING

Location: San Rafael Runway, along the South Fork Gallinas Greek

Potential Adaptation Strategy: Bulkhead / Sheet Pile

Installing a sheet pile wall would increase flood protection along the South Fork Gallinas Creek, benefitting much of the Santa Venetia neighborhood if tied into a complete perimeter protection system. Sheet pile walls are recommended due to space

constraints between private property boundaries and the creek. Existing plans are in development considering a similar concept for this location.

3 GROUNDWATER EMERGENCE AT 101 AND ACCESS ROADS

Location: Civic Center Dr, near Duck Pond and on 101

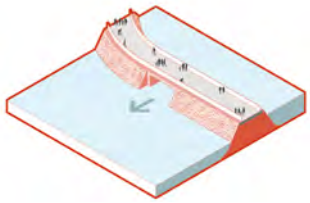
Potential Adaptation Strategy:

- Strategy A: Complete Green & Elevated Streets, Pump Station -

Complete Green

Elevating low-lying segments of Civic Center Dr between Freitas Pkwy and N San Pedro Rd would mitigate some flood risk for Highway 101 in this area and protect key evacuation routes, ensuring that these critical roadways remain accessible during flood events, including those caused by heavy rainfall, storm surges, or sea level rise. While this strategy is best exemplified by Civic Center Dr, it can be adapted to other vulnerable evacuation routes in the area, enhancing overall community resilience. Incorporating green infrastructure, such as permeable surfaces and bio-swales, would help manage stormwater runoff. This strategy also require stormwater drainage improvements including culverts and a pump station to convey stormwater from upland areas to the bay during intense rainfall events.

- Strategy B: Tide Gate -



Tide Gate

Installing a tide gate upstream on the South Fork Gallinas Creek near Civic Center Dr and constructing floodwalls and levees along the creek up to its connection with the bay, would better protect Highway 101 and the Civic Center and Santa Venetia district from flooding, particularly during high tides and storm events. The floodwall/levee improvements would include raising and reinforcing both sides of the creek to ensure they can withstand higher water levels and increased storm surges anticipated with sea level rise. In the long-term, installing a tide gate would help regulate the flow of tidal waters up the creek into Terra Linda, thereby reducing the risk of tidal flooding in the surrounding areas. The tide gate would allow freshwater to flow out during low tide, which eventually would require pumping after sea level rise reached a critical point. These measures could have substantial environmental tradeoffs requiring thorough consideration.

4 FLOOD HAZARDS ON SMART ROUTE & COMMUNITY

Location: SMART Route

Potential Adaptation Strategy: Elevate Transit on Embankment, Horizontal Levee

Elevate Transit on Embankment, Horizontal Levee

In the long-term, low-lying sections of the SMART rail alignment may need to be elevated onto an enhanced embankment or protected with floodwalls. Augmenting the existing embankment to create a horizontal levee can also be considered in sections

where space between the alignment and nearby properties and waterways would allow for this. The horizontal levee would create a gradual transition from wetland to upland, allowing habitat migration as sea levels rise.

5 FLOODING OF EVACUATION ROUTE & COMMUNITY

Location: Yosemite Road

Potential Adaptation Strategy: Horizontal Levee, Elevation of Roads on Embankment

Yosemite Road is currently the only ingress/egress route for daily traffic or emergency evacuation from the neighborhood here adjacent to the San Rafael Airport. Elevating Yosemite Rd and installing perimeter flood protection for this community would provide life safety and property protection benefits. Utilizing an embankment would mitigate the flooding of this evacuation route, ensuring that the community's critical roadway and bridge remain accessible during flood events, including those caused by heavy rainfall, storm surges, or sea level rise. While this strategy is best exemplified by Yosemite Dr, it can be adapted to other low-lying sections of evacuation routes in the area, enhancing overall community resilience. Bridge replacement should also be considered for Yosemite Road.

FOCUS AREA:

NOVATO

VULNERABILITY OVERVIEW

The northernmost city in Marin, Novato sits on San Pablo Bay, part of San Francisco Bay. The city includes wetland areas and Novato Creek, which runs through the main commercial district. SR-37 and US-101 meet in the city. This interchange is a critical transportation asset vulnerable to sea level rise.

The transportation network in Novato is widely impacted by flooding, particularly affecting the SMART route. Rush Creek, which drains along the SMART rail alignment, is poorly maintained and contributes to frequent flooding. Additionally, groundwater emergence on US-101 complicates travel and infrastructure stability. The area is served by 27 bus stops, which are crucial for local transit. However, the combined issues of flooding and groundwater emergence highlight the urgent need for enhanced drainage and maintenance to ensure reliable transportation throughout the region.

Marsh subsidence and a lack of sediment east of US-101 contribute to the vulnerability of the extensive marshlands, including those surrounding Deer Island. Groundwater emergence around Scottsdale Marsh affects key community locations such as Lynwood Elementary School and Vintage Oaks Shopping Center. Mitigation efforts are essential to protect these vital community assets and ensure the resilience of the local environment and infrastructure.

SUMMARY OF VULNERABLE ASSETS

TRANSIT ASSETS

27 BUS STOPS

LIFELINES

1 HOSPITAL / HEALTHCENTER

COMMUNITY ASSETS

1 LIBRARY

6 SCHOOLS

ONGOING ADAPTATION PLANNING

- Novato Baylands and Flood Protection
- Deer Island Basin Complex Tidal Wetlands Restoration
- Sea Level Rise Adaptation Transportation Infrastructure | SR-37
- Hamilton Levee
- Novato Creek Sediment Removal and Wetland Enhancement Project

A truck sits in flood water along westbound Highway 37 near Highway 101 in Novato, February 2019. Photo by Alan Dep/Marin Independent Journal.

APPROACH

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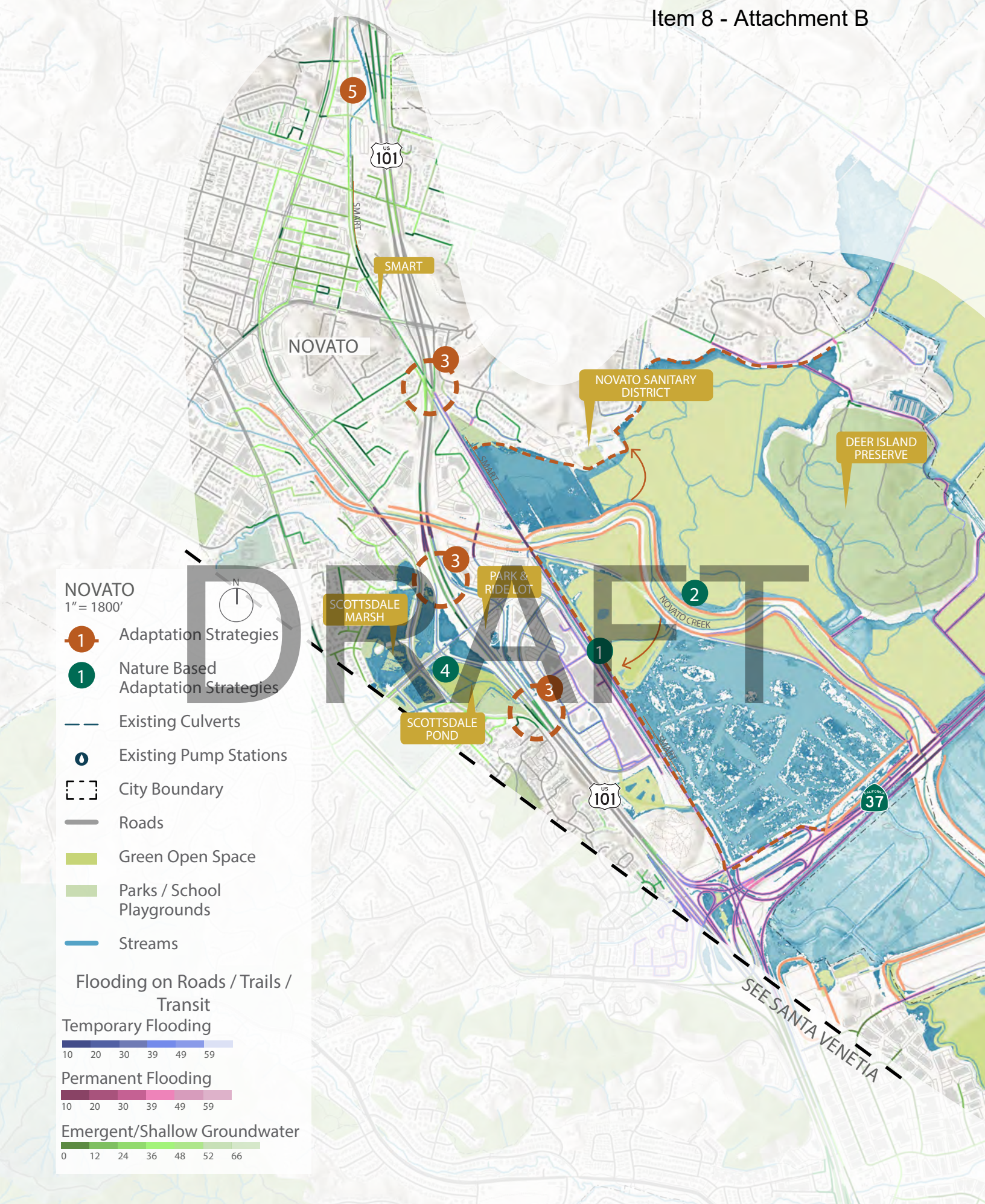
NOVATO
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NOVATO
SMART
NOVATO SANITARY DISTRICT
DEER ISLAND PRESERVE
PARK & RIDE LOT
SCOTTSDALE MARSH
SCOTTSDALE POND
NOVATO CREEK
US 101
37
SEE SANTA VENETIA
DRAFT

FOCUS AREA:

NOVATO

KEY ADAPTATION CHALLENGES & POTENTIAL STRATEGIES

The following challenges have been identified for the Novato area and correspond to the adjacent map.

1 FLOODING OF SMART ROUTE

Strategy: Elevate Transit on Embankment, Horizontal Levee, Relocation of levees along the perimeter of Novato Creek Marsh

2 MARSH SUBSIDENCE & LACK OF SEDIMENT

Strategy: Breaching Creek Channels

3 GROUNDWATER EMERGENCE ON 101

Strategy: Pump Station, Levee / Embankment

4 GROUNDWATER EMERGENCE AROUND SCOTTSDALE MARSH

Strategy: Detention Ponds, Pump Station / Culvert

5 FLOODING OF SMART ROUTE ALONG RUSH CREEK

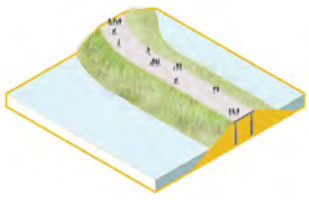
Strategy: Improve Drainage Capacity via Detention Ponds, Pump Station / Culvert

ADAPTATION OPPORTUNITY DESCRIPTIONS

1 FLOODING OF SMART ROUTE

Location: SMART Route

Potential Adaptation Strategy: Elevate Transit on Embankment, Horizontal Levee, Relocation of levees along the perimeter of Novato Creek Marsh



Levee

In the long-term, low-lying sections of the SMART rail alignment may need to be elevated onto an enhanced embankment or protected with floodwalls or levees. Augmenting the existing embankment to create a horizontal levee can also be considered in sections where space between the alignment and nearby properties and waterways would allow for this. The horizontal levee would create a gradual transition from wetland to upland, allowing habitat migration as sea levels rise. Relocating the existing levees along the south side of Novato Creek to adjacent the SMART rail alignment will open up substantial wetland restoration opportunities in the Novato Creek Unit of the Petaluma Marsh Wildlife Area. This strategy would require protection of Highway 37, likely utilizing levees, in the segment between Highway 101 and the bridge across Novato Creek.

2 MARSH SUBSIDENCE & LACK OF SEDIMENT

Location: Along Novato Creek

Potential Adaptation Strategy: Breaching Creek Channels

Strategically breaching the existing levees along the

north side of Novato Creek in the areas west and south of the Deer Island Preserve would allow for floodplain and wetland restoration opportunities. This strategy could require additional levees around the perimeter of the existing open space area to protect the Novato Sanitary District property as well as other adjacent properties with existing development. Reconnecting the creek and tidal flows to this area of open space would bring both brackish water and sediment which could help improve habitat for certain native species. Adaptive management practices could be used to monitor improvements over time and augment restoration efforts as needed.

3 GROUNDWATER EMERGENCE ON 101

Location: Along 101

Potential Adaptation Strategy: Pump Station, Levee / Embankment

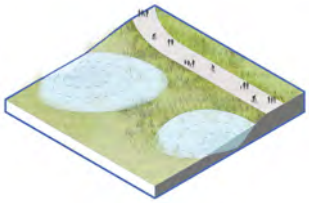
Levee

Elevating Highway 101 on an embankment in the areas surrounding Novato Creek could mitigate risks from future emergent groundwater. Impermeable cutoff walls, if located strategically, combined with pumps could also help to manage emergent groundwater issues in problem areas. This strategy would require more robust investigation.

4 GROUNDWATER EMERGENCE AROUND SCOTTSDALE MARSH

Location: Scottsdale Pond

Potential Adaptation Strategy: Detention Ponds, Pump Station / Culvert



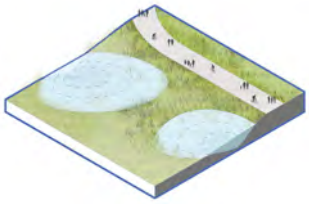
Detention Basin

A groundwater management strategy is likely required for mitigating future roadway flooding from emergent groundwater and stormwater accumulation in the area surrounding the current Scottsdale Pond. Enhancing this area's ability to function as a stormwater detention pond could alleviate flood risks during intense rainfall events. Considering cutoff walls along with pumps and culverts could also be investigated to help manage emergent groundwater.

5 FLOODING OF SMART ROUTE ALONG RUSH CREEK

Location: Along Rush Creek

Potential Adaptation Strategy: Improve Drainage Capacity via Detention Ponds, Pump Station / Culvert



Detention Basin

Improving drainage capacity along the SMART route at Rush Creek could mitigate flood risk, particularly with respect to emergent groundwater. Strategies to manage drainage may include a combination of identifying areas to detain water and building a series of pump stations and culverts to move water.

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Transportation Authority of Marin

ARUP

pathways CLIMATE INSTITUTE

Job number

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1. Executive Summary

Sea level rise affects everyone in Marin County, from those living close to the shoreline to those living in the hills. Even those with property outside of the inundation zone will be affected by service disruptions due to the flooding of wastewater treatment plants and hospitals, and most relevant to TAM's interests, delays when flooding impacts key transportation routes, such as Highways 101 and 37. The impacts are likely to be felt most acutely by those with fewer resources, such as underserved and marginalized communities.

Marin County has been a leader in California and across the nation on understanding and preparing for its vulnerability to sea level rise (see Existing Plan Review Memo). To date, there have been several important efforts to identify exposure and hazards, as well as begin to map solutions, including countywide projects such as BayWAVE and C-SMART, in combination with existing and burgeoning city efforts in Sausalito, Corte Madera, San Rafael, and many others.

With the passage of Measure AA, the Transportation Authority of Marin (TAM) now has dedicated, on-going funds for sea level rise protection, estimated at approximately $250,000 annually based on the current revenue projection. These funds have a wide array of eligibility and potential uses and can be used to respond to the various needs identified in vulnerability assessments prepared by BayWAVE, C-SMART, and Caltrans. TAM has contracted Arup, Pathways Climate Institute, and WRT to support its inaugural efforts to identify vulnerable areas in the County, develop area-specific sea level rise adaptation strategies, and create an implementation plan for TAM.

Following a review of existing work in and around Marin County, this next phase of the project (Task 3) updates the understanding of coastal flood vulnerability in Marin County, with a focus on the transportation system. Since the last countywide assessments were conducted, information was released on how sea level rise will also impact shallow groundwater tables, commonly referred to as groundwater rise. Groundwater rise projections are assessed in combination with permanent overland inundation from rising sea levels, as well as an analysis of current and future temporary 100-year flood exposure from both coastal storm surge and waves, as well as coastal/fluvial/pluvial impacts identified by FEMA floodplain mapping.

One important goal of this flood hazard analysis is to use the latest science to both reaffirm known locations of current and future coastal flood vulnerability and identify any new potential flood hazard locations. The focus areas can then be used to spur discussion within TAM and across Marin County to identify ongoing or planned transportation improvements and adaptation plans and increase coordination among stakeholders to implement measures that reduce the County's transportation flood vulnerability. Through this analysis, the consultant team identified 15 focus areas and provided information on the flood related hazards for each, the timing of impact on roads, impacts to multimodal transit and bike routes, and identification of key community and lifeline assets within each focus area to connect the transportation system to the communities they serve.

1.1 Purpose

This memorandum summarizes methods developed to identify Marin County coastal flood focus areas and to identify and present focus area locations, along with exposure statistics, focusing on transportation and transit assets. This memo will:

1. Define the multi-hazard, multi-stakeholder driven methodology to identify focus area locations
2. Discuss identified focus area locations
3. Discuss online data viewer that will be used for TAM and Technical Advisory Committee (TAC) and Focus Group discussions
4. Describe how focus area analysis can inform subsequent tasks and future TAM projects

For this project, ***focus areas*** are defined as locations that are vulnerable to sea level rise coastal hazards and fluvial/pluvial flood exposure, with implications to both Marin's transportation assets, as well as to important community and lifeline assets.

1.2 Approach & Outcomes

In recognition of the wealth of work that Marin County has already undertaken to map and understand its vulnerability to coastal flood hazards, the goal of Task 3 is to update known vulnerabilities, refine with the latest scientific information, and propose a suite of focus areas that will support future discussions for adaptation planning across Marin County, with a focus on the County's transportation assets. The exposure analysis, including the delineated focus areas, is provided in GIS geodatabases and through an online Web Map to increase uptake across the entire county. The focus areas are intended to spur future discussions on shared coastal flood hazard exposure, guide conversations about ongoing and planned transportation and adaptation projects, and encourage multi-stakeholder coordination as the County works to prepare and implement flood hazard adaptation measures. The boundaries for the focus areas should be interpreted as general boundaries and not strict boundaries.

2. Focus Area Location Identification Methodology

2.1 Data Collection and Management

The consultant team worked with TAM and the TAC to collect and collate a suite of countywide assets for the flood exposure and vulnerability assessment. In turn, building on past efforts, the consultant team updated a countywide exposure analysis and included an additional sea level rise flood projection as well as new scientific flood on exposure to sea-level rise driven groundwater rise. The following section describes the methods to collect and vet the different data sources.

2.1.1 Marin County Asset Data

TAM, in collaboration with the TAC and county representatives, solicited, collected, and shared the best available information on Countywide assets, such as roadways, facilities, and community infrastructure. Prior to the passage of Measure AA, which explicitly funds and empowers TAM to assess transportation vulnerability to sea level rise, Marin County's Department of Public Works led a project that assessed sea level rise impacts to Marin County transportation assets, with the goal of providing project-level information on coastal flood vulnerability and to support adaptation planning. The first iteration of the County's exposure analysis was completed as TAM's study was beginning. The consultant team leveraged DPW's work collecting and cataloguing key County assets, which allowed the consultant to use the most recently vetted and reviewed asset information in this analysis.

Created as part of the Existing Plan Review, an ArcGIS online group repository was developed for coordination and sharing of data among the consultants (Figure 1). Accompanying excel files categorized each layer type as a point, line, or polygon and described relevant attribute characteristics, such as the number of assets within a specific category (e.g., 6 assets within the SMART layer or 549 assets within the Marin Transit Stops layer).

Once all the GIS data layers were compiled, the consultant team identified which assets would be appropriate for exposure analysis. The consultant team developed asset-based GIS geodatabases that could then be used for the exposure analysis (see section 3.1.1). Table 1 lists the full suite of assets included in the analysis.

Table 1 List of Assets

Layer Category	Layer Name	shape	data source
Active Transportation - Bike	Bikeways	polyline	TAM / TAC
Active Transportation - Trails	Trails	polyline	County SLR Transportation Tool
Airport	Airports	point	TAM / TAC
Community Assets	School Locations	point	County SLR Transportation Tool
County Assets	City and County Facilities	point	County SLR Transportation Tool
	County Facilities	point	TAM / TAC
	Publicly Owned Parcels	polygon	County SLR Transportation Tool
Emergency Response	Sand/Sandbag Provision Locations	point	County SLR Transportation Tool
	Tsunami Evacuation Zones	polygon	County SLR Transportation Tool
Equity	Equity Priority Communities	polygon	MTC Equity Priority Communities
Lifelines	Fire Stations	point	County SLR Transportation Tool
	Hospitals	point	County SLR Transportation Tool
	Law Enforcement	point	TAM / TAC
	Medical Facilities	point	TAM / TAC
Roads	HOV Lanes	polyline	TAM / TAC
	Marin County Roads	polyline	TAM / TAC
	Road Tunnels	polyline	TAM / TAC
Transit	Bus Routes OSM	polyline	TAM / TAC
	Bus Stops OSM	point	TAM / TAC
	GGT Ferry Stops	point	TAM / TAC
	GGT Routes	polyline	TAM / TAC
	GGT Stops	point	TAM / TAC
	Hubs and Park and Rides	point	TAM / TAC
	Marin Transit Routes	polyline	TAM / TAC
	Marin Transit Stops	point	TAM / TAC
	SMART Route	polyline	TAM / TAC
	SMART Stops	point	TAM / TAC
	Transit Hubs	point	TAM / TAC
Utilities	Channels	polyline	TAM / TAC
	Channels	line	TAM / TAC
	Manholes	point	County SLR Transportation Tool
	PGE Substations	point	TAM / TAC
	Pipes	polyline	TAM / TAC
	Pipes	line	TAM / TAC
	Pump Stations	point	County SLR Transportation Tool
	Pump Stations	point	TAM / TAC
	Stormwater Catchment Basins	point	County SLR Transportation Tool
	Stormwater Drainage Structures	point	County SLR Transportation Tool
	Wastewater Facilities	point	County SLR Transportation Tool
	Wastewater Treatment Facilities	point	TAM / TAC

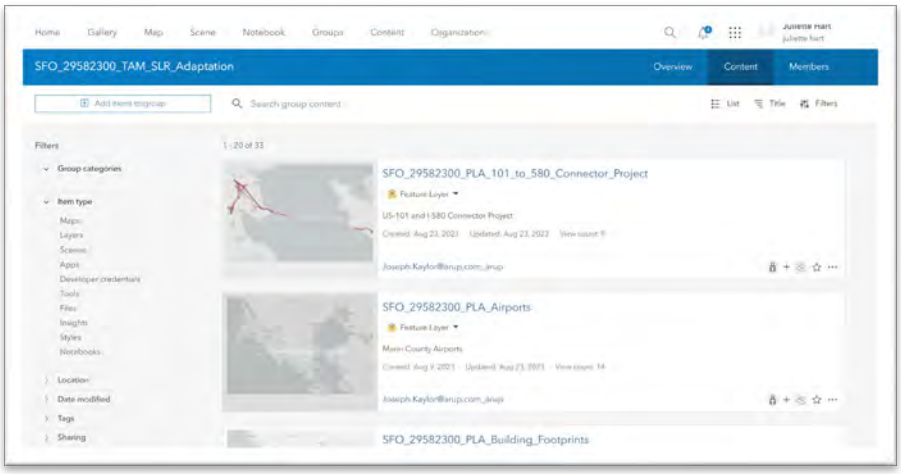


Figure 1 Screenshot of ArcGIS group repository that includes all vetted Marin County transportation and asset information.

2.1.2 Climate Hazard Data

Climate hazards assessed for this study include: permanent sea-level rise inundation, temporary coastal flooding from 1-percent annual chance (100-year) coastal storm event today and with sea level rise, 100-year and 0.2-percent annual chance (500-year) FEMA special flood hazard area (which combines coastal, fluvial and pluvial flood exposure based on historical conditions), and sea level rise-driven shallow and emergent groundwater. Table 2 provides an overview of the data sources, projections, and justification for the selected projections.

Table 2: List of Data Sources

Climate Hazard	Data Source	Projections	Justification & Constraints
SLR – Permanent Inundation	USGS Coastal Storm Modeling System (CoSMoS)	10 in (0.25 m) 20 in (0.5 m) 39 in (1 m) 59 in. (1.5 m)	For consistency with BayWAVE and C-SMART, this analysis repeated the use of the 10, 20 and 59 in projections of SLR. On current greenhouse gas (GHG) emissions trajectories (see Figure 2), recent federal sea level rise projections indicate we are likely to experience 39 in of SLR by 2070 – 2090. Thirty-nine inches of SLR also provides a mid-range projection between 20 in and 59 in and correlates with marked increases in flooding in most of the focus areas.
SLR – Temporary Flooding (100-year Coastal Storm)	USGS Coastal Storm Modeling System (CoSMoS)	0 in + 100 yr storm 10 in + 100 yr storm 20 in + 100 yr storm 39 in + 100 yr storm 59 in + 100 yr storm	The 0 in + 100-year storm scenario provides a projection of flood exposure from a 100-year coastal event at today's current spring astronomical tide. For consistency with the SLR flood exposure, analysis was also conducted for the 100-year coastal storm with 10, 20, 39, 59 in of SLR.

SLR-induced Shallow groundwater (GW) – SF Bay	Adapting to Rising Tides (ART) Shallow Groundwater	12 in (1 ft) 24 in (2 ft) 36 in (3 ft) 66 in (5.5 ft)	For the SF Bay region, the ART shallow GW projections were used. To best align to the SLR amounts used for the CoSMoS tidal and storm surge flooding, the closest available ART scenarios were used. While not exact matches, the projections are close enough to the CoSMoS SLR projections, given the associated uncertainty in both projections (CoSMoS and ART).
SLR-induced Shallow groundwater (GW) – Ocean	CoSMoS – Groundwater (GW)	10 in 20 in 39 in 59 in	For the open Pacific coast, CoSMoS-GW is available; the ART Shallow GW modeling is not. Here the team selected the SLR-induced GW projections that match the SLR projections used to project flood exposure from SLR and the 100-year storm events.
FEMA Special Flood Hazard Area	FEMA	100-year floodplain 500-year floodplain	To understand current flood exposure from the combination of coastal, fluvial and pluvial impacts, the 100-year and 500- year floodplain extents were analyzed. The FEMA floodplain is based on historical conditions and does not consider climate change. While no future changes in the fluvial and pluvial floodplain due to climate change are available, the 500-year floodplain can represent potential increases in the 100-year floodplain.

The modeling information used in this analysis all derive from authoritative and trusted data sources that are industry standard for assessing exposure to coastal flood hazards.

- Two data sources - the FEMA floodplain extents and the USGS Coastal Storm Modeling System – are developed by federal institutions and follow vetted, tested, and peer-reviewed methodologies. CoSMoS was funded in part by the CA Ocean Protection Council, along with internal funding from the USGS. It is recommended as one of the trusted resources for coastal hazard analysis for the entire coast of California – both oceanside and bayside.
- The Adapting to Rising Tides (ART) Shallow Groundwater Modeling was developed by Pathways Climate Institute and the San Francisco Estuary Institute (SFEI), two recognized and trusted science-based entities that serve the San Francisco Bay Area. The SF Bay Conservation and Development Commission (BCDC) promotes and recommends the use of the ART Shallow Groundwater modeling for assessing the impacts to shallow groundwater tables wherever it is available in the SF Bay area. Moreover, Marin County played an integral role in both providing information and reviewing the model results during the development of the model. ART does not provide shallow groundwater projections for the open Pacific coast of Marin County. For this, the consultant team turned to the USGS CoSMoS-Groundwater (GW) modeling. CoSMoS-GW was developed for the entire coast of California and was

developed using a model-based approach. While different than the data-driven approach used in the ART modeling, CoSMoS-GW (also funded by USGS and the CA OPC) provides reliable, authoritative, and trusted projections for shallow groundwater rise, important for assessing impacts to the Stinson Beach and Inverness focus areas.

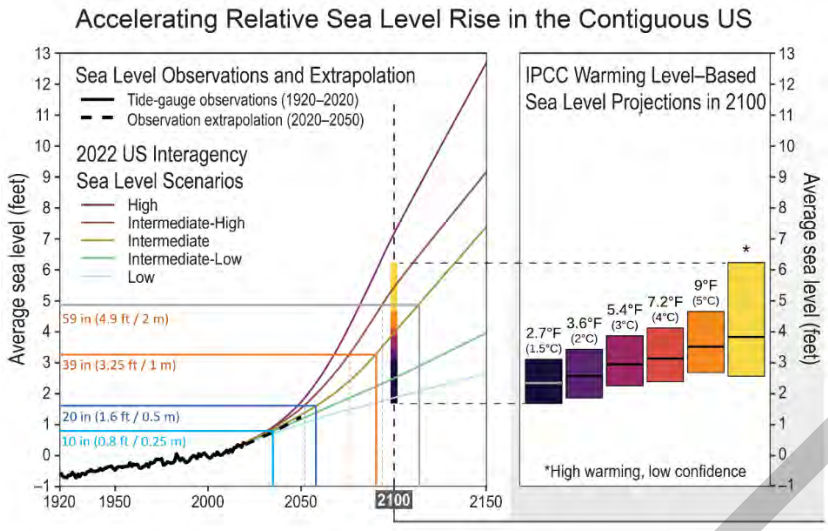


Figure 2: Federal sea level rise projections for the U.S. The colored lines in the left panel provide sea level rise projections from 1920 to 2150 under a range of greenhouse gas emissions scenarios. The black line indicates observations and a linear extrapolation of current observations from 2023 to 2050. We are currently tracking on the "Intermediate" projection curves. Assuming the world continues tracking on this Intermediate curve, the consultant team highlighted when the different SLR scenarios used in this project are expected to be reached: ~2040 for 10 inches; ~2060 for 20 inches; ~2090 for 39 inches; and ~2110 for 59 inches. This figure also allows the reader to extrapolate different timeframes of sea level rise based on different emissions trajectories. If globally, our emissions accelerate and we begin tracking on the intermediate-high curve, we are likely to experience higher rates of sea level rise sooner. The State of California, through the CA Ocean Protection Council is currently updating its recommended sea level rise proejctsions. They are expected to follow the federal sea level rise projections.

2.1.3 Technical Advisory Committee Engagement

TAM invited representatives from Marin County, cities in the County, Caltrans, MTC, and BCDC to serve on the Technical Advisory Committee (TAC). The role of the TAC is to provide thought leadership and feedback throughout the course of the project. TAM worked with the TAC to identify relevant asset data sets to include in the exposure analysis. The consultant team presented the proposed analysis methodology to the TAC at the first TAC meeting (Oct. 12, 2023). Feedback from the TAC was incorporated and included into the updated methodology development. The TAC reviewed early versions of this memo and provided feedback on the identified focus areas. Feedback from the TAC was incorporated to develop the final suite of focus areas.

2.1.4 Data Limitations and Assumptions

The coastal flood hazard exposure analysis builds off prior Marin County analysis and existing spatial data sets, adding new information on shallow groundwater rise and additional sea level rise scenarios to refine the understanding of both extent and timing of impacts. By building off prior analyses and data sets, several assumptions and limitations apply.

The topographic Digital Elevation Model (DEM) supporting the coastal flood hazard maps represent 2009-2011 conditions, therefore any new urban development or shoreline improvements may not be captured in the current maps. The DEM and all derived data layers have a horizontal resolution of 2 meters. The elevation data has a vertical accuracy of approximately 18 cm. The horizontal accuracy of the 2010 lidar (the bulk of the topography) has a root mean square error (RMSE) of 1m. Additional localized modifications to the DEM were implemented for the ART mapping products in 2018. Newer shoreline LiDAR information could be incorporated in subsequent discussions regarding future adaptation (Task 4), but was not incorporated during the exposure

analysis due to the heavy computational resources required for a county-wide implementation. Future efforts may elect to analyze this information, but was not included in the current project scope.

Travel demand and capacity (e.g., detour length and annual average daily traffic) was not considered in the exposure analysis to identify individual road segment criticality or delineation of the focus areas. Efforts to integrate TAM's model into County SLR planning efforts and tools are encouraged.

Asset locations were primarily represented as GIS point data, meaning the full footprint of several assets including hospitals, schools, community centers and other county facilities and were not captured in the overlay of the coastal hazards. The exposure analysis assigned a Yes or No attribute to these assets, rather than an area or percentage of the asset exposed to each of the flood hazards.

For the exposure analysis, the linear road network was segmented into 1/10th mile sections to assign an average depth of permanent inundation from sea level rise or temporary flooding from coastal storm surge and sea level rise. Due to the road segmentation, if any portion of each 1/10th mile segment overlaps with the flood hazard extents, the segment is identified as exposed.

The connections between assets within and across communities (e.g., local and regional road network dependencies on hospitals) were considered qualitatively in the development of the focus areas. Additional information on regional reliance on assets, or interdependencies and cascading impacts of assets (e.g., PGE stations) could refine the delineation of the focus areas and further inform the adaptation planning.

Elevated portions of roadways (bridges and overpasses) were manually identified to the best extent possible and removed from the exposure analysis, however some elevated segments may still remain in the resultant GIS outputs with the hazard exposure information.

2.2 Coastal Flood Hazard Exposure Analysis Methodology

2.2.1 Exposure Analysis

The exposure assessment was completed in GIS by overlaying the individual asset layers in the sector-based geodatabases with the hazard layers described in Table 2. The exposure assessment was based on how each asset is represented:

- For ***point assets*** (e.g., bus stops, pump stations), the assessment evaluated whether each asset was within the inundation zone for each of the hazard scenarios.
- For ***linear assets*** (e.g., roadways, SMART routes, channels), the length and percentage of the asset within the hazard zones were calculated. Roadways were divided into 528-foot (1/10th mile) segments and tagged with inundation statistics for each of the hazard scenarios, such as the first instance of exposure for SLR inundation and groundwater emergence.
- For ***polygon assets*** (e.g., parks, large facilities, EPC zones), the area and the percentage of the asset within the SLR inundation zones were calculated.

2.2.2 ArcGIS Geodatabase and Online Data Viewer

The exposure information was added to the GIS geodatabases to allow asset managers to identify when (and by how much) each asset would be exposed to flood hazards for each scenario. These geodatabases were provided to TAM for their use and dissemination, as appropriate.

Because not all agencies have access to desktop ArcGIS applications, all the coastal hazard projections and asset data, as well as the identified focus areas, are available through an ArcGIS Web Map (Figure 3).

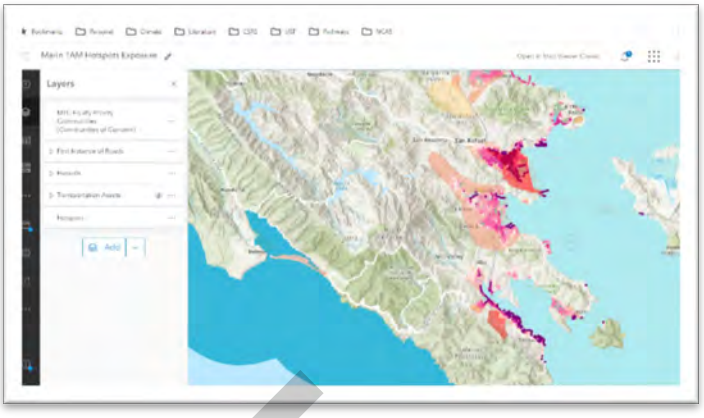


Figure 3 Screenshot of ArcGIS Web Map

2.3 Methodology to Delineate Vulnerability Focus Areas

Upon completion of the exposure analysis, the consultant team reviewed the exposure maps and statistics to propose an initial suite of focus areas. Initial outlining of the focus areas was based on extent of exposure for each of the different types of hazards. The team then used a series of questions to guide an iterative process to refine the proposed focus areas (Figure 4).

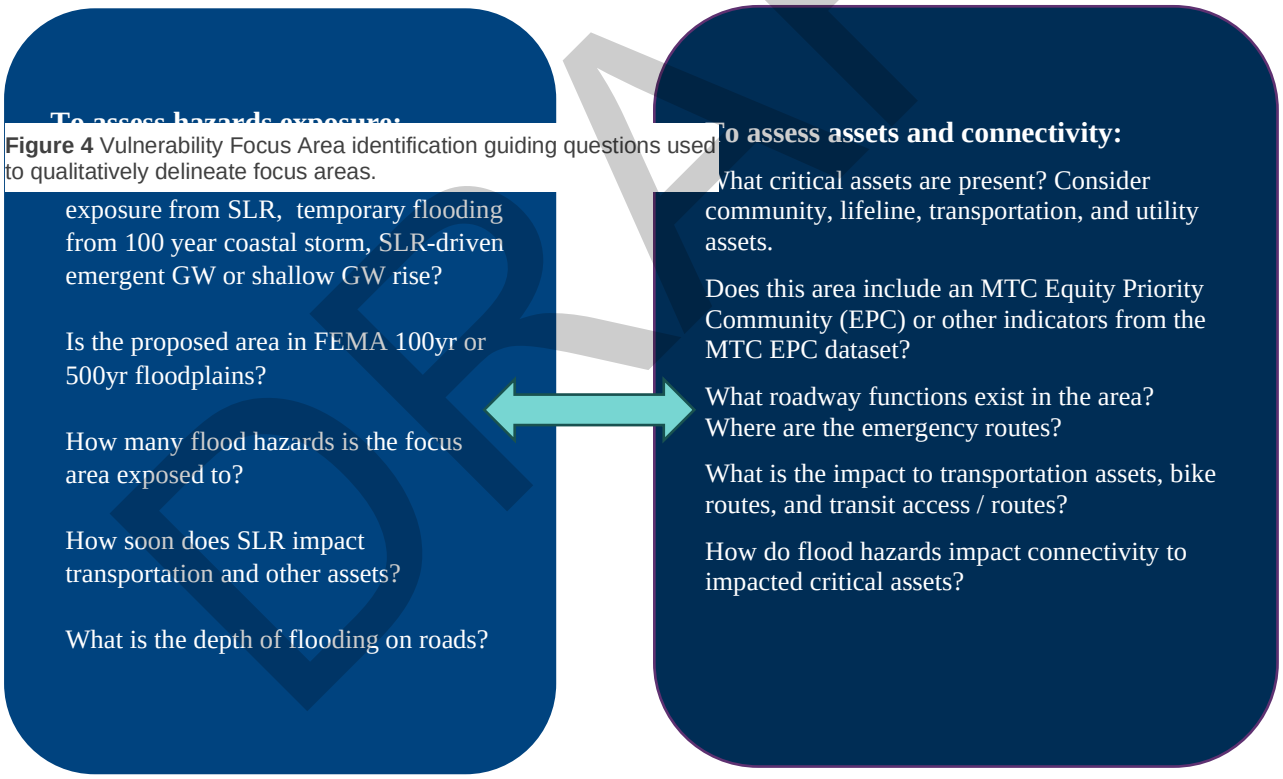


Figure 4 Vulnerability Focus Area identification guiding questions used to qualitatively delineate focus areas.

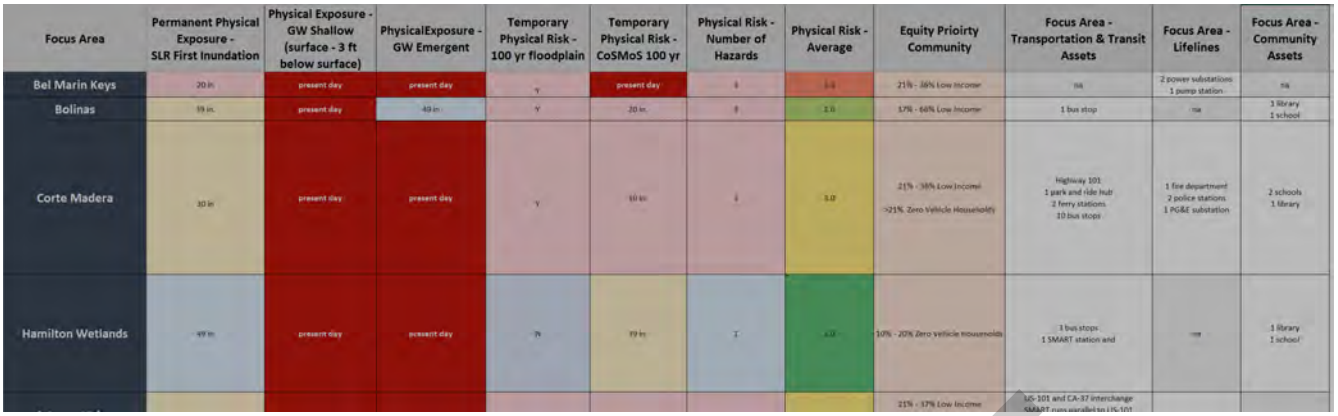
The initial focus areas were reviewed by TAM and presented to the TAC at the second TAC meeting (December 12, 2023). Feedback from these discussions helped refine the proposed suite of 15 focus areas.

3. Identified Focus Areas

3.1 Overview of Proposed Focus Areas

Following the methodology described above, 15 focus areas were identified (Figure 5). They ranged in their size, the number of hazards they experience (though most of them experience all three), the impact to transportation and transit assets, and the approximate number of lifelines and community assets included. The associated Appendix A: Hazard Matrix excel file (Figure 6) provides an overview of each of the focus areas and a subset of their exposure statistics.

Figure 5 Map of 15 vulnerability focus areas.

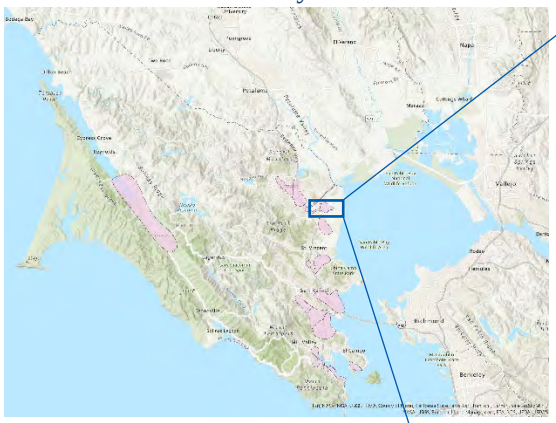


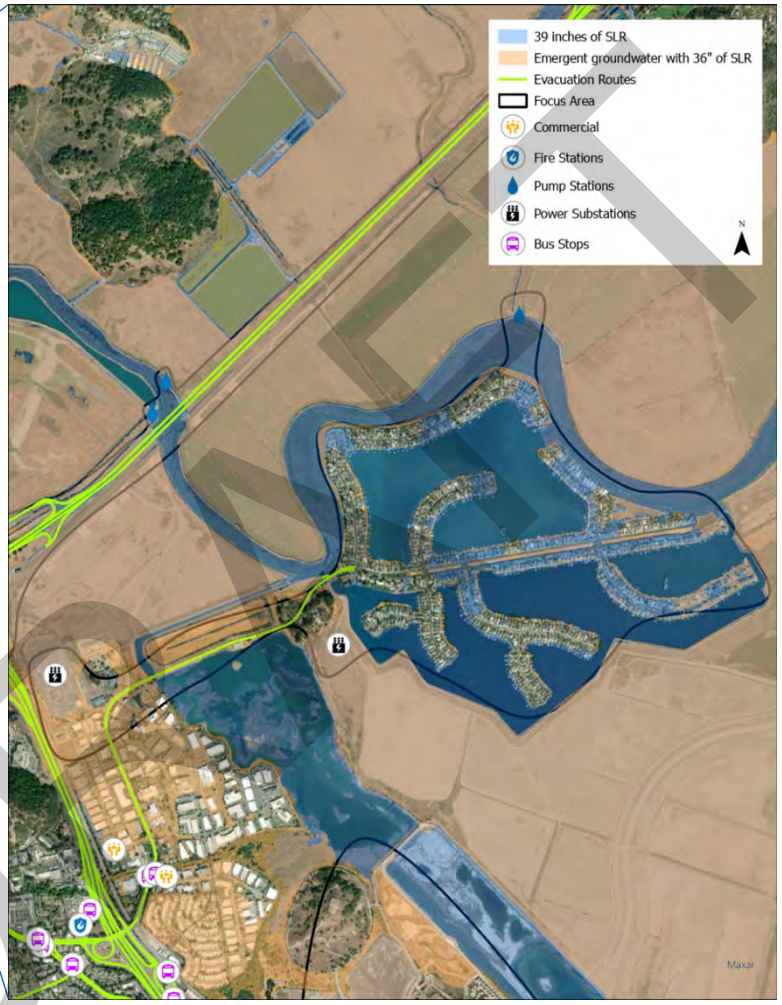
Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community	Focus Area - Transportation & Transit Assets	Focus Area - Lifelines	Focus Area - Community Assets
Bel Marin Keys	20 in	present day	present day	Y	present day	4	3.5	21% - 38% Low Income	na	2 power substations 1 pump station	na
Bolinas	19 in.	present day	49 in	Y	20 in.	3	2.5	37% - 64% Low Income	1 bus stop	na	1 library 1 school
Corte Madera	30 in	present day	present day	Y	10 in	4	3.0	21% - 38% Low Income >21% Zero Vehicle Households	Highway 101 1 park and ride hub 2 ferry stations 10 bus stops	1 fire department 2 police stations 1 PG&E substation	2 schools 1 library
Hamilton Wetlands	49 in	present day	present day	N	19 in	1	1.0	10% - 20% Zero Vehicle Households	1 bus stops 1 SMART station and	na	1 library 1 school
								21% - 37% Low Income	US-101 and CA-37 interchange SMART runs parallel to US-101		

Figure 6: Screenshot of Focus Area Hazard Matrix. This matrix provides summary information about each focus area.

In the following section, we provide high level overviews of each of the focus areas and list a suite of exposure statistics that help provide contextual information about the selected sites. There are any number of queries that can be asked of the exposure data; therefore these descriptions are intended to provide one possible set of answers to one possible set of questions. It is expected that as TAM and County partners begin the work of developing adaptation and implementation plans, the exposure analysis can be queried to help with identification of the different flood impacts to asset, properties, and people, and help advance discussions relevant to each site.

3.1.1 Bel Marin Keys Focus Area

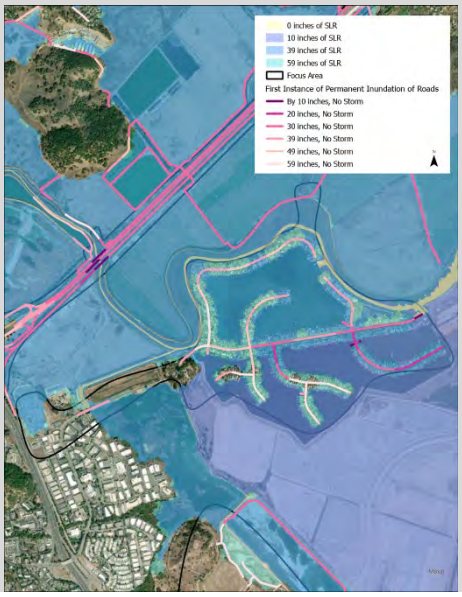




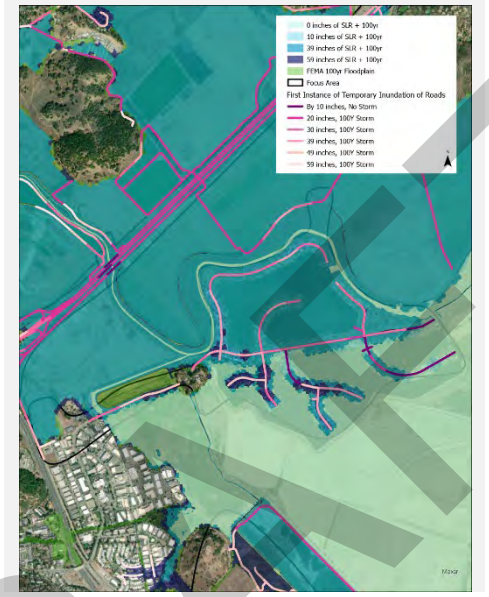
The site includes:

- 2 power substations
- 1 pump station
- 1 ingress/egress route

Permanent Inundation Exposure



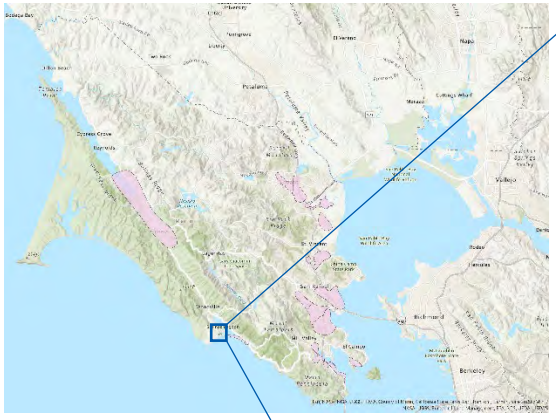
Temporary Flood Exposure



Groundwater Rise Exposure

Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Bel Marin Keys	20 in	present day	present day	In FEMA 100 yr Floodplain	present day	3	3.3	21% - 36% Low Income

3.1.2 Bolinas Focus Area

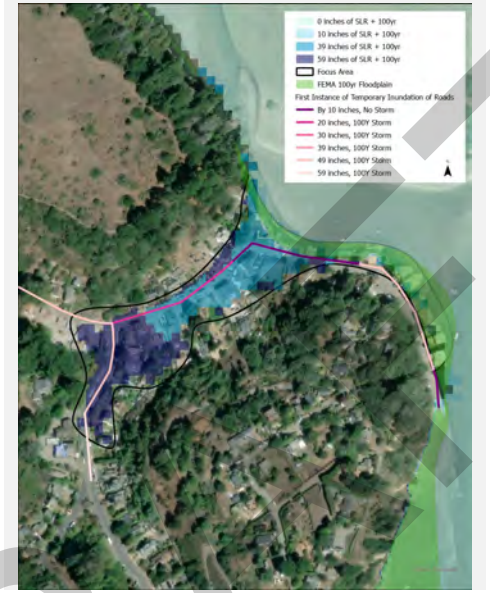


This site includes:

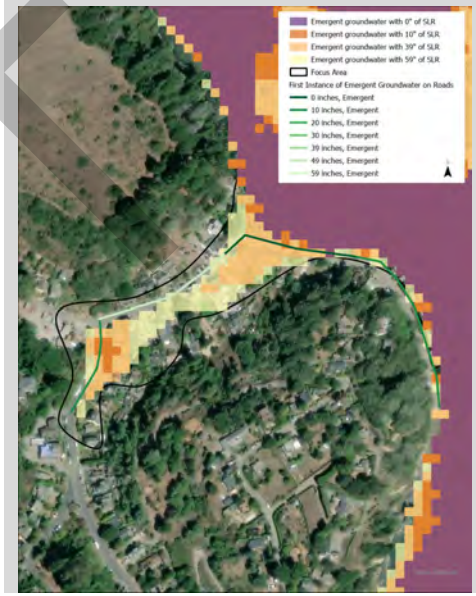
- 1 bus stop
- 1 library
- 1 school
- 1 ingress/egress route

Permanent Inundation Exposure

Temporary Flood Exposure

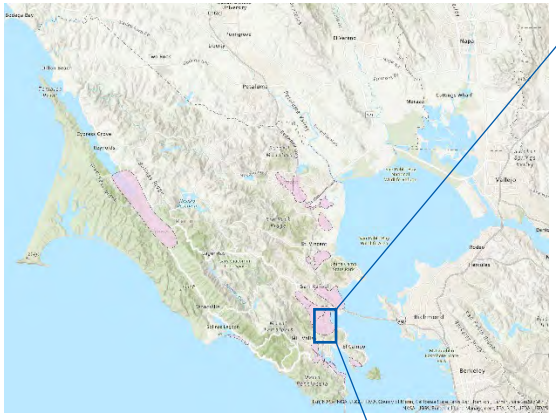


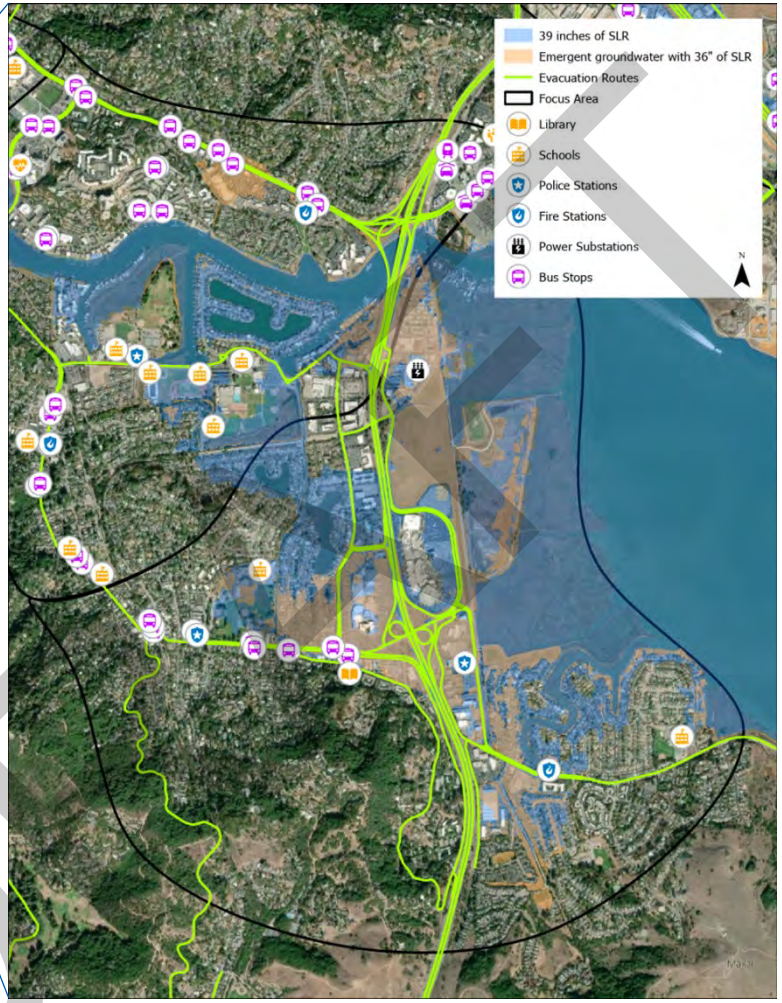
Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average
Bolinas	39 in.	present day	49 in	In FEMA 100 yr Floodplain	20 in.	3	2.6

3.1.3 Corte Madera Focus Area

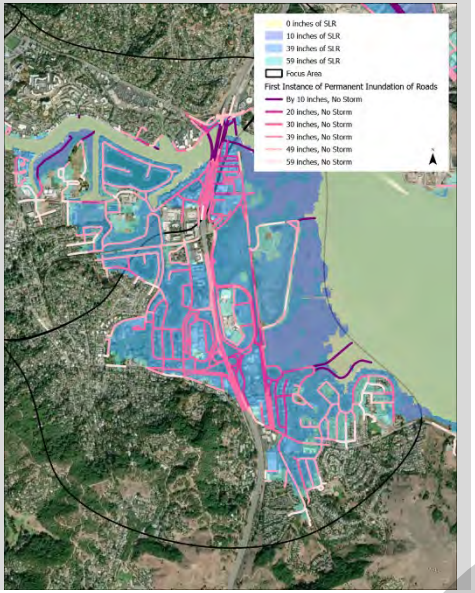




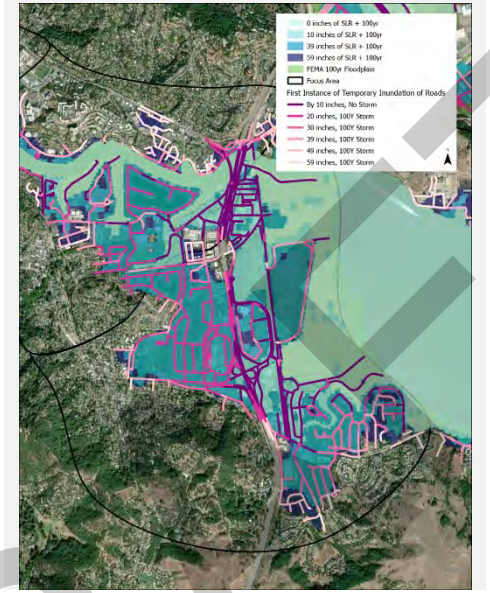
The site includes:

- 1 fire station
- 2 schools
- 1 library
- 2 police stations
- 1 hub, park, and ride area
- 2 ferry stops
- 1 power substation
- 10 bus stops, including local and Golden Gate Transit (GGT)
- Highway 101

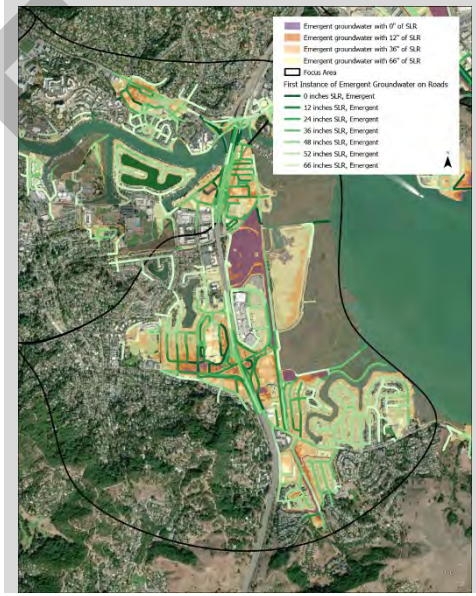
Permanent Inundation Exposure



Temporary Flood Exposure

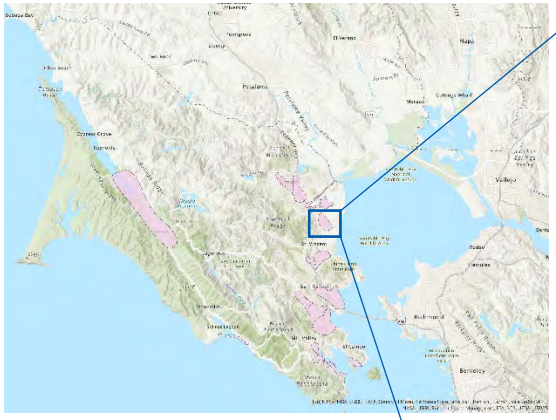


Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Corte Madera	30 in	present day	present day	In FEMA 100 yr Floodplain	10 in.	3	3.0	21% - 36% Low Income >21% Zero Vehicle Households

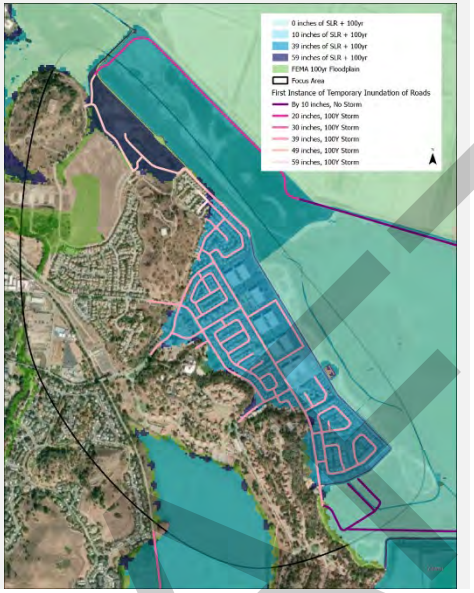
3.1.4 Hamilton Wetlands Focus Area



The site includes:

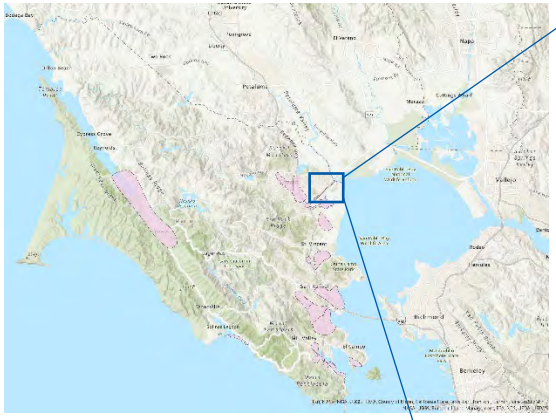
- Highway 101
- 1 library
- 3 bus stops
- 1 school
- 1 SMART station
- 1 ingress/egress route

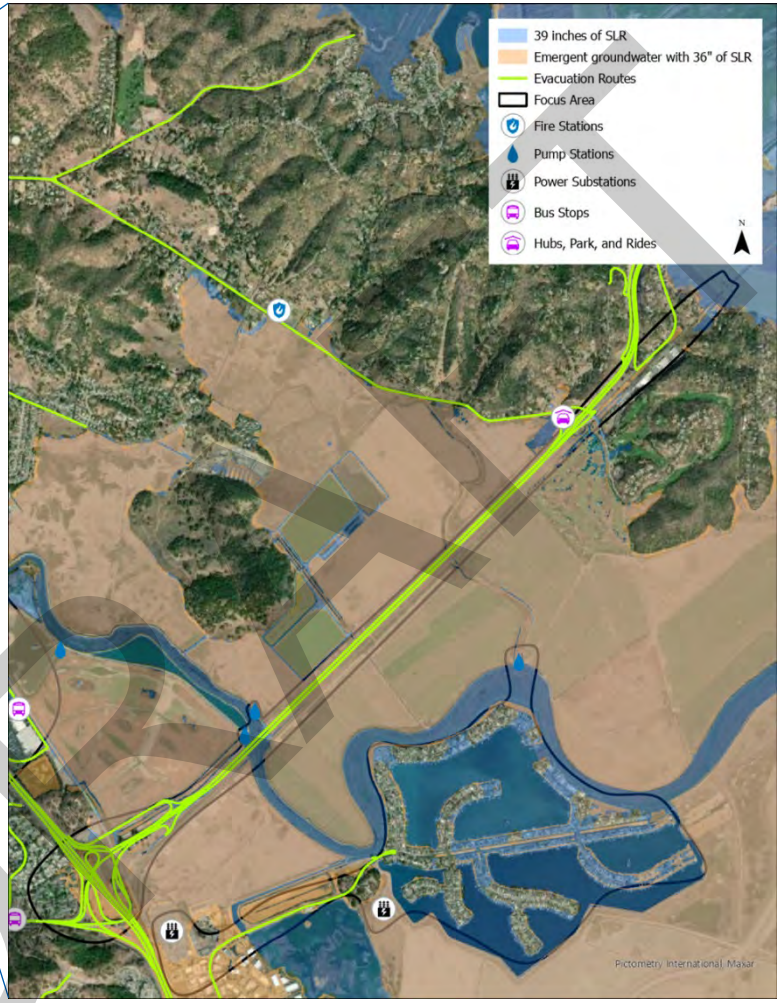
Permanent Inundation Exposure	Temporary Flood Exposure	Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Hamilton Wetlands	49 in	present day	present day	NOT in FEMA 100 yr Floodplain	39 in.	1	2.0	10% - 20% Zero Vehicle Households

3.1.5 Highway 37 / 101 Focus Area

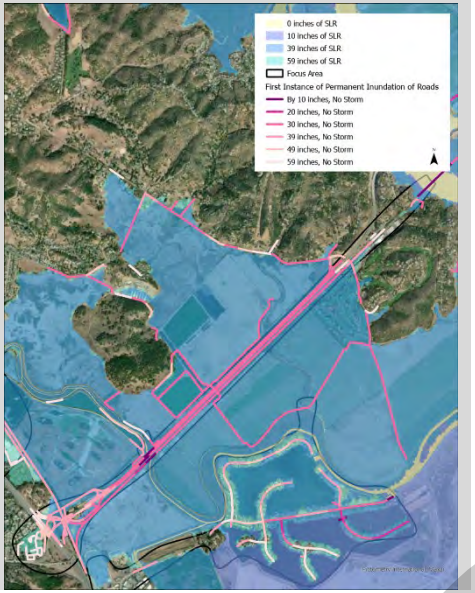




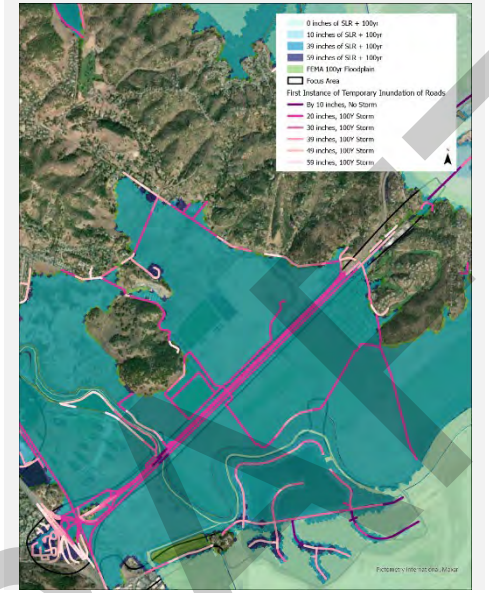
The site includes:

- Highway 37 and Highway 101
- 2 pump stations
- 1 park, hub, and ride area
- 1 ingress/egress route

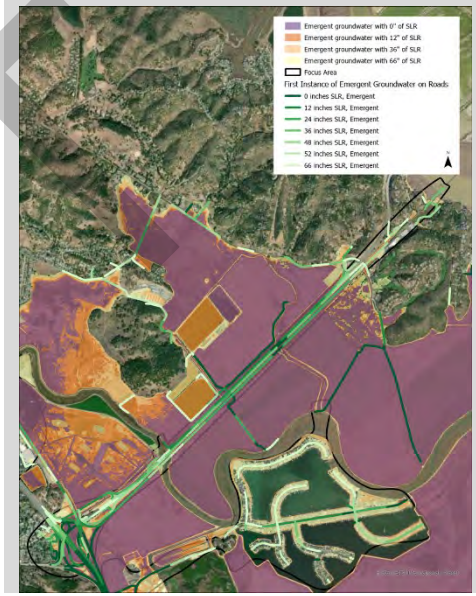
Permanent Inundation Exposure



Temporary Flood Exposure

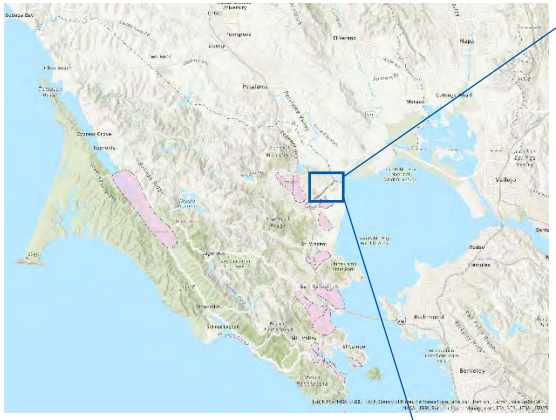


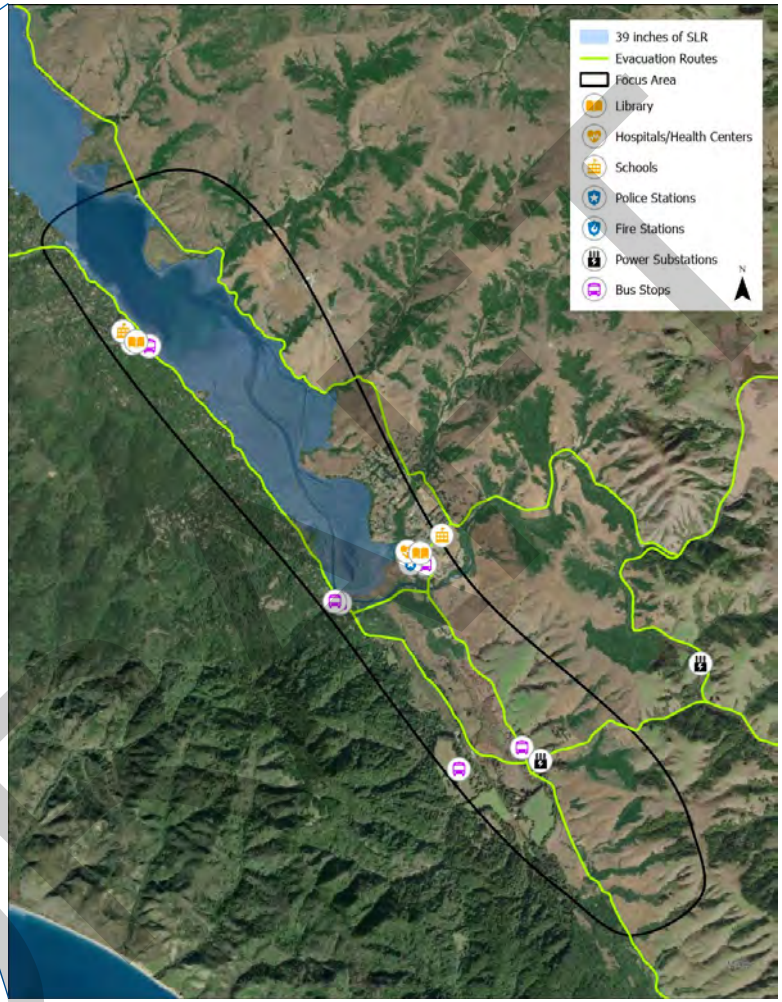
Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Highway 37/101	30 in	present day	present day	In FEMA 100 yr Floodplain	20 in.	3	3.0	21% - 37% Low Income 10% - 20% Zero Vehicle Households

3.1.6 Inverness Focus Area

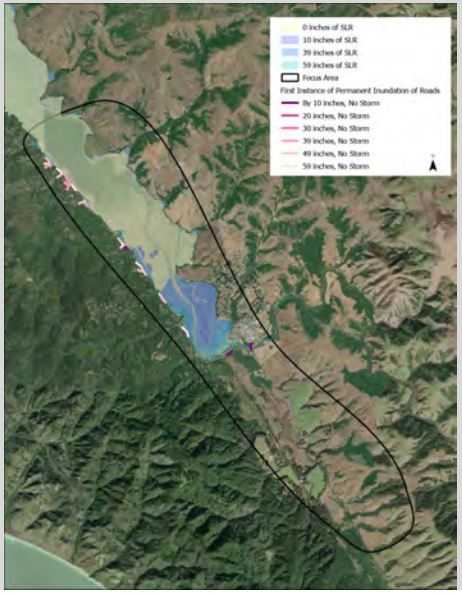




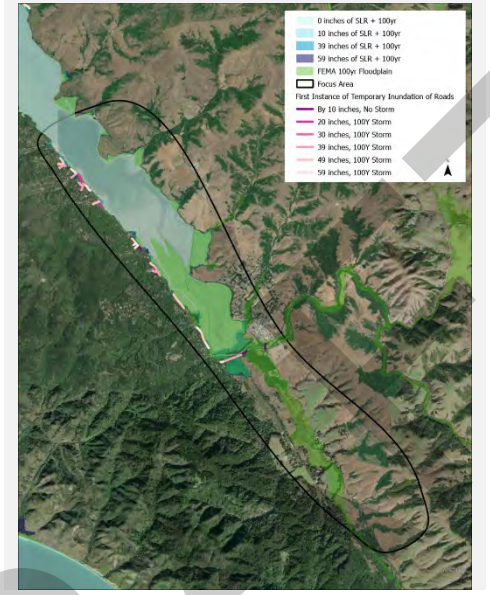
This site includes:

- 1 power substation
- 6 bus stops (no GGT bus stops)
- 1 school
- 1 police station
- 1 fire station
- 2 libraries
- 1 health center/hospital
- 1 ingress/egress route

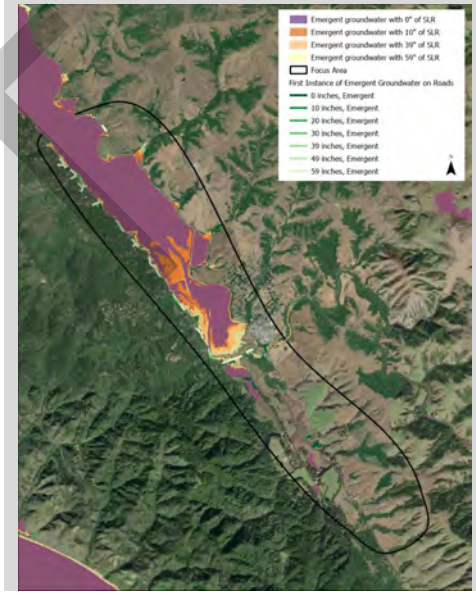
Permanent Inundation Exposure



Temporary Flood Exposure

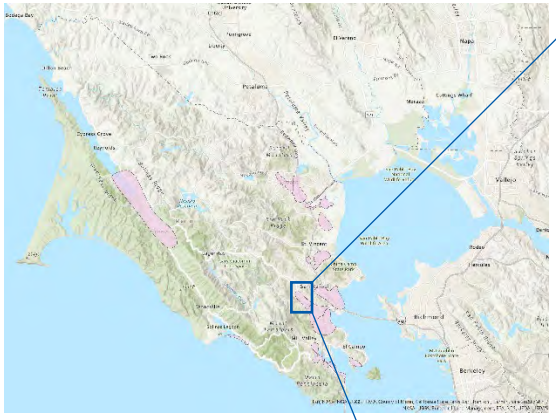


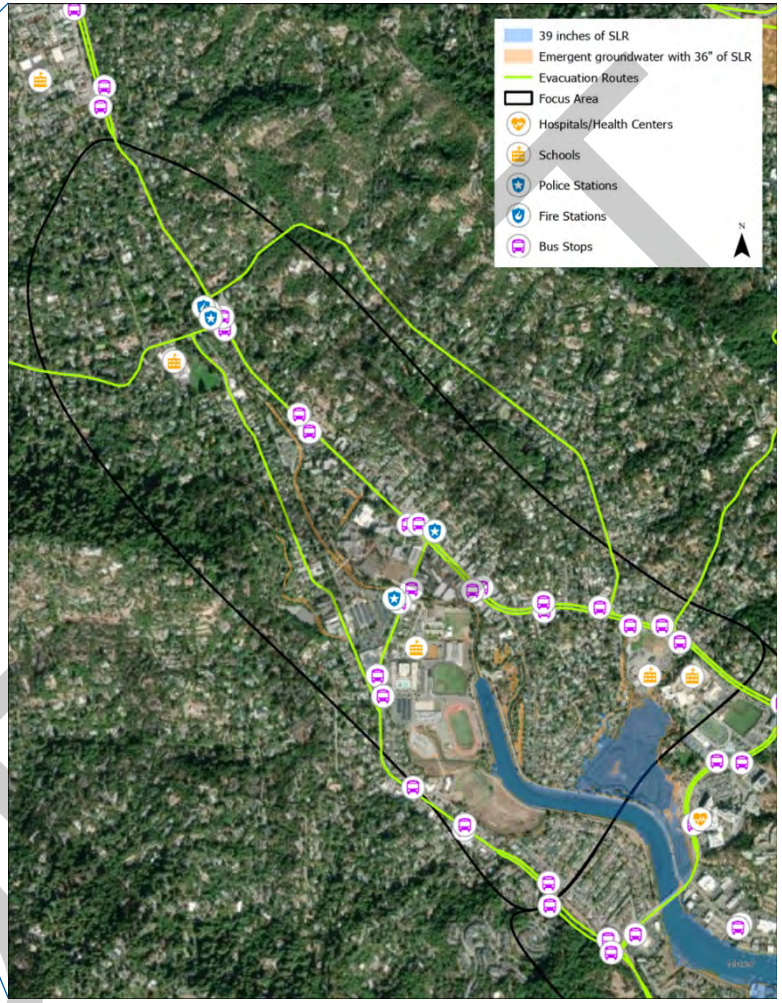
Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	Physical Exposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Priority Community Factors
Inverness	30 in	not impacted	not impacted	Y	20 in.	2	1.7	18% - 23% Low Income

3.1.7 Kentfield Focus Area

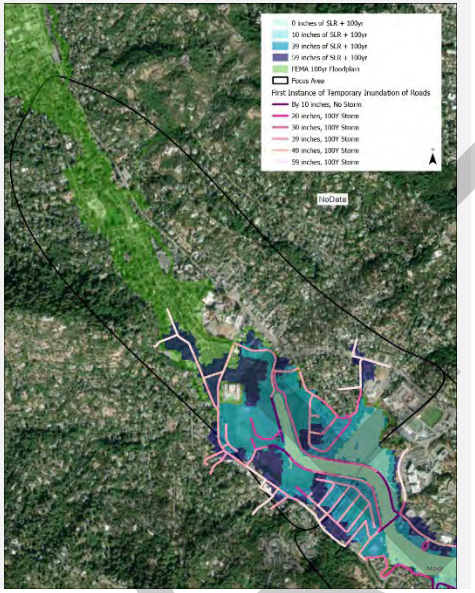


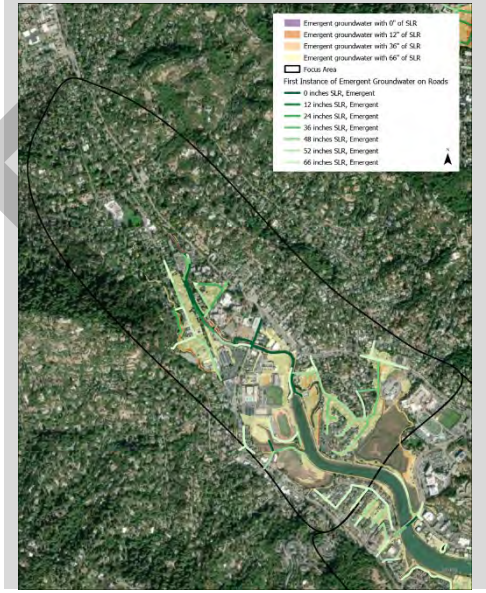


The site includes:

- 4 schools
- 2 fire stations
- 3 police stations
- 1 municipal
- 21 bus stops
- 1 ingress/egress route

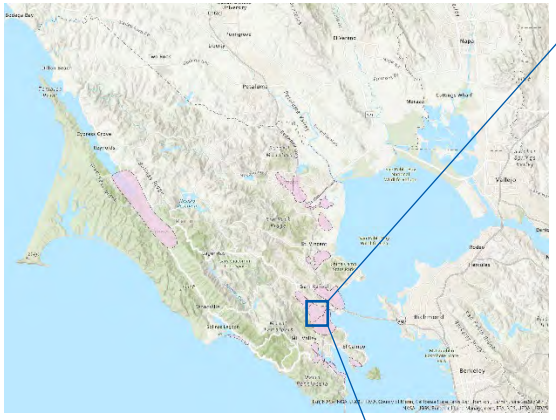
Permanent Inundation Exposure | **Temporary Flood Exposure** | **Groundwater Rise Exposure**

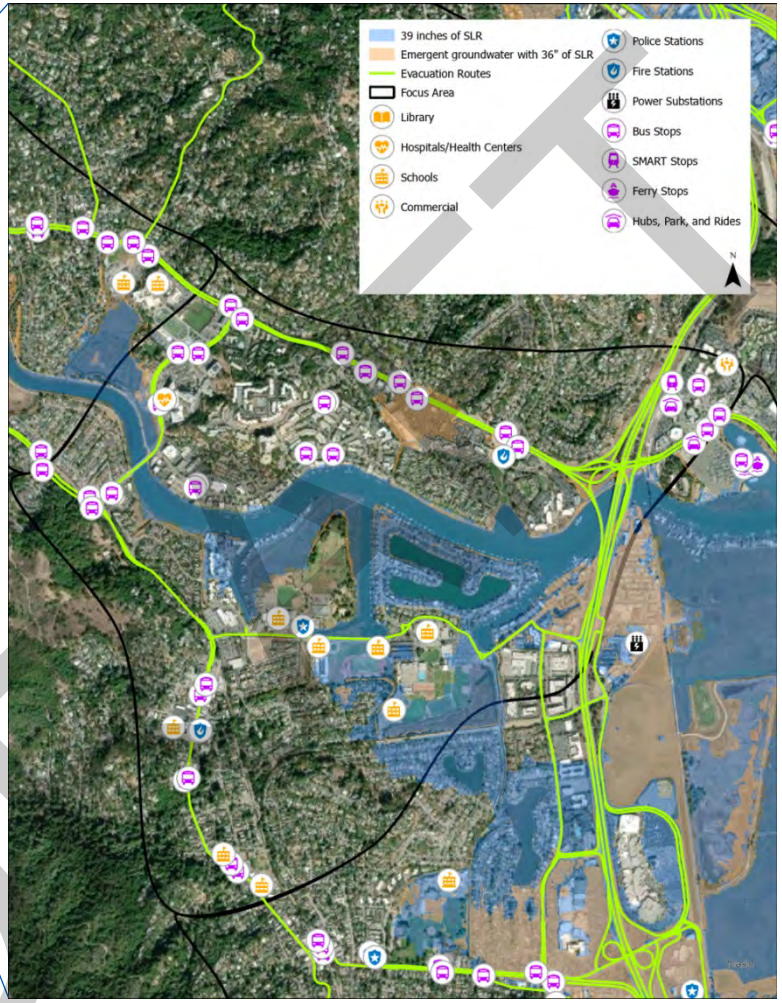




Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Kentfield	49 in	present day	48 in.	In FEMA 100 yr Floodplain	30 in	3	2.3	No

3.1.8 Larkspur Focus Area

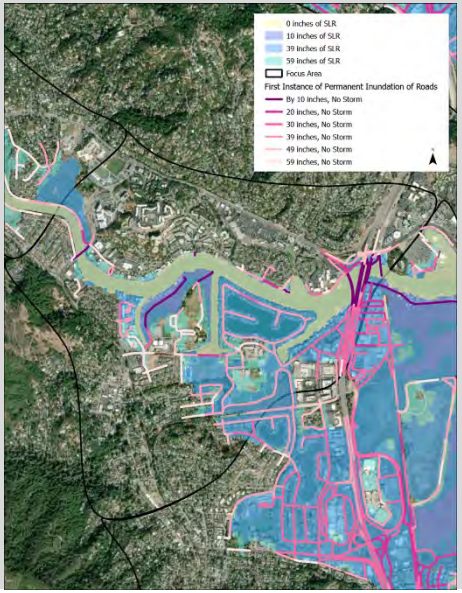


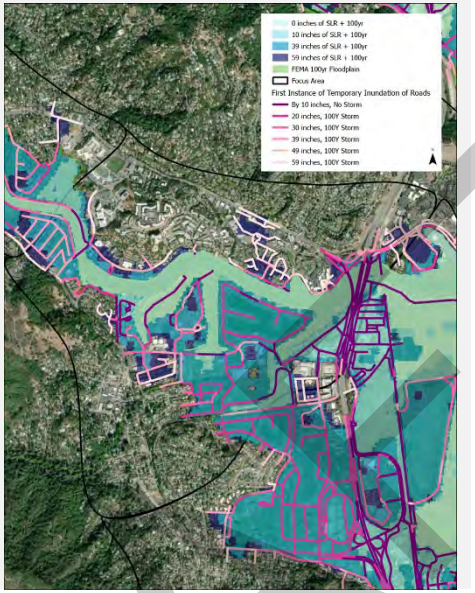


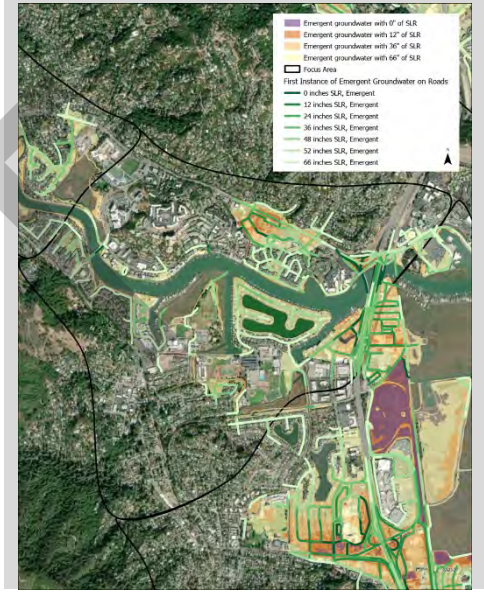
The site includes:

- 1 hospital
- 9 schools
- 1 commercial
- 1 police station
- 2 fire stations
- 1 municipal
- Highway 101
- 32 bus stops, including local and Golden Gate Transit (GGT)
- 1 SMART station
- 2 hub, park, and ride areas

Permanent Inundation Exposure | **Temporary Flood Exposure** | **Groundwater Rise Exposure**

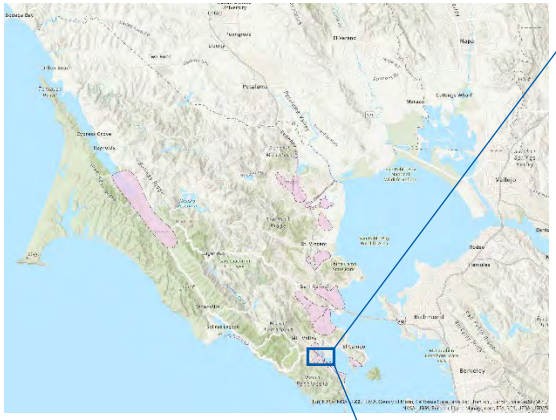


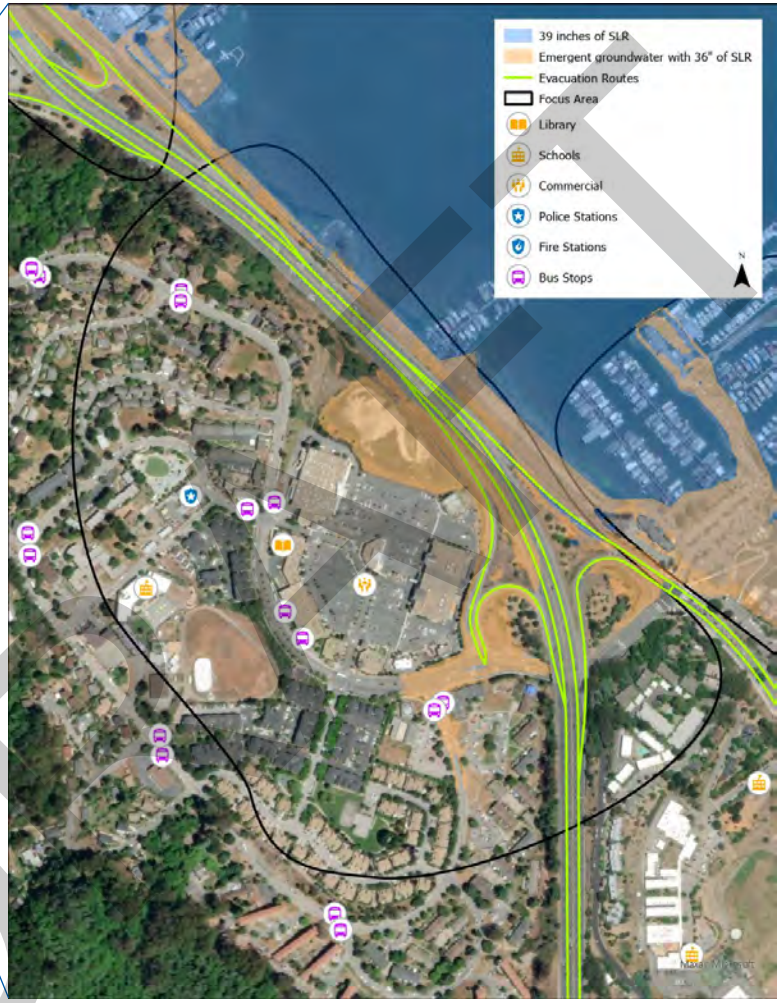




Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Larkspur (Hospital)	39 in.	12 in	52 in	In FEMA 100 yr Floodplain	10 in.	3	2.5	21% - 36% low income

3.1.9 Marin City Focus Area

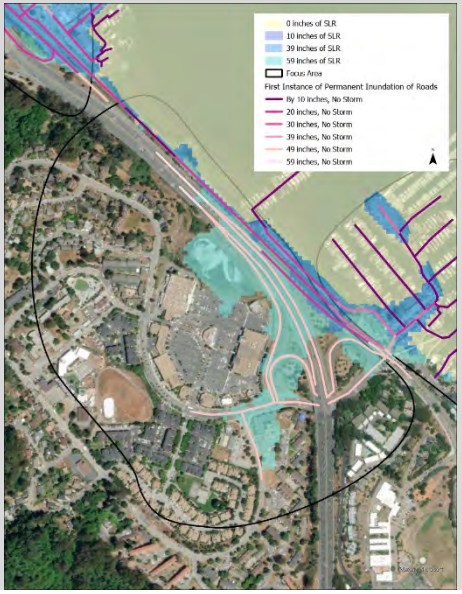




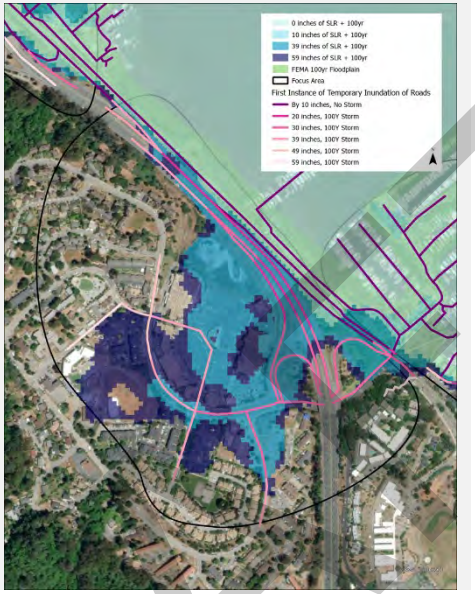
This site includes:

- Highway 101
- 10 bus stops including local and Golden Gate Transit (GGT)
- 1 library
- 1 school
- 1 police station
- 1 commercial shopping center
- 1 ingress/egress route

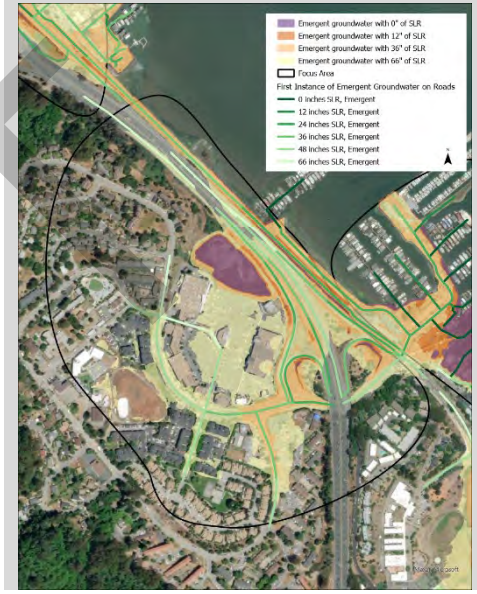
Permanent Inundation Exposure



Temporary Flood Exposure

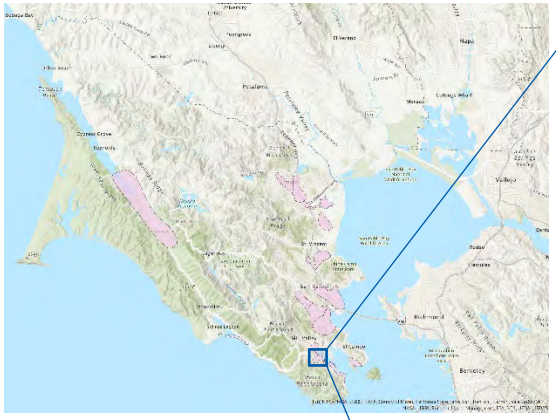


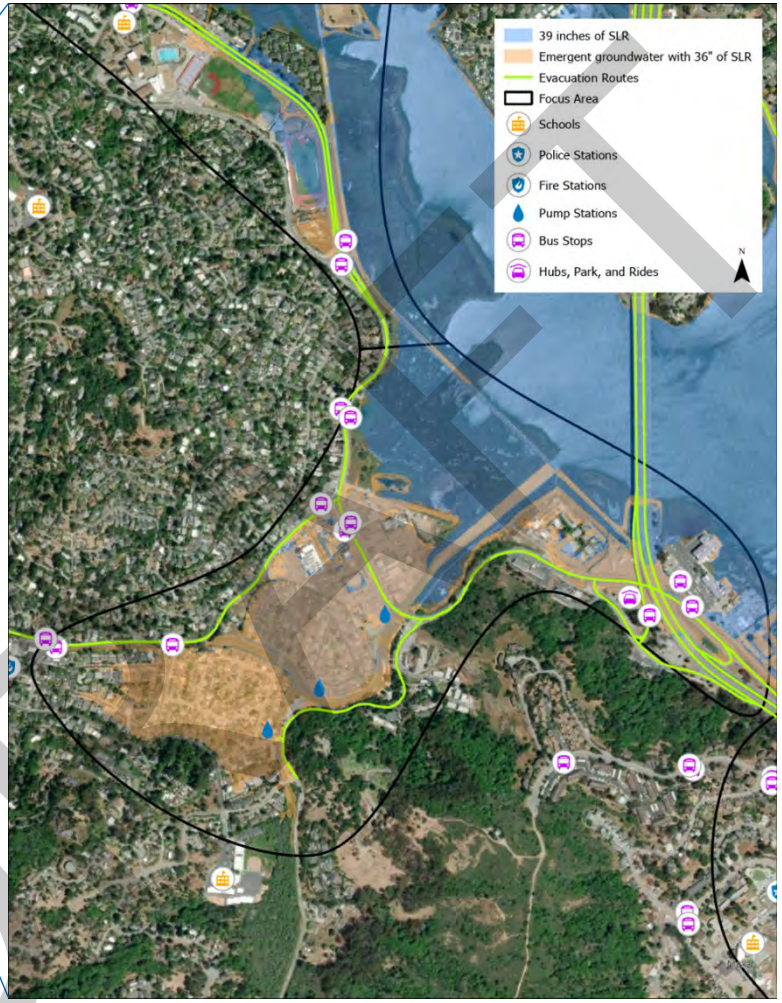
Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Marin City	20 in	present day	12 in	In FEMA 100 yr Floodplain	present day	3	2.7	Highest MTC Equity Priority Area >66% Low Income 10% - 20% Zero Vehicle Households

3.1.10 Mill Valley – Manzanita / Tam Junction Focus Area

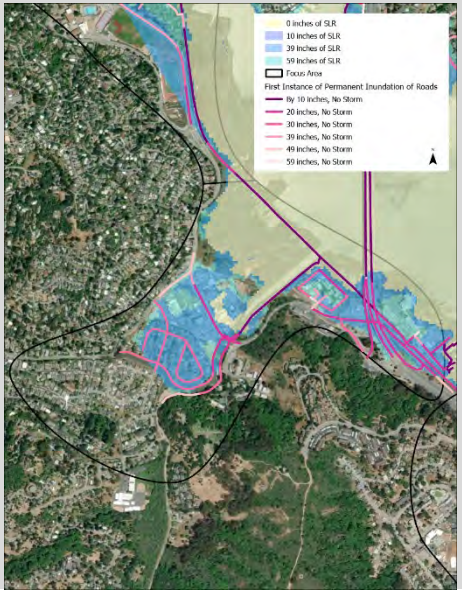


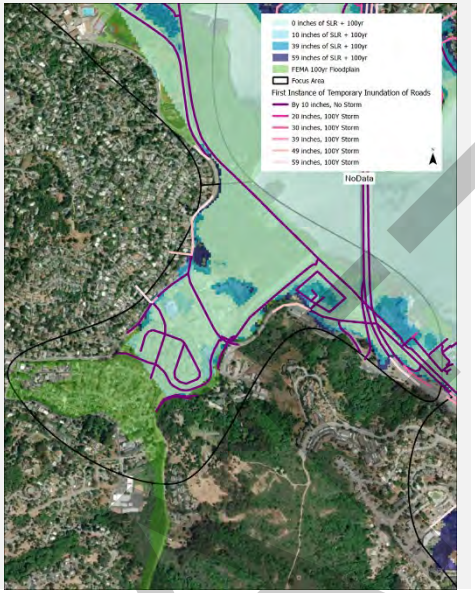


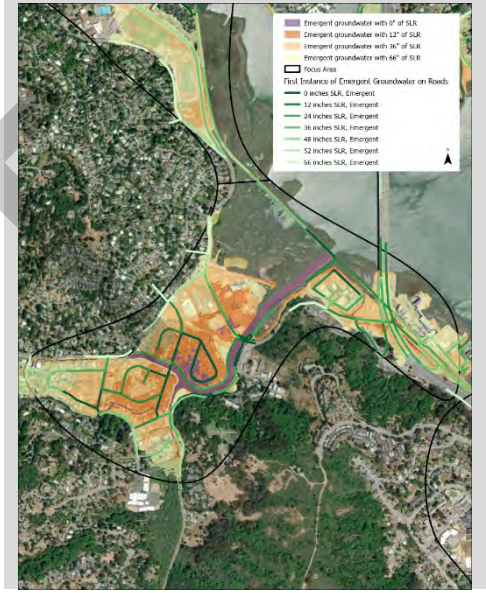
This site includes:

- 3 pump stations
- 14 bus stops, including local and Golden Gate Transit (GGT)
- 1 hub, park, and ride area
- 1 ingress/egress route

Permanent Inundation Exposure	Temporary Flood Exposure	Groundwater Rise Exposure

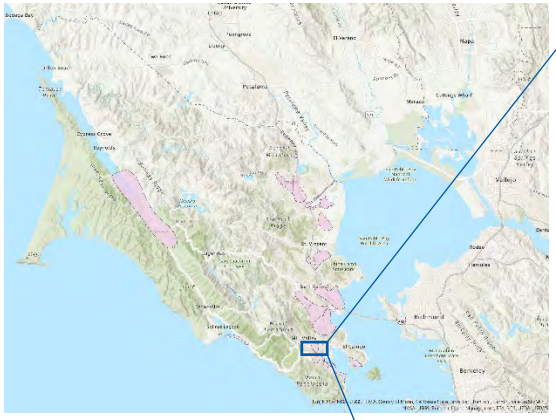






Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Mill Valley - Manzanita / Tam Valley	By 10 in	present day	present day	In FEMA 100 yr Floodplain	present day	3	3.3	No

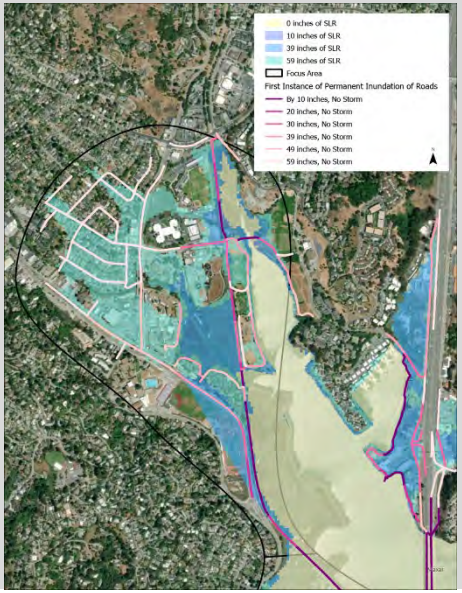
3.1.11 Mill Valley – Miller Ave Focus Area

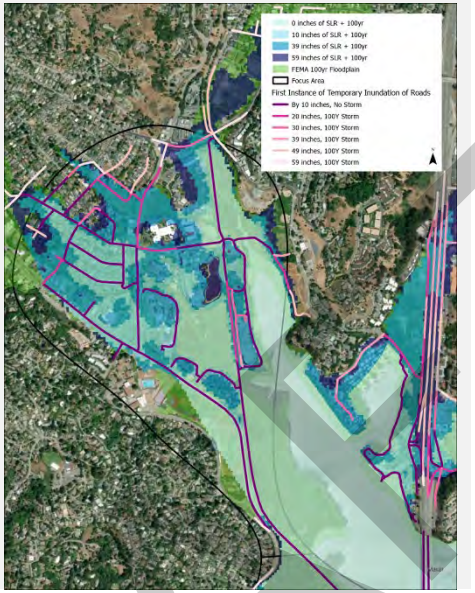


This site includes:

- 18 bus stops, including local and Golden Gate Transit (GGT)
- 2 pump stations
- 1 wastewater treatment plant
- 1 power substation
- 2 schools

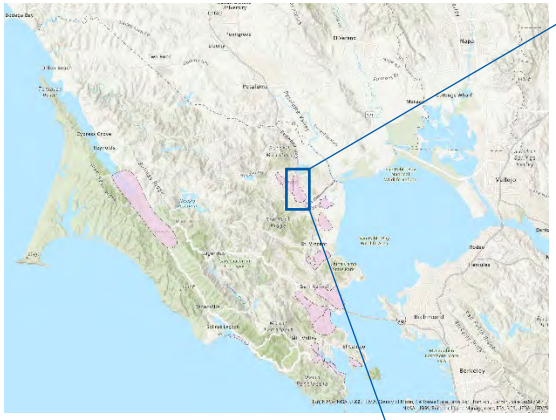
Permanent Inundation Exposure | **Temporary Flood Exposure** | **Groundwater Rise Exposure**

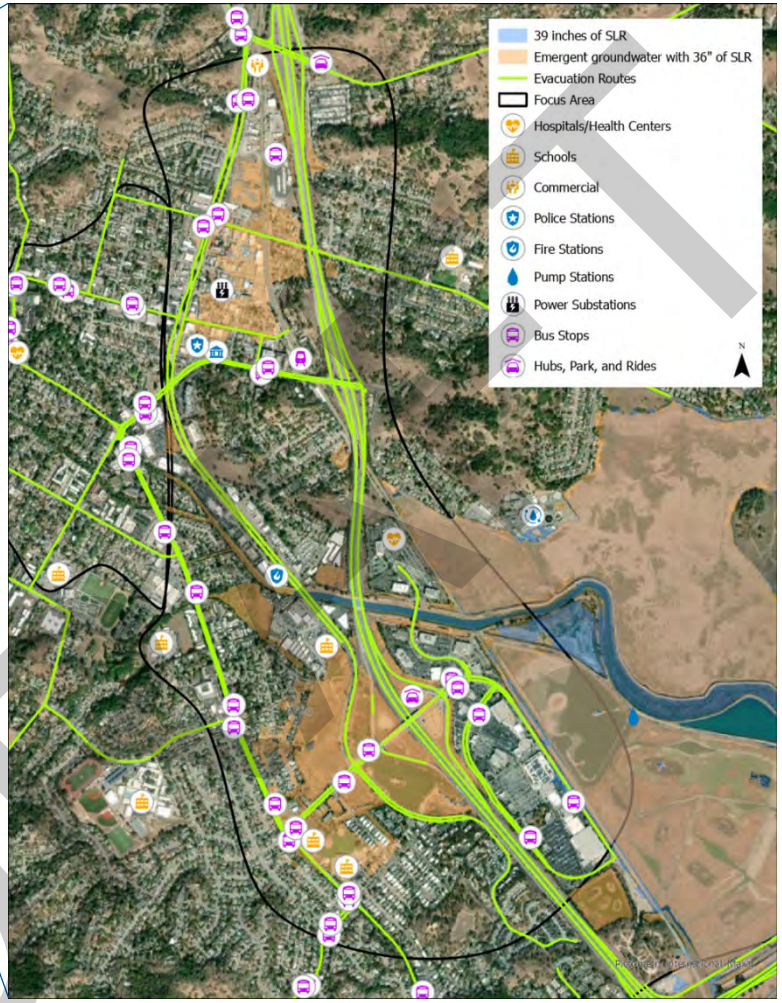




Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Mill Valley - Miller Ave	By 10 in	present day	present day	In FEMA 100 yr Floodplain	present day	3	3.3	10% - 20% Zero Vehicle Households

3.1.12 Novato - Downtown Focus Area

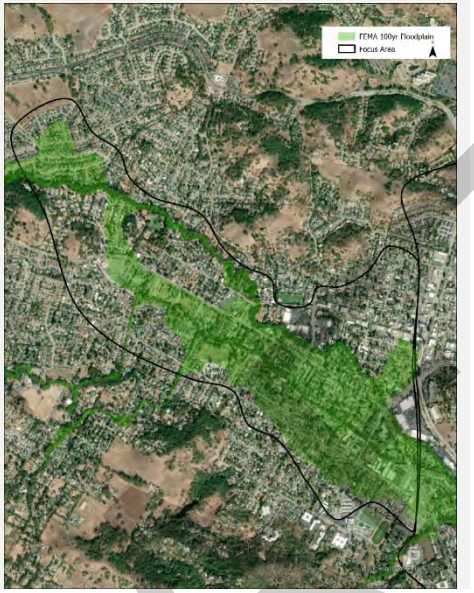


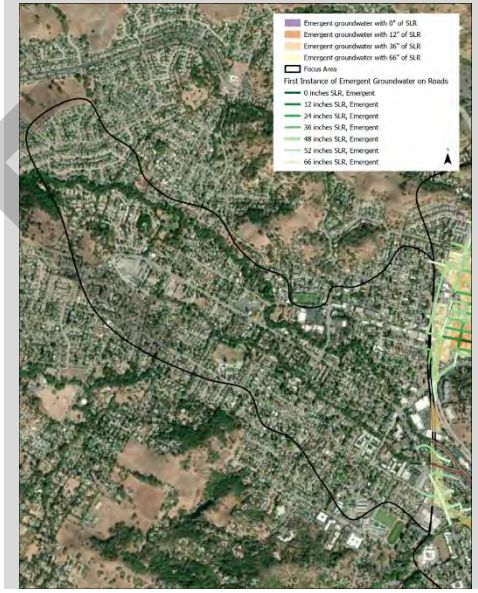


The site includes:

- 1 library
- 1 hospital/health center
- 6 schools
- 27 bus stops

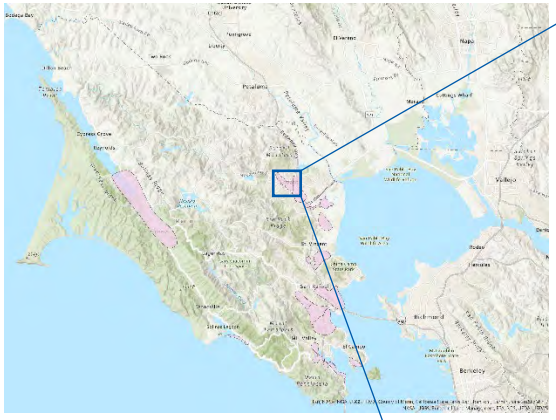
Permanent Inundation Exposure | **Temporary Flood Exposure** | **Groundwater Rise Exposure**

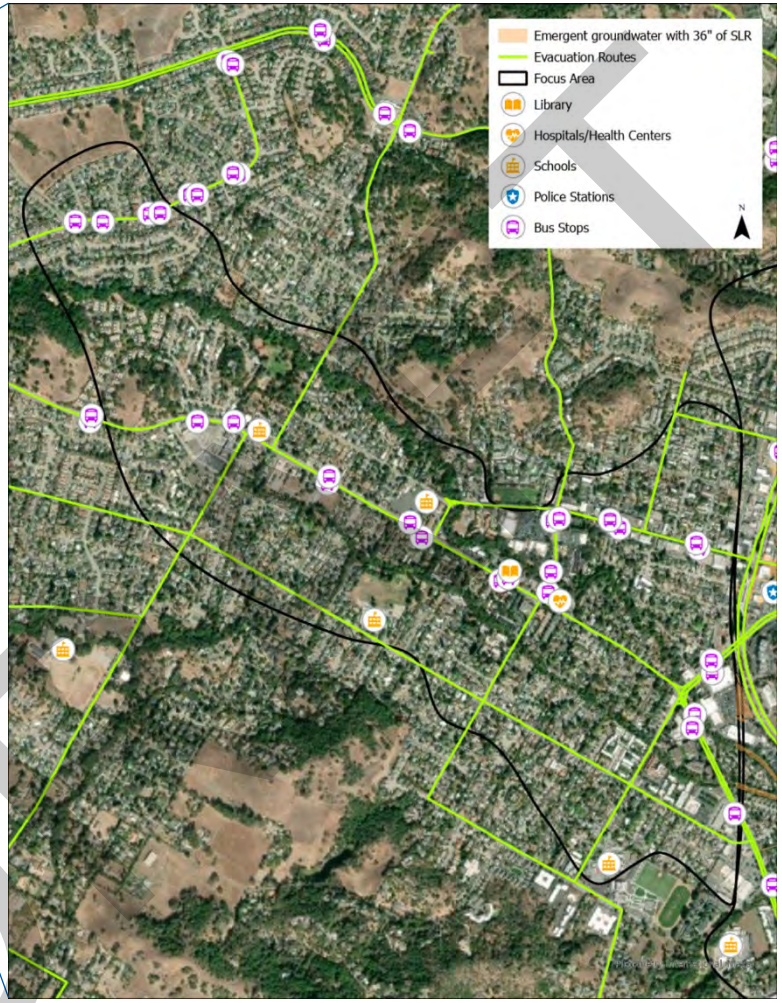




Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Novato - Downtown	not impacted	not impacted	not impacted	In FEMA 100 yr Floodplain	not impacted	1	0.7	37% - 66% Low Income >21% Zero Vehicle Households

3.1.13 Novato – West Focus Area

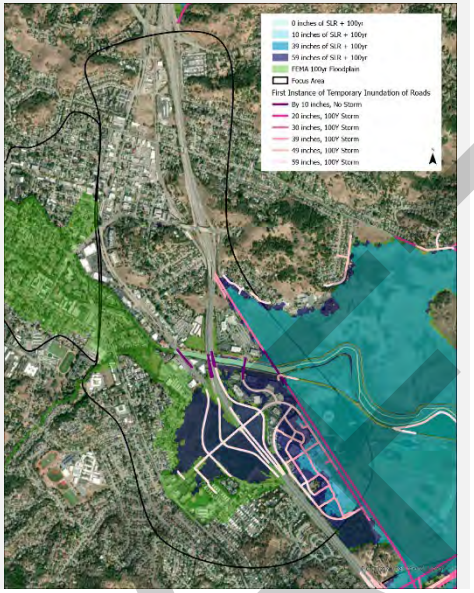


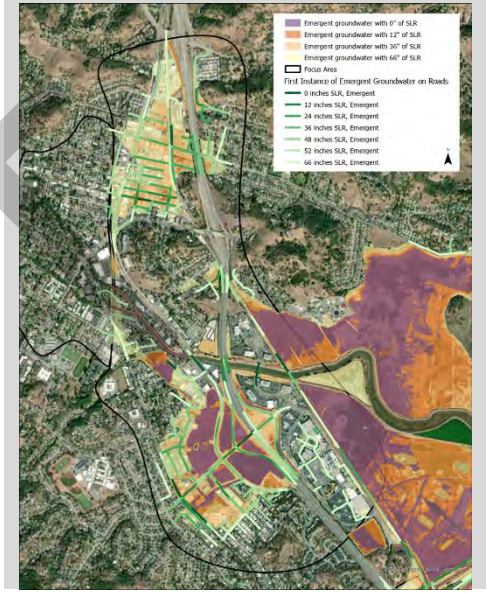


The site includes:

- 40 bus stops, including local and Golden Gate Transit (GGT)
- 1 hospital/health center
- 4 schools
- 1 power substation
- 1 fire station
- 1 police station
- 1 municipal
- 1 commercial
- 1 park, ride, and hub area
- 1 SMART station
- 1 ingress/egress route

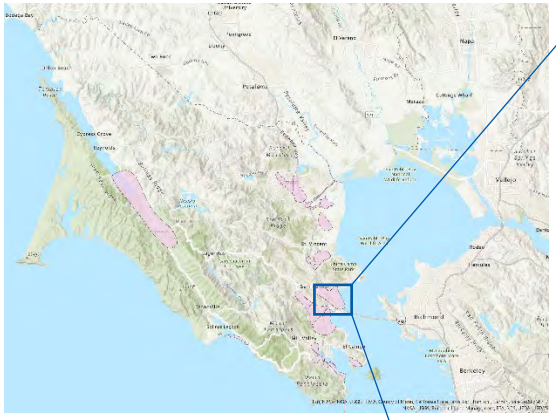
Permanent Inundation Exposure	Temporary Flood Exposure	Groundwater Rise Exposure

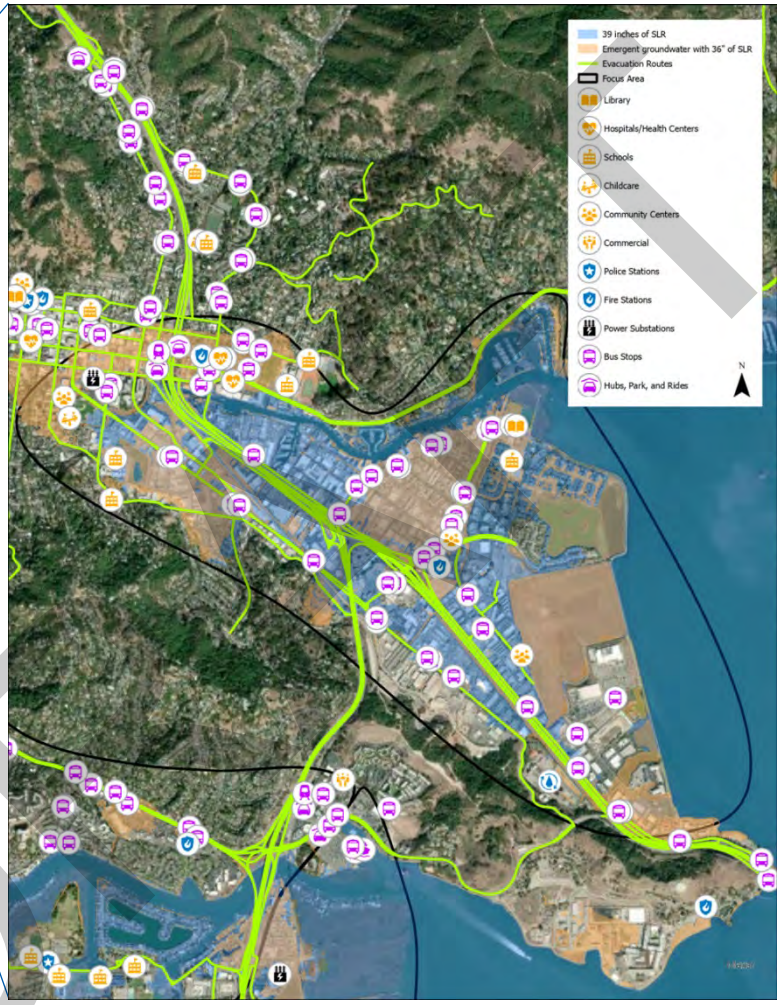




Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Novato - West	**By 10 in**	**present day**	24 in.	In FEMA 100 yr Floodplain	20 in.	3	3.2	21% - 36% Low Income >21% Zero Vehicle Households

3.1.14 San Rafael – Canal Neighborhood Focus Area

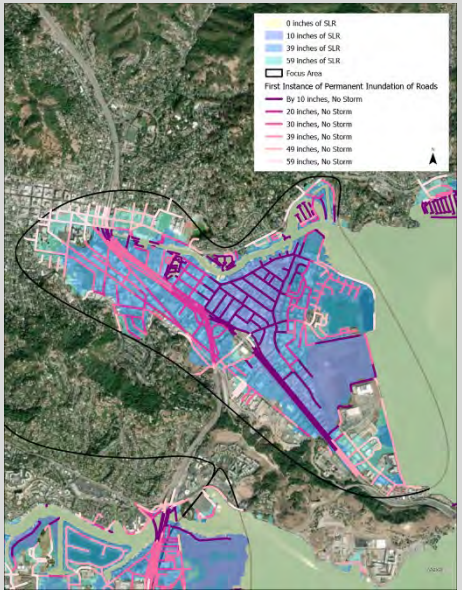




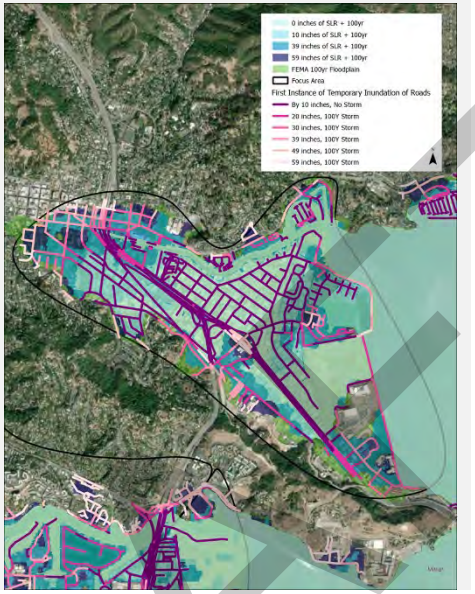
This site includes:

- Highway 101 and Highway 580
- Richmond-San Rafael Bridge is less than a mile away from the southern end of focus area.
- 71 bus stops, including local and Golden Gate Transit (GGT)
- 1 SMART station
- 4 hub and park locations
-

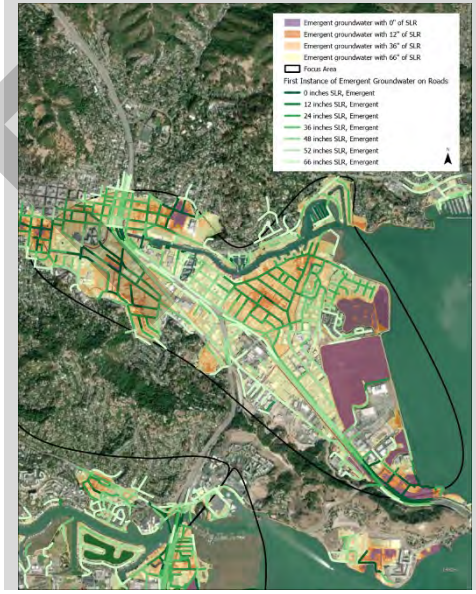
Permanent Inundation Exposure



Temporary Flood Exposure

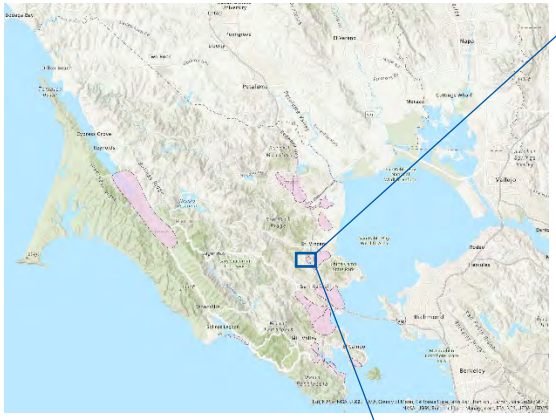


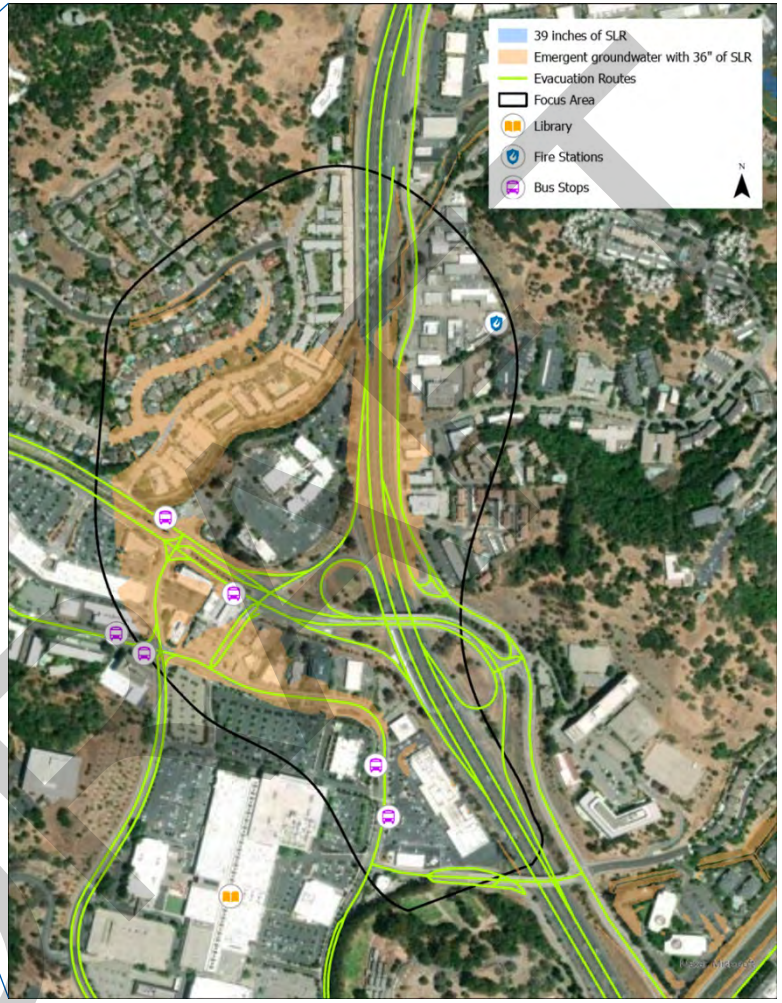
Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
San Rafael - Canal Neighborhood	**By 10 in**	**present day**	12 in	In FEMA 100 yr Floodplain	**present day**	3	3.3	**Highest MTC Equity Priority Area >66% Low Income >21% Zero Vehicle Households**

3.1.15 San Rafael North Focus Area

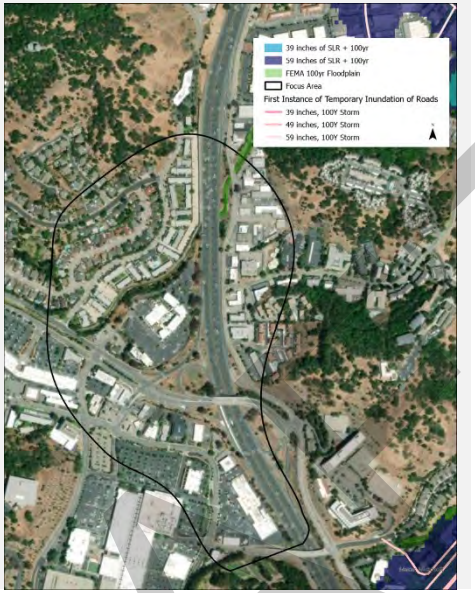


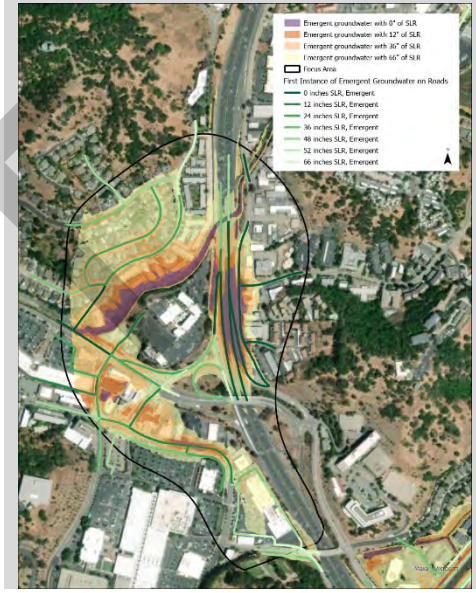


The site includes:

- Highway 101
- 1 fire station
- 6 bus stops, including local and Golden Gate Transit (GGT)

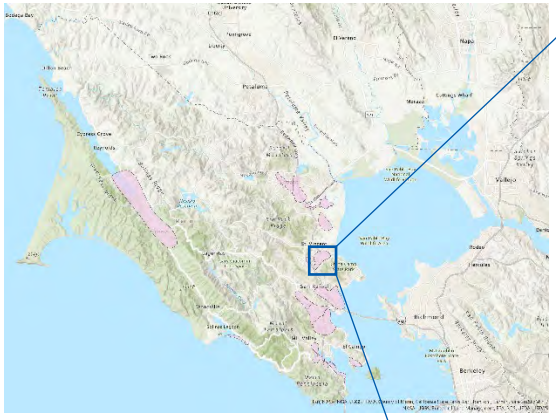
Permanent Inundation Exposure	Temporary Flood Exposure	Groundwater Rise Exposure

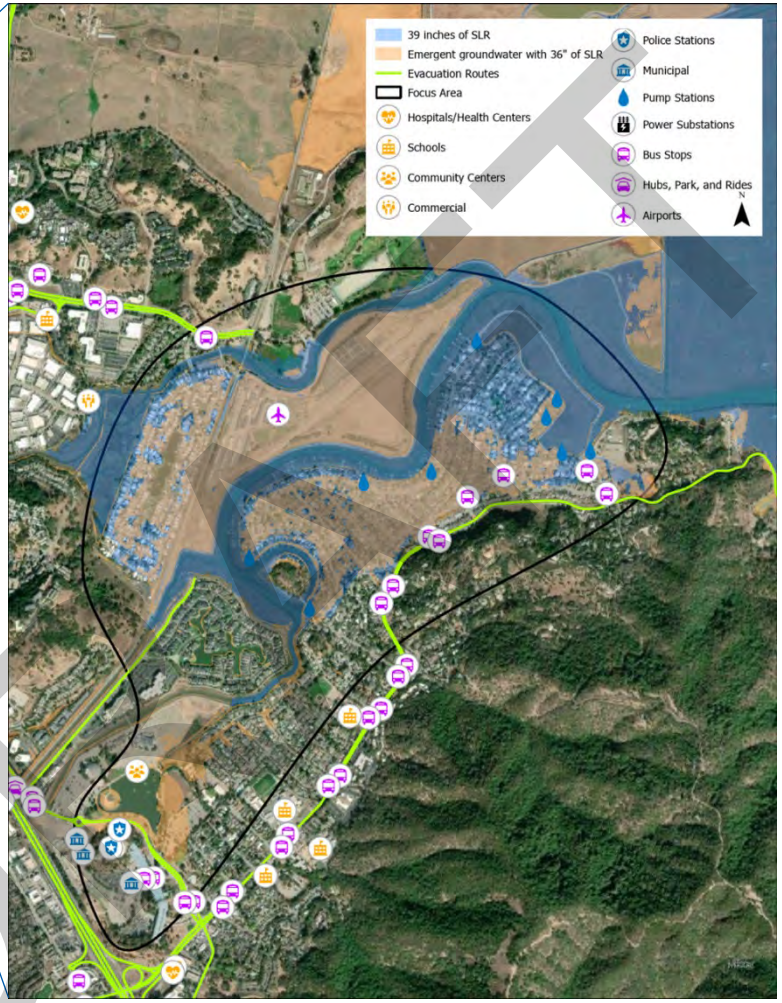




Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
San Rafael - North	not impacted	present day	present day	In FEMA 100 yr Floodplain	not impacted	2	2.0	**High MTC Equity Priority Area 37% - 65% Low Income >21% Zero Vehicle Households**

3.1.16 Santa Venetia Focus Area

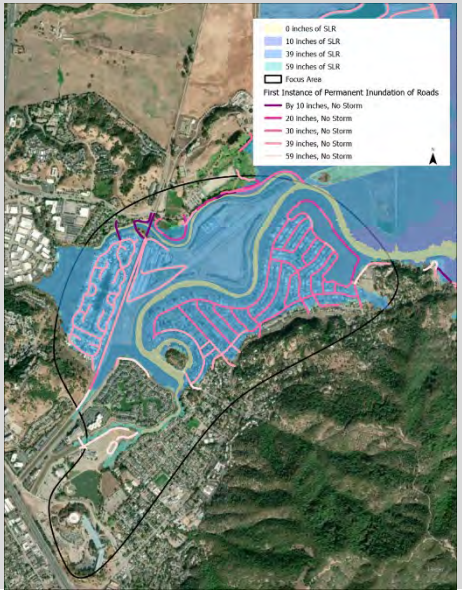


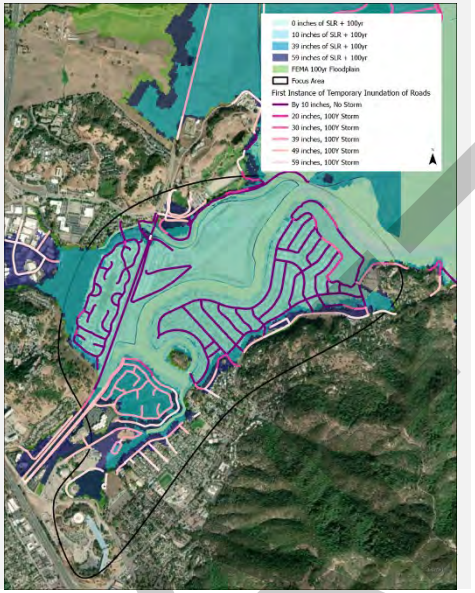


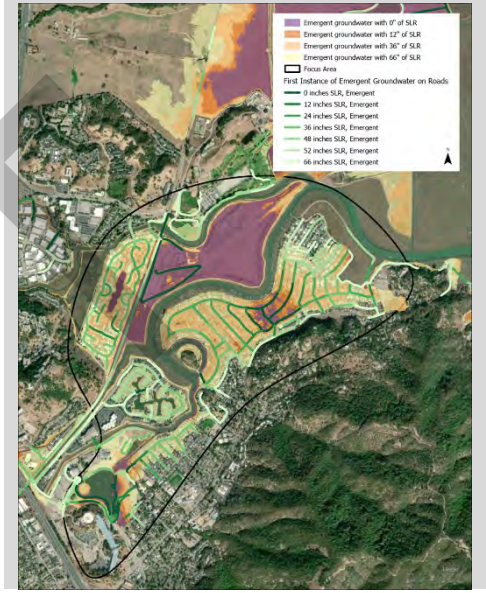
The site includes:

- 13 bus stops
- 1 airport
- 2 police stations
- 9 pump stations
- 1 ingress/egress route

Permanent Inundation Exposure	Temporary Flood Exposure	Groundwater Rise Exposure

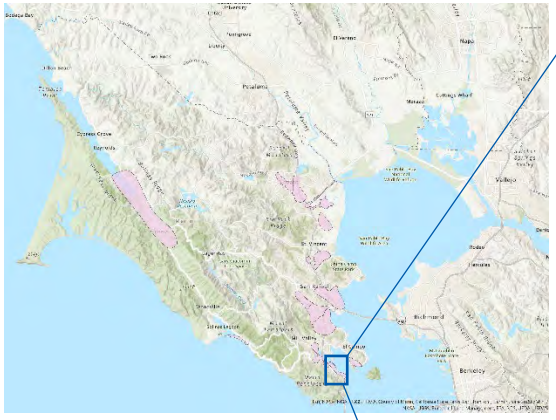






Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Santa Venita	30 in.	present day	12 in.	In FEMA 100 yr Floodplain	10 in.	3	2.9	12% - 20% Low Income 10% - 20% Zero Vehicle Households

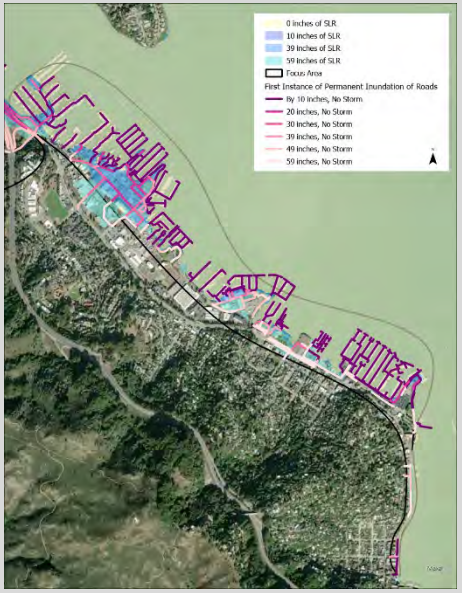
3.1.17 Sausalito Focus Area



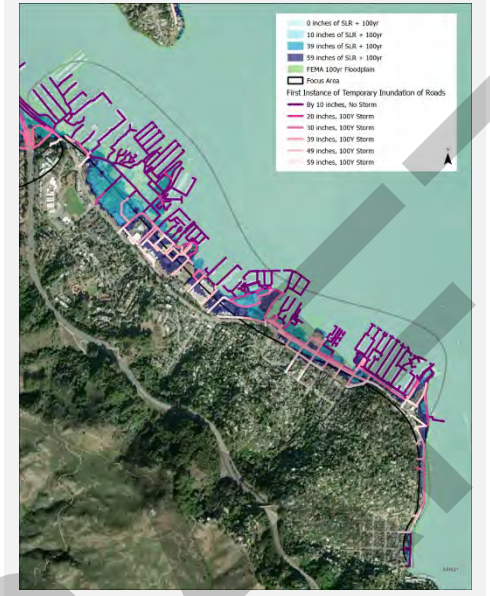
This site includes:

- 16 bus stops
- 1 park and ride hub area
- 3 arterials, Bridgeway, Richardson Street, and San Carlos Avenue, 7 collectors, and a network of local streets
- 1 ingress/egress route

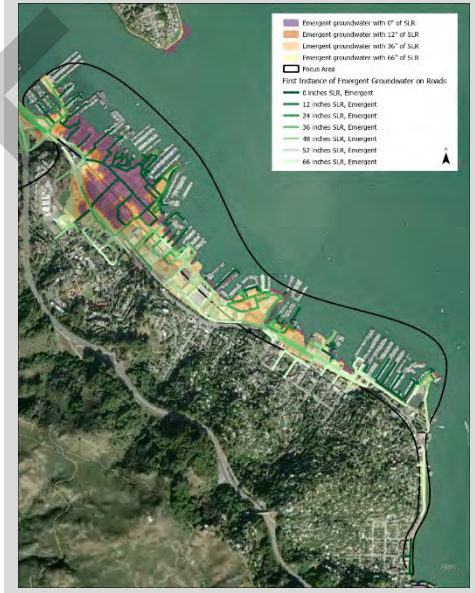
(A) Permanent Inundation Exposure



(B) Temporary Flood Exposure

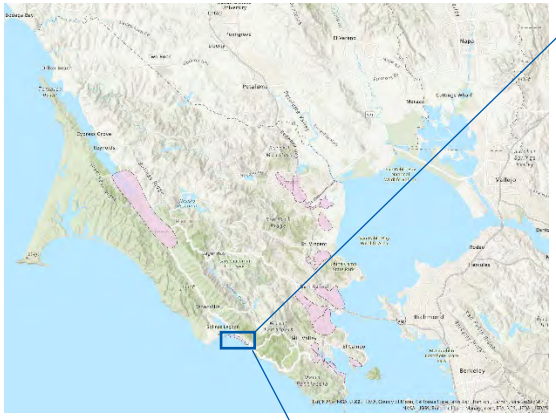


(C) Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Sausalito	30 in.	present day	present day	In FEMA 100 yr Floodplain	present day	3	3.1	No

3.1.18 Stinson Beach Focus Area

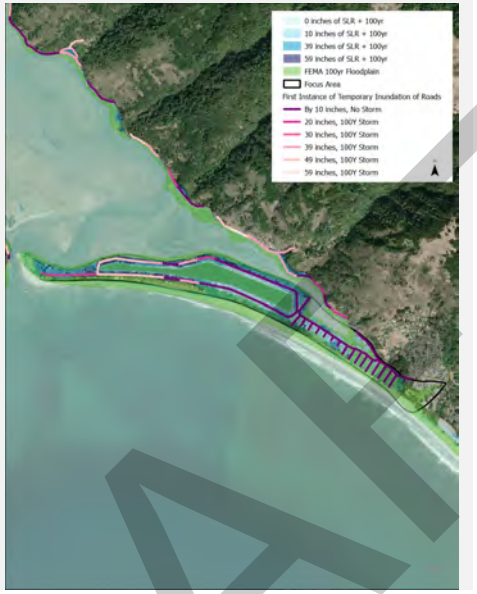


This site includes:

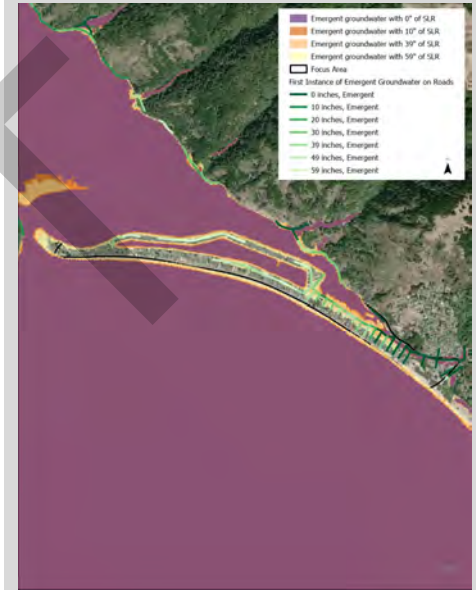
- 3 bus stops
- 1 fire station
- 1 library
- 1 ingress/egress route

Permanent Inundation Exposure

Temporary Flood Exposure

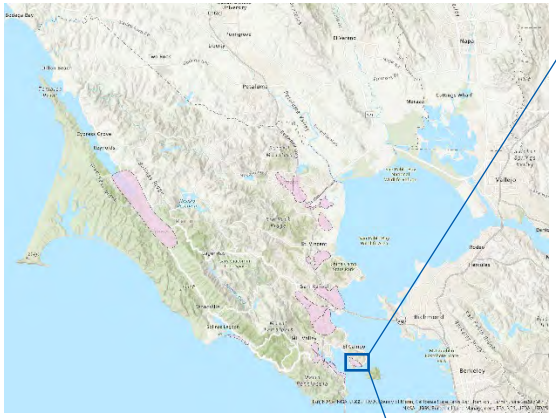


Groundwater Rise Exposure



Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Stinson Beach	By 10 in	present day	36 in	In FEMA 100 yr Floodplain	10 in.	3	3.2	37% - 66% Low Income

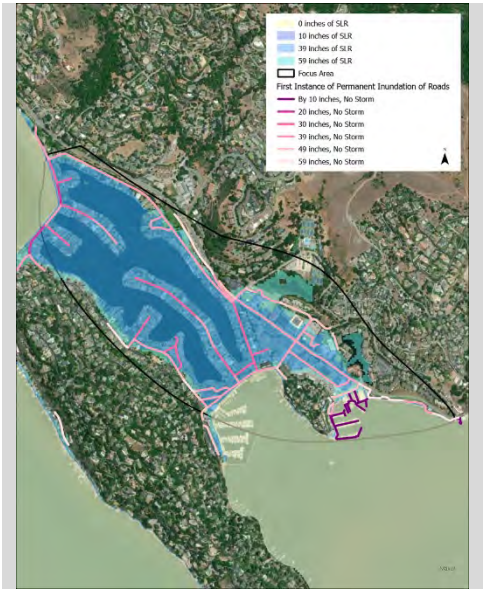
3.1.19 Tiburon Focus Area

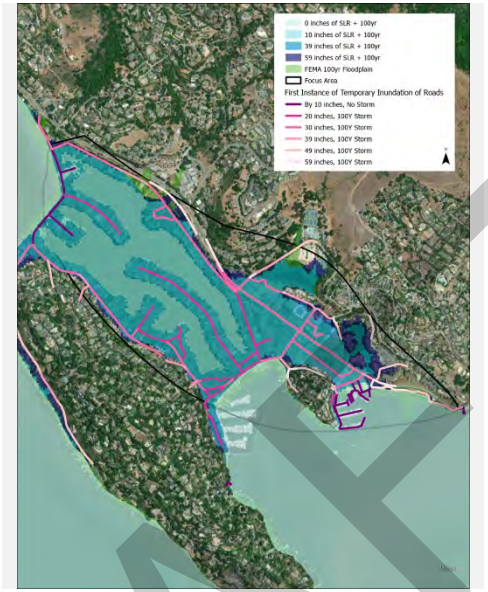


The site includes:

- 8 bus stops
- 2 municipal
- 1 fire station
- 1 police station
- 1 hub, park, and ride area
- 1 ferry stop
- 1 ingress/egress route

Permanent Inundation Exposure	Temporary Flood Exposure	Groundwater Rise Exposure





Focus Area	Permanent Physical Exposure - SLR First Inundation	Physical Exposure - GW Shallow (surface - 3 ft below surface)	PhysicalExposure - GW Emergent	Temporary Physical Risk - 100 yr floodplain	Temporary Physical Risk - CoSMoS 100 yr	Physical Risk - Number of Hazards	Physical Risk - Average	Equity Prioirty Community
Tiburon	30 in.	present day	present day	In FEMA 100 yr Floodplain	20 in.	3	2.8	No

4. Next Steps

The process to designate the focus areas is an important step in refining and reconfirming locations across the entirety of Marin County that are vulnerable to coastal flood exposure, including vulnerability of permanent inundation due to sea level rise, temporary flooding from current day high tides, pluvial and fluvial flood exposure, and sea level rise-driven groundwater rise.

Through the creation of the GIS geodatabases that provide asset-level information on flood exposure, as well as the Web Map, updated climate hazard exposure information is now available to TAM, the TAC and City/County of Marin for their own adaptation efforts. In the focus area profile sheets, the consultant team provides initial overview of each of the focus areas. The associated Focus Area Hazard Matrix excel file provides summary information for each focus are. There are any number of questions that can be asked of the exposure analysis. The focus area provide one way to organize this information and bound it within an identified geography.

These focus areas will now drive discussion for the next phase of the project, Task 4, and will support TAM and the TAC to begin to map out adaptation opportunities across the Marin County.

5. Appendix A: Hazard Matrix

(See associated excel file: Focus Area Hazard Matrix – TAC Review.xlsx)

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Transportation Authority of Marin

DATE: September 26, 2024

TO: Transportation Authority of Marin Board of Commissioners

FROM: Anne Richman, Executive Director
Scott McDonald, Principal Transportation Planner

SUBJECT: Redwood Bike Share Pilot Program Update (Discussion), Agenda Item No. 9

RECOMMENDATION

No action is needed. This is a discussion item only.

BACKGROUND

In 2018, TAM and the Sonoma County Transportation Authority (SCTA) signed a cooperative agreement for the implementation of a bike share pilot program after receiving an $826,000 grant from the Metropolitan Transportation Commission (MTC). The funding is to provide an opportunity to connect bike share with the Sonoma-Marin Area Rail Transit (SMART) corridor in Sonoma and Marin counties with SCTA being the lead fiscal and contract agent. In 2020, SCTA approved a contract with former contractor Bolt Mobility but the company ultimately discontinued its operations due to financial challenges during the Covid pandemic.

In 2023, TAM and SCTA initiated a new contractor procurement process and selected the contractor Drop Mobility to operate the bike share program, and in December 2023, SCTA approved a contract for a 2-year pilot program using $820,000 out of the $826,000 grant from MTC, with the remaining $6,000 of the MTC grant amount retained for SCTA administrative costs associated with the program.

The program has been developed over the past nine months working closely with partners and properties where bike share hubs are planned, including the City of Santa Rosa, City of Rohnert Park, City of Cotati, City of Petaluma, City of Novato, City of San Rafael, City of Larkspur, Golden Gate Ferry, and SMART. The pilot program includes 300 shared pedal assist e-bicycles (Class 1 e-bikes) and bicycles are required to be picked up and dropped off at hubs. Wayfinding signs will be included and Drop Mobility will operate the system through swapping out batteries and redistributing bicycles as needed. This system has a target launch of fall 2024 and the installation of hubs may be phased in over the coming weeks.

Bikeshare provides an active transportation service that has shown to replace vehicle trips, thereby reducing vehicles miles traveled (VMT). The bikeshare pilot will also provide first and last mile connections to support transit, further increasing the potential to shift trips away from motor vehicles.

DISCUSSION

Through a crowd sourced process utilizing public feedback, the system name ‘Redwood Bike Share’ was selected and branding on bicycles and materials is currently being finalized. Images of the Redwood Bike Share bicycles are shown in the presentation (Attachment A). The Redwood Bike Share branding for the program, including the bikes, signage, app, and website, was developed through stakeholder input.

The Drop Mobility team, along with TAM staff, is working closely with local agencies and private property owners to confirm site planning for bicycle parking hubs, as well as establishing necessary agreements and encroachment permits.

TAM staff has shared information with local agencies throughout the development of the program. Staff also presented to the TAM Funding, Programs & Legislation Executive Committee earlier this month to share progress being made in advance of the program launch.

FISCAL IMPACTS

The MTC Bike Share Grant provides $826,000 to SCTA and TAM for the implementation of a Bike Share Pilot Program, with STCA designated as the fiscal agent. A local match of 11.47% or $94,700 is required and can be covered through in-kind staff time divided between SCTA and TAM. TAM and SCTA approved a Cooperative Agreement in July 2018, establishing a shared funding and project management arrangement of the grant award from MTC. This agreement is still in place and applies to the new pilot program effort.

NEXT STEPS

TAM and SCTA staff will work with Drop Mobility on program launch activities for the pilot program. This program is anticipated to launch this fall. Staff will continue to provide updates as the program progresses.

ATTACHMENTS

Attachment A – PPT Presentation

Redwood Bike Share Pilot Program

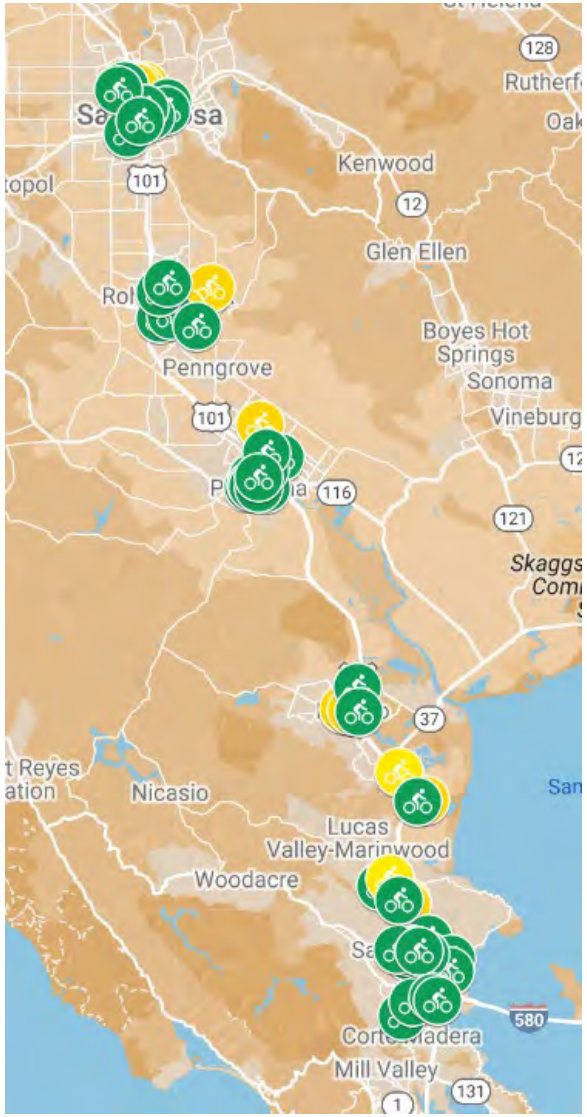
Transportation Authority of Marin

Board of Commissioners

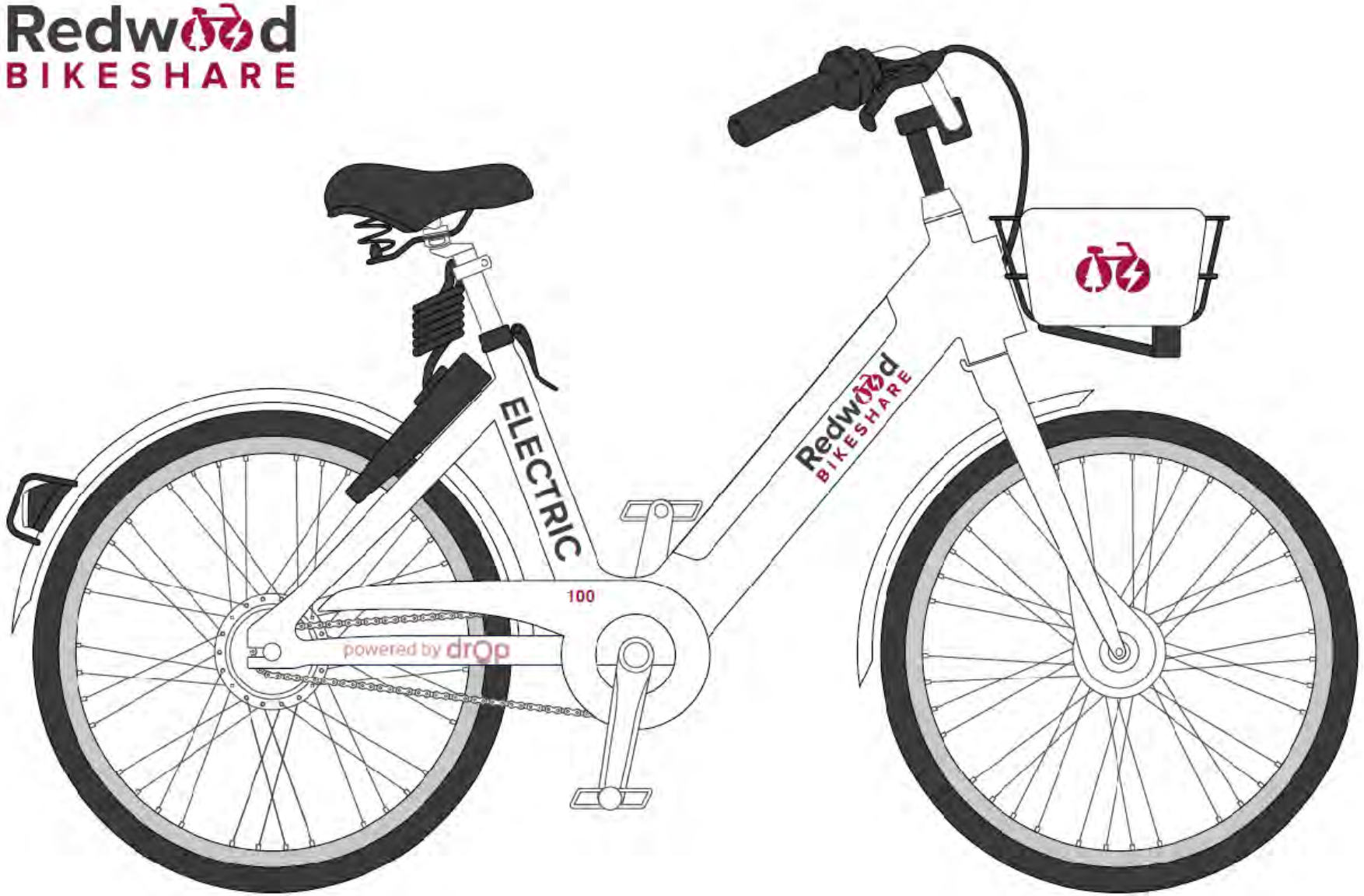
September 26, 2024

Program Background & Overview

- Grant from MTC for $826,000 for bike share program connecting to SMART in Marin and Sonoma counties
- Joint TAM and Sonoma (SCTA) oversight – with SCTA as funding/contract administrator for grant
- TAM, SCTA, SMART, GGBHTD, Santa Rosa, Rohnert Park, Cotati, Petaluma, Novato, San Rafael, Larkspur
- Contract with Drop Mobility two-year pilot program with 300 electric bicycles in 7 cities along the SMART Corridor
- Approximately 60 hubs are planned where bicycles will be picked up and dropped off
- System includes Class 1 Pedal Assist e-bikes



Redwood Bike Share Branding

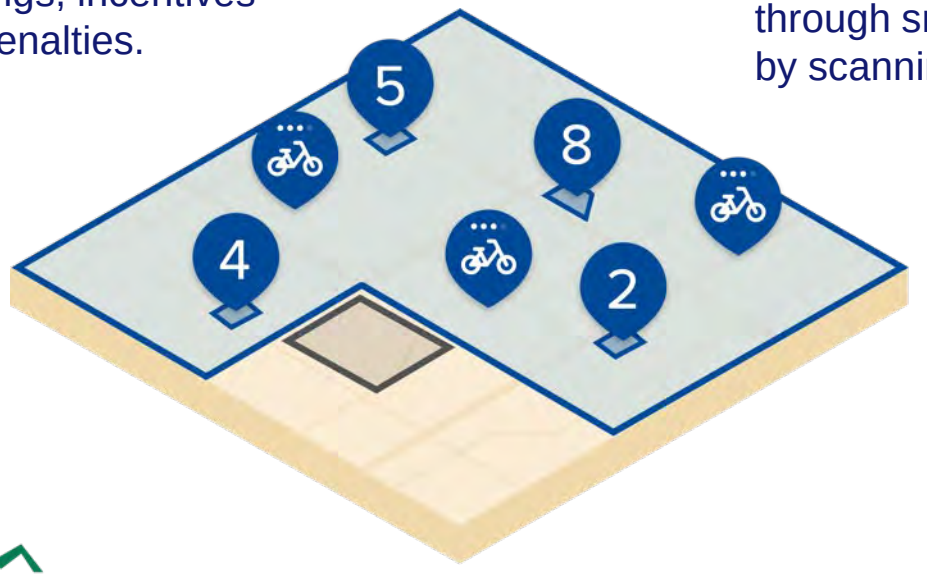


Hub Based Operating Model

Mobility “hubs” or “stations” for parking, tethering and picking up e-bikes increase **reliability** of finding a vehicle and organization.

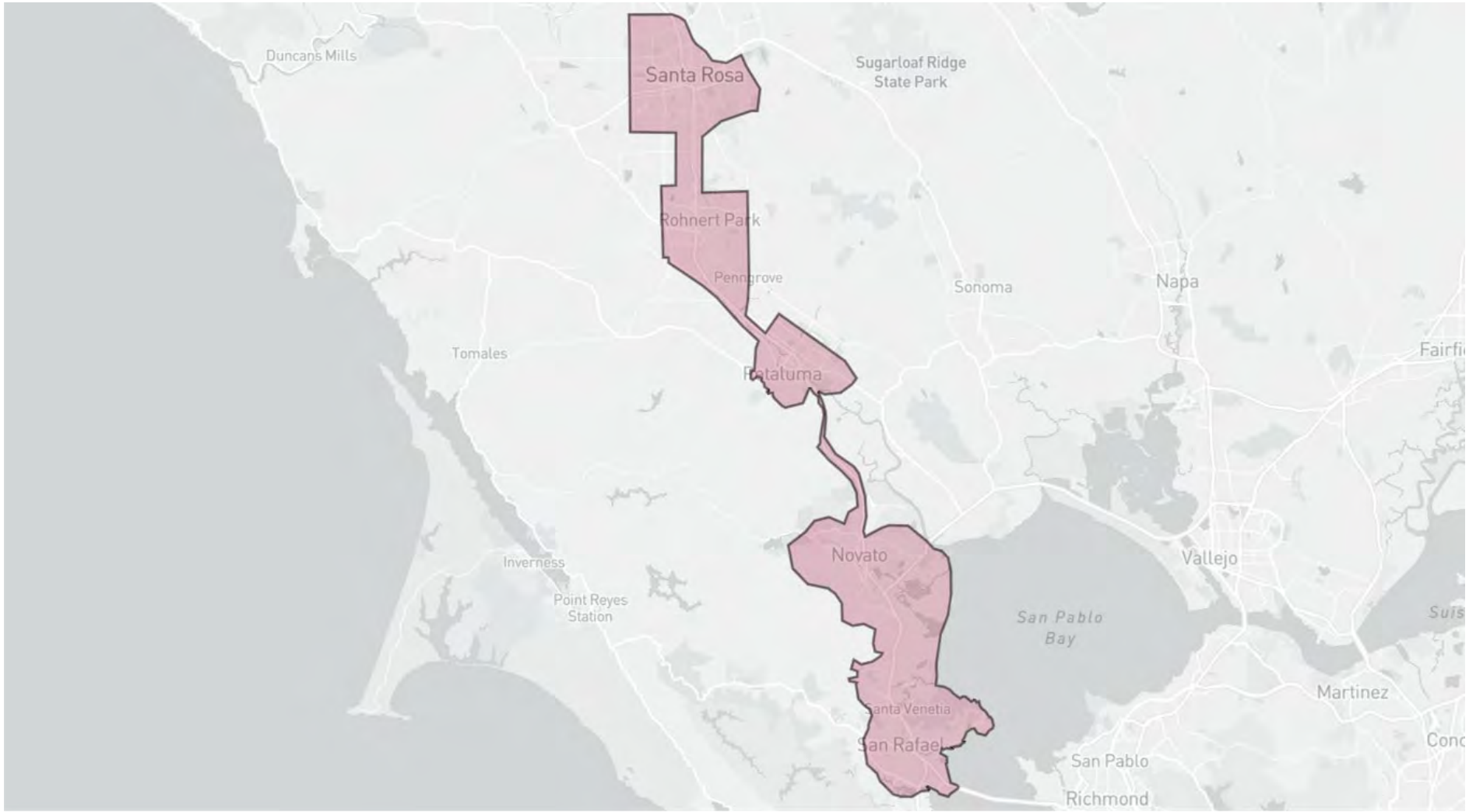
Coverage area is clearly defined and communicated to users on their apps. Enforced through warnings, incentives and penalties.

GPS tracked vehicles that can be unlocked through smartphones by scanning a QR code.

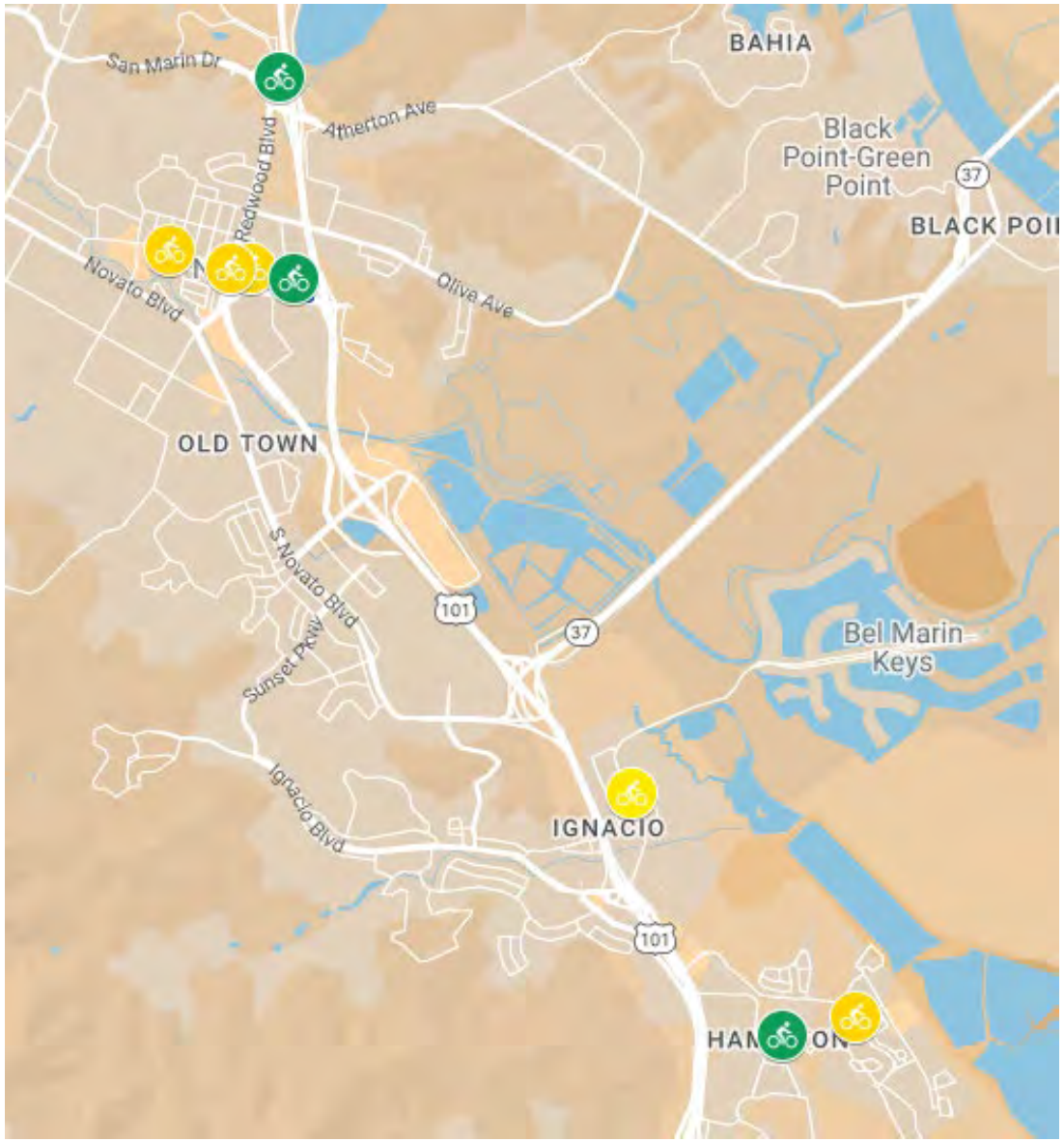


Sample Bike Share Hub

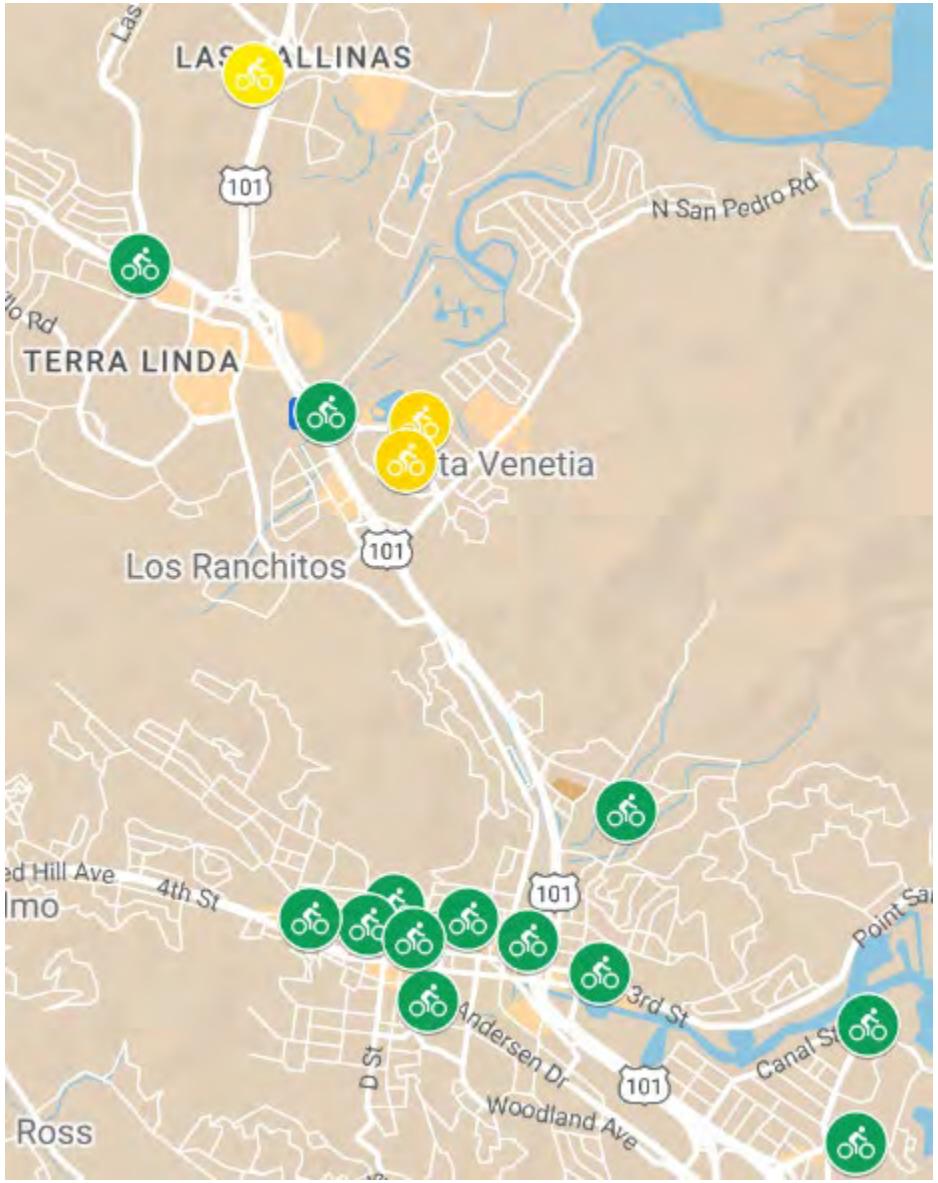
System Area Map



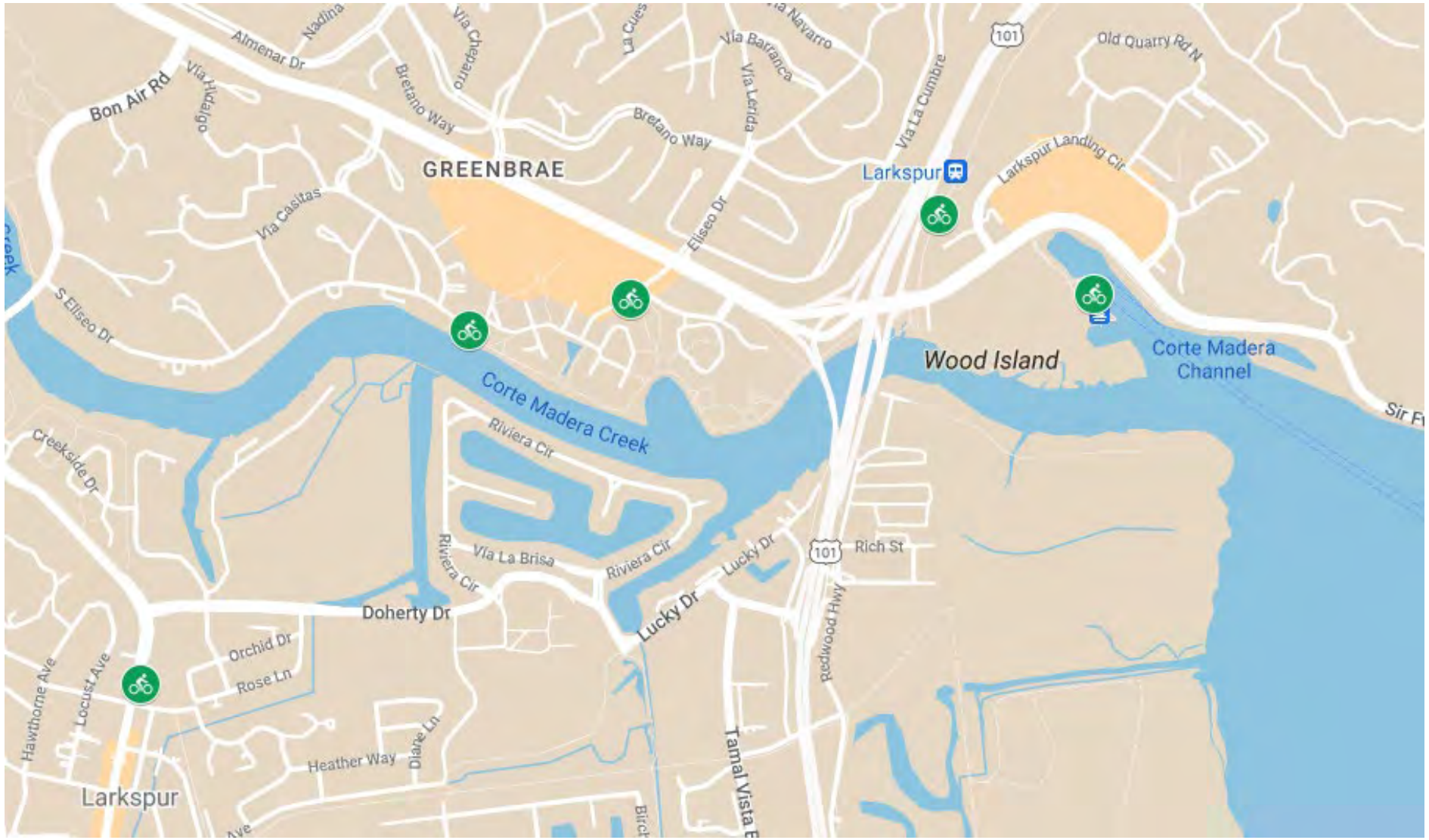
Novato – Hub Site Map



San Rafael – Hub Site Map



Larkspur – Hub Site Map



Pricing Model

Pay As You Go

$0.25/ minute

$1 to unlock

Prorated to the minute

No commitment

Monthly

$20/ month

No unlock fee

30 minutes of free ride time per day (can be multiple trips)

$0.25 per min after

Equity Membership

Details

Memberships include:

- $5 per month
- 30 minutes of free ride time per day (can be multiple trips)
- $0.25 per minute after free time
- No unlock fee (even after free time is used up)

Eligibility

An equity membership is available to anyone currently enrolled in one of the following programs:

- Calfresh (SNAP Benefits)
- Medicaid
- Other - specify for approval

Note: Please redact any sensitive information from any supporting documentation you submit to us.

How to enroll

1. Download the Redwood Bikeshare app and enter your phone number, name, and email address.

2. Tap on the "?" icon on the bottom of the screen to contact customer support.

3. In the form provided, enter 'Equity Monthly Membership' in the subject line.

4. Select "Add Image" and take a photo of your supporting documentation.

5. Hit submit. You should receive confirmation of your submission within 24 hours.

If you have any questions or concerns, please email

Data & Reporting Overview

Drop Mobility will provide data reporting that includes the following:

- Trips per day (total)
- Trips per available Bike per Day
- Trip distance in miles
- Trip duration
- Number of Customer Service Interactions per trip
- Number of Repairs Resolved
- Inspections performed on vehicles and infrastructure
- Fines/fees collected
- Number of Rebalanced vehicles per day per zone
- Revenue per bike per day
- Farebox recovery
- Active riders
- Total members
- App downloads
- Equity passes
- Daily revenue (total)
- Average revenue per trip

Questions?

Thank you!