FUNDING, PROGRAMS & LEGISLATION EXECUTIVE COMMITTEE MEETING

MAY 11, 2026
2:00 P.M.

TAM CONFERENCE ROOM
900 FIFTH AVENUE, SUITE 100
SAN RAFAEL, CALIFORNIA

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

900 Fifth Avenue
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San Rafael
California 94901

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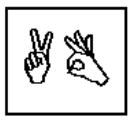
Before the meeting: Please email your comment to info@tam.ca.gov, no later than 5:00 p.m. the day before the meeting, to facilitate timely distribution to Committee members. Please include the agenda item number you are addressing and your name and address. Your comments will be forwarded to the Committee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

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

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 9:00 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 & Commissioner Comments (Discussion)

2. Executive Director's Report (Discussion)

3. 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 Committee, under the Brown Act, Committee members may not deliberate or take action on items not on the agenda and generally, may only listen.)

4. Approval of Meeting Minutes from April 13, 2026 (Action) – **Attachment**

5. Adopt Positions on 2026 State Legislative Bills (Action) – **Attachment**

6. Acceptance of the Safe Routes to Schools Program Evaluation & Summary Report (Action) – **Attachment**

7. Receive an Update on the TAM Sea Level Rise Climate Resilient Transportation Design Principles (Discussion) – **Attachment**

MEETING OF THE
TRANSPORTATION AUTHORITY OF MARIN
FUNDING, PROGRAMS & LEGISLATION
EXECUTIVE COMMITTEE

APRIL 13, 2026
2:00 PM

TAM CONFERENCE ROOM
900 FIFTH AVENUE, SUITE 100, SAN RAFAEL, CALIFORNIA, 94901

MEETING MINUTES

Members Present:	Brian Colbert, County of Marin Board of Supervisors Mary Sackett, County of Marin Board of Supervisors, Committee Chair Melissa Blaustein, Sausalito City Council Peter Mark, Belvedere City Council Urban Carmel, Mill Valley City Council
Members Absent:	None
Staff Members Present:	Anne Richman, Executive Director Audrey Veyssiere, Assistant Project Delivery Manager 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 Mikaela Hiatt, Senior Transportation Planner Molly Graham, Public Outreach Coordinator Ray Rodriguez, Assistant Project Delivery Manager Scott McDonald, Principal Transportation Planner

Chair Sackett called the meeting to order at 2:00 p.m. and Executive Assistant/Clerk of the Board Jennifer Doucette conducted roll call to confirm a quorum of the Funding, Programs and Legislation (FP&L) Executive Committee.

1. Chair's Report & Commissioner Comments (Discussion)

None.

2. Executive Director's Report (Discussion)

Executive Director (ED) Anne Richman reported on the Measure AA expenditure plan amendment adoption process; Marin Commutes survey and May in Motion spring promotion; Redwood Bikeshare membership benefit expansion; MASCOTS service launch; SMART Healdsburg Extension groundbreaking; Great Redwood Trail Master Plan approval; MTC's Plan Bay Area 2050+ adoption; and the California Transportation Foundation Awards Gala.

In response to Commissioner Carmel, staff explained that the North-South Greenway south of Larkspur does not consistently follow a dedicated rail right-of-way and may instead rely on city streets and pathways, making that segment subject to local jurisdictional decision-making. Staff also reported that

Caltrans' revised HOV hours appear to be functioning well, with limited public feedback and positive input from Golden Gate Transit, particularly regarding the earlier afternoon hours, and noted that Caltrans will continue to monitor travel speeds and traffic flow in both counties. Regarding the State Route 131 paving project anticipated for the summer, staff stated that no update was available and that staff would follow up.

In response to Commissioner Blaustein's inquiry regarding Redwood Bikeshare, staff offered to facilitate direct communication with Drop Mobility regarding further discussion of bikeshare in Southern Marin.

Chair Sackett reported on recent Redwood Bikeshare outreach efforts, including a county event, business membership information, and planned activities to encourage public familiarity with the system.

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

3. Open Time for Public Expression

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

4. Approval of Meeting Minutes from March 9, 2026 (Action)

Chair Sackett asked if any members of the public wished to speak and hearing none, closed public comment and asked for a motion.

Commissioner Blaustein moved to approve the March 9, 2026 meeting minutes. Commissioner Colbert seconded the motion, which passed unanimously.

5. One Bay Area Grant Cycle 4 (OBAG 4) (Action)

Director of Programming and Legislation David Chan presented this item, which recommends that the FP&L Executive Committee reviews the One Bay Area Grant Program Cycle 4 (OBAG 4) process and schedule, authorizes staff to issue a Call for Projects, and refers the actions to the TAM Board for adoption.

Commissioner Carmel and staff discussed the upcoming OBAG 4 program and the planned presentation to local agency public works directors regarding program requirements and available funding. In response to Commissioner Carmel's questions, staff explained that OBAG 3 had funded projects such as sidewalk, bikeway, and pathway gap closures; transit stops; and transit facility improvements, with approximately $10 million awarded countywide. Staff noted that MTC is shifting away from traditional highway projects and toward projects that support Plan Bay Area goals, and added that, while OBAG funds are competitive, the program may be less oversubscribed than others due to the extensive federal requirements. Staff further stated that the minimum request amount is $250,000 and that smaller requests are generally not practical given the administrative burden associated with federal funding.

In response to Commissioner Blaustein, staff explained that the adjusted OBAG 4 nomination target is lower to reflect potential $1.4 million set-asides for eligible activities authorized by MTC, including planning activities and, potentially, Safe Routes to Schools. Staff further explained that the OBAG 4 program is open to all eligible applicants and that staff will work with local public works directors to provide information on the program, application process, and eligibility requirements.

Commissioner Mark and staff discussed the potential Safe Routes to Schools set-aside under OBAG 4. Staff explained that the set-aside is permitted under MTC guidelines for use by a County Transportation Authority (CTA) and, if used, would support the countywide Safe Routes to Schools program administered by TAM. Staff further clarified that local agencies could still apply separately for school-related capital infrastructure projects, which would be evaluated under the program criteria, but that OBAG funds generally are not eligible for operations expenses and therefore could not be used for programs such as crossing guards.

Chair Sackett and staff discussed the potential use of OBAG funds for a new Community Based Transportation Plan (CBTP) for Los Ranchitos, which is identified as an Equity Priority Community, possible funding sources, and the importance of jurisdictional coordination and clarity regarding the area to be studied.

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

Marin County Bicycle Coalition (MCBC) Policy and Planning Director Warren Wells commented that the upcoming grant cycle presents a significant opportunity to secure funding for bicycle and pedestrian projects in Marin and urged local agencies to pursue available funding aggressively to avoid missed opportunities; and expressed support for advancing long-needed active transportation projects throughout the county.

Commissioner Colbert emphasized the importance of proactive coordination by TAM Board members and local agencies to pursue available grant funding and expressed appreciation for staff's efforts to navigate complex program requirements and maximize funding opportunities.

ED Richman commented that OBAG funding is a valuable, once-every-four-years opportunity and stated that TAM staff will help local agencies navigate the program's technical requirements and screening process so those requirements do not become a barrier to participation. Commissioners and staff also discussed the application timeline, and staff indicated that the schedule could be reviewed to determine whether additional time could be provided.

In response to Commissioner Colbert, staff explained that the project list for Plan Bay Area 2050 is largely fixed and may be amended only under limited circumstances. Staff added that many Marin projects are already covered through programmatic categories in the plan, including complete streets, minor intersection improvements, and traffic signal projects, and noted that a future Plan Bay Area 2060 process would likely provide an opportunity to include additional projects.

Commissioner Carmel moved to refer this item to the TAM Board for adoption. Commissioner Blaustein seconded the motion, which passed unanimously.

6. Crossing Guard Location Selection (Action)

Assistant Project Delivery Managers Audrey Veyssiere and Ray Rodriguez presented this item, which recommends that the FP&L Executive Committee refers the 2026 Ranked List of Crossing Guard Locations and revised lists of locations that will no longer be evaluated to the TAM Board for adoption.

Commissioner Mark thanked staff for meeting with the Reed Unified School District and discussed concerns that recent signal changes may affect crossing guard site rankings in ways that do not fully reflect on-the-ground conditions. Staff clarified that school districts may still request to pay for a site not currently on the list and noted that earlier notice would help ensure agreements and staffing are in place before the school year begins.

In response to Chair Sackett, staff stated that the approximate cost is $25,600 per crossing guard per year if a school district chooses to fund the position.

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

Commissioner Colbert commented that, as the item moves to the full Board, the presentation should frame changes in crossing guard locations within the broader context of overall safety conditions and infrastructure improvements, rather than solely as a loss of service; and also commented on the importance of a constructive, objective approach that balances community safety needs with the long-term sustainability of the program's limited funding.

Commissioner Blaustein commented that, as the item moves forward, the presentation should note that TAM will continue working with school districts on innovative and comprehensive approaches to safety, so that the absence of a crossing guard is understood within the broader context of ongoing safety improvements at school locations.

Commissioner Mark and staff discussed the long-term sustainability of the crossing guard program and the use of reserve funds to maintain service levels in the near term. Staff clarified that ongoing Measure AA funding will continue, but that reserves are projected to be depleted over time, which may require future program reductions absent additional action.

Chair Sackett and staff discussed the Manuel T. Freitas Parkway and Las Pavadas Avenue location. Staff explained that the location had not been evaluated in prior cycles and was considered during the current cycle at the request of the school district. Staff further noted that, under current crossing guard standards, locations involving certain multilane roadways are recommended to have two crossing guards, and that this location therefore warrants two guards.

Commissioner Carmel moved to refer this item the TAM Board for adoption. Commissioner Colbert seconded the motion, which passed unanimously.

The meeting was adjourned at 3:12 p.m.

Transportation Authority of Marin

DATE: May 11, 2026

TO: Transportation Authority of Marin
Funding, Programs & Legislation Executive Committee

FROM: Anne Richman, Executive Director
David Chan, Director of Programming and Legislation

SUBJECT: Adopt Positions on 2026 State Legislative Bills (Action), Agenda Item No. 5

RECOMMENDATION

The Funding, Programs & Legislation (FP&L) Executive Committee reviews positions on 2026 State Legislative Bills, shown in Attachment A, and refers them to the TAM Board for adoption.

BACKGROUND

On January 22, 2026, TAM adopted a Legislative Platform in guiding policy decisions and communicating TAM's goals to the Legislature and other agencies. On March 26, 2026, TAM adopted positions on 27 initial bills. Staff and Khouri Consulting, TAM's Legislative Consultant, have been monitoring the progress of these bills. The 2026 Legislative Session is near the mid-term of the session. Notable remaining dates for the 2026 Legislative Session are shown in the table below.

Deadline to propose changes to State Budget, referred to as "May Revise"	May 14, 2026
Deadline for Legislature to pass State Budget	June 15, 2026
Last day for the Legislature to pass bills	August 31, 2026
Last day for the Governor to sign or veto bills	September 30, 2026
Statutes take effect, except emergency items that take effect upon signing	January 1, 2027

DISCUSSION/ANALYSIS

The table below contains the initial set of 27 state bills with adopted positions by the TAM Board. These bills are being monitored by staff and Mr. Khouri, TAM's Legislative Consultant. As noted in the table, five (5) bills will be removed from the matrix because they already failed passage and three (3) will be removed because they have been drastically amended and are no longer relevant to TAM.

Two bills with previously adopted watch positions – Nos. 26 and 27 – are now recommended for a change to a support position.

Seven (7) new bills were also added to the table and matrix in Attachment A. The seven new bills are identified as No. 28 – 34 in the table. These new bills are further discussed below because positions are recommended for consideration.

More bills may be added to the matrix in the coming months as they become relevant to TAM or Marin or requested by TAM Commissioners for discussion or action.

Summary of Monitored Bills				
No.	**Bill**	**Author**	**Subject**	**Adopted Position**
1	AB 939	Schultz	The Safe, Sustainable, Traffic-Reducing Transportation Bond Act of 2026	Watch
2	AB 954	Bennett	Interregional transportation strategic plan: bicycle highways	Watch
3	AB 1421	Wilson	Vehicles: Road Usage Charge Technical Advisory Committee	Watch
4	AB 1557	Papan	Electric Bicycles - Classification	Watch/Support
5	AB 1599	Ahrens	California Transit Stop Registry	Watch
6	AB 1614	Dixon	Class I Bicycle Path Requirement	Watch
7	AB 1740	Zhur	Urban Multimodal Community Designation	Watch
8	AB 1745	Gonzales	Motor Vehicle Fuels Tax Suspension for One Year – **Failed passage**	Oppose
9	AB 1783	DeMaio	Prohibition on Imposition of Local Taxes based on Vehicle Miles Travelled (VMT) – **Failed passage**	Oppose
10	AB 1855	Gonzales	CEQA Exemption for Certain Passenger Rail Service – **Failed passage**	Watch
11	AB 1942	Bauer-Kahan	Class 2 and Class 3 Electric Bicycles Requirement to be Registered with DMV	Watch
12	AB 1944	Lee	Higher Weight Limitations for Zero-Emission Transit Buses	Watch
13	AB 2051	Wicks	Coastal Resilience Permitting Working Group	Watch
14	AB 2184	Wilson	Cap and Invest Program: Nature Based Climate Solutions	Watch
15	AB 2284	Dixon	Identification of Non-compliant Electric Bicycles and Products – **Failed Passage**	Support
16	AB 2341	Fong	Surplus land: Transit Stops – **Amended to non-related issue, removed from matrix**	Watch
17	AB 2346	Wilson	Speedometer Requirement for Class 1 and Class 2 Electric Bicycles	Support
18	AB 2560	Schultz	Update CAPTI Goals	Watch
19	SB 667	Archuleta	Railroad Requirement for Network of Wayside Detector System	Watch
20	SB 677	Wiener	Transit-Oriented Development (TOD): Redefine High-Frequency Commuter Rail	Watch
21	SB 908	Wiener	TOD: Inclusion of San Francisco Bay Area Ferry Terminals – **Amended to non-related issue, removed from matrix**	Watch
22	SB 922	Laird	Prohibition on Weight Based Charges from Local Agencies	Watch
23	SB 1035	Strickland	Low Carbon Fuel Standard Regulations Suspension for One Year – **Failed passage**	Oppose
24	SB 1087	Cabaldon	Planning Funding for Sustainable Communities Strategy	Watch
25	SB 1246	Cortese	Autonomous Technology Sensor Data – **Amended to issue not subject of TAM support position, removed from matrix**	Support
Recommended Change to Previously Adopted Positions				
No.	**Bill**	**Author**	**Subject**	**Recommended Position**
26	AB 1569	Davies	Electric Bicycle Safety and Training Program	Watch to Support
27	SB 1167	Blakespear	Electric Bicycle Regulations on Motors and Disclosure	Watch to Support
New Bills Added				
No.	**Bill**	**Author**	**Subject**	**Recommended Position**
28	AB 1976	Wicks	Pedestrian and Bicycle Facilities	Oppose unless amended
29	AB 2002	Solache	Regional Early Action Plan (REAP) Fund	Watch
30	AB 2059	Wilson	CEQA – Vehicle Miles Traveled	Watch
31	AB 2168	Wicks	Active Transportation Program (ATP) Guidelines	Oppose

32	AB 2748	Quirk-Silva	Affordable Housing Developments – Electric Vehicle Charging	Watch
33	SB 1159	Cabaldon	Artificial Intelligence – Transparency and Governance	Support
34	SB 1423	Stern	State Transportation Improvement Program/Active Transportation Program	Watch

Staff is recommending a watch position for the following new bills:

- AB 2002 – This bill would establish the Regional Early Action Planning (REAP) Fund to provide agencies with one-time funding for planning activities for the regional housing needs assessment. Funds would be distributed on a population basis. While establishing a fund, the bill does not include a source of revenue for the fund.
- AB 2059 – This bill would specify that a transportation project is presumed to have a less than significant transportation impact as determined by the vehicle-miles-traveled metric if at least 80% of the project lies within one or more nonmetropolitan counties, which are those that have a population of less than 200,000 people, for CEQA mitigated negative declaration preparation.
- AB 2748 – This bill would exempt new or existing affordable housing projects from electric vehicle (EV) charging receptacle installation requirements and instead requires the affordable housing project to comply with the EV charging receptacle installation requirements in the 2022 edition of the California Green Building Standards Code.
- SB 1423 – This bill would require the CTC to conduct a study, and submit a report to the Legislature, on opportunities to improve equity, accessibility, cost-effectiveness, and the ease of application for prospective applicants for the Active Transportation Program.

Staff is recommending a support position for the following bills:

- AB 1569 – The TAM Board previously adopted a watch position on AB 1569, but staff is recommending changing the watch to a support position after amended changes have been included to require applicable agencies to develop a standardized electric bicycle safety and training program for pupils in grades 7 to 12.
- SB 1159 – This bill would provide that for the purposes of the California Public Records Act, the Bagley-Keene Open Meeting Act, the Ralph M. Brown Act, the California Environmental Quality Act, the Administrative Procedure Act, and the Political Reform Act of 1974, the terms “person,” “interested person,” “participant,” “member of the public,” and any other similar terms who may engage with governmental agencies, do not include artificial intelligence (AI) systems, autonomous agents, robots, or other nonhuman entities.
- SB 1167 – The TAM Board previously adopted a watch position on SB 1167, but staff is recommending changing the watch to a support position. This bill would impose regulations on “high-powered” electric devices marketed as e-bikes, making it illegal to sell or label motor-driven cycles, mopeds, or electric motorcycles (over 750W) as electric bicycles. The bill requires clear labeling and disclosure of registration/license needs for these faster, non-compliant vehicles.

Staff is recommending an oppose unless amended position for the following:

- AB 1976 – This bill would 1) prohibit a city or county from holding a community input meeting to gather input on a proposed pedestrian or bicycle safety project after the project is included in a general plan that will be implemented and 2) prohibit a city or county from terminating a pedestrian or bicycle safety project after a contract is awarded. Staff is opposing AB 1976

unless it is amended to not impose such extensive limitation on public participation, particularly with the first clause. Unlike projects ready for construction, projects in a general plan may not have sufficient information for the public to productively comment.

Staff is recommending an oppose position for the following:

- AB 2168 – This bill would require the CTC to include in its Active Transportation Program (ATP) guidelines project selection criteria recommendations to maximize the commitments of State Transportation Improvement Program (STIP) funds to projects funded in the ATP. STIP funds are programmed by CTAs and eligibility encompasses more than active transportation projects, such as transit, highway, and local street and road projects. Including ATP guidelines in the STIP process may limit CTAs from funding priority projects that do not have ATP elements.

Letters of support or opposition may be developed at the appropriate time for each of the bills. TAM's Legislative Consultant, Mr. Khouri, may be requested to testify at Legislative hearings, if warranted, to convey TAM's positions on specific legislation.

RELATIONSHIP TO COUNTYWIDE TRANSPORTATION PLAN (CTP)

The CTP was taken into consideration in the selection of bills and positions recommended.

FISCAL CONSIDERATION

There are no immediate fiscal impacts to TAM by taking positions on these bills.

NEXT STEPS

Continue to review proposed bills relevant to TAM and convey TAM's positions to our partner agencies and pertinent Legislators when warranted.

ATTACHMENTS

Attachment A – TAM Bill Matrix – May 2026

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 939 (Schultz) **Housing development: density bonuses: affordability of for-sale units**	1/29/26 Senate Rules Two-year bill	Existing law, commonly referred to as the Density Bonus Law, requires a city or county to provide a developer that proposes a housing development, as defined, within the city or county with a density bonus, other incentives or concessions, and waivers or reductions of development standards, as specified, if the developer agrees to construct specified units and meets other requirements. This bill would additionally allow the applicant and the city, county, or city and county to comply with the above-described affordability requirements with respect to a for-sale unit by ensuring that the unit is purchased by a nonprofit corporation for properties to be sold to and occupied by extremely low, very low, or lower income families who participate in a below-market interest rate loan program.	**Watch**
AB 954 (Bennett) **Interregional transportation strategic plan: bicycle highways**	8/29/25 Senate Inactive File	This bill requires Caltrans to the extent feasible and consistent with the California Transportation Plan, to assess incorporating bicycle highways into strategic interregional corridors within the interregional transportation strategic plan (ITSP). Since this bill is in the second house, it can be taken up for this purpose or be amended for another purpose, until August 21.	**Watch**
AB 1421 (Wilson) **Vehicles: Road Usage Charge Technical Advisory Committee**	1/29/26 Senate Rules	This is a spot bill for a possible gas tax successor source solution. The bill was amended on January 5 to require the California Transportation Commission (CTC), in consultation with the California State Transportation Agency, to consolidate and prepare research and recommendations related to a road user charge or a mileage-based fee system. The bill would require the CTC to submit a report, as specified, on the research and recommendations described above to the appropriate policy and fiscal committees of the Legislature by no later than January 1, 2027.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 1557 (Papan) **Vehicles: electric bikes**	4/22/26 Assembly Appropriations	As amended on ~~March~~ April 16, this bill would strengthen the language regarding the maximum power of the motor on an electric bicycle (750 watts) and provides an exception that cargo bikes may be equipped with an electric motor with a maximum continuously rated power of 750 watts. ~~.~~ The bill would also reduce the speed at which motors cease providing assistance (from 20 to 16 mph) for an electric bicycle to meet the definition of a class 1 or class 2 electric bicycle. The bill would prohibit a person under 16 years of age from operating an electric bicycle with a motor capable of exceeding 250 watts of continuous power.	**Watch/Support**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 1569 (Davies) **Pupil safety: electric bicycle parking: safety program**	4/21/26 Assembly Appropriations	As amended on April 13, this bill would require, on or before March 1, 2028, the State Department of Education, in consultation with the Department of the California Highway Patrol, to develop a standardized electric bicycle safety and training program for pupils in grades 7 to 12, inclusive, as provided. In developing the program, the bill would authorize the State Department of Education and the Department of the California Highway Patrol to collaborate with local law enforcement agencies or local governments that have implemented electric bicycle training programs already to ensure the program reflects proven best practices. The bill would encourage local educational agencies and parent organizations to offer training demonstrations to pupils and parents on electric bicycle operations in collaboration with local law enforcement agencies or local governments. ~~This bill would require each school district and county office of education that allows pupils in kindergarten or any of grades 1 to 12, inclusive, to park a class 1, 2, or 3 electric bicycle, as defined, on campus to require pupils to complete the electric bicycle safety and training program developed by the Department of the California Highway Patrol, as provided, or a related safety course, as specified, as a condition for parking on campus.~~ ~~The bill would also require a pupil to submit proof of completion of the above-described course to their school before parking their class 1, 2, or 3 electric bicycle on the school campus. The bill would exempt school districts and county offices of education that adopted a policy related to electric bicycle safety, on or before January 1, 2027, from the above-described requirements.~~	~~**Watch**~~**Support**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 1599 (Ahrens) **California Transit Stop Registry**	3/23/26 Assembly Appropriations	This bill would require Caltrans to create, on or before December 31, 2026, the California Transit Stop Registry as a centralized, statewide dataset of standardized information regarding transit stops that includes, but is not limited to, each transit stop's name, location, available amenities, and unique identifier, as specified.	**Watch**
AB 1614 (Dixon) **Vehicles: bicycles**	4/23/26 Assembly Floor	This bill would prohibit a person from operating a bicycle on a Class I bikeway without a permanent seat being affixed. The purpose of the bill is to prevent "piggybacking" on Class I bikeways.	**Watch**
AB 1740 (Zbur) **Coastal resources: coastal development permits: ~~urban multimodal communities: bicycle facilities~~ Santa Monica**	2/23/26 Assembly Natural Resources	This bill would authorize a city to designate itself as an urban multimodal community if the city has (1) at least one high-quality transit corridor or transit priority area in the city, (2) adopted plans that include targets to reduce greenhouse gas emissions and fatal and severe injury crashes, and (3) Class I, Class II, or Class IV bicycle facilities, as defined. If a city meets the criteria to designate itself as an urban multimodal community, the bill would require documentation be submitted to the Office of Land Use and Climate Innovation for review and would require the documentation to be posted on the city's internet website. The bill would provide that a coastal development permit is not required for certain activities and types of development within an urban multimodal community, as specified. As amended on April 15, this bill only impacts projects in Santa Monica. The bill will be deleted from the next list.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 1745 (Jeff Gonzalez) **Motor Vehicle Fuel Tax Law: suspension of tax**	2/23/26 Assembly Transportation Failed Passage	This bill would suspend the imposition of the tax on motor vehicle fuels for one year. The bill would require that all savings realized based on the suspension of the motor vehicle fuels tax by a person other than an end consumer, as defined, be passed on to the end consumer, and would make the violation of this requirement an unfair business practice, in violation of unfair competition laws, as provided.	**Oppose**
AB 1783 (DeMaio) **Vehicle miles traveled: local tax and state fund prohibition**	3/23/26 Assembly Local Government Failed Passage	This bill would prohibit a city, county, or any political subdivision thereof from imposing a tax, fee, assessment, or charge, that is calculated, in whole or in part, based on the number of miles traveled by a motor vehicle. It would not prohibit the collection of tolls for the use of specific facilities, as provided. The bill would provide that any existing program, pilot program, regulation, or administrative action inconsistent with this prohibition is void and unenforceable. As amended on March 19, this bill would also prohibit a state agency from expending funds for the study, planning, testing, design, implementation, administration, or evaluation of a tax, fee, assessment, or charge based on vehicle miles traveled.	**Oppose**
AB 1855 (Jeff Gonzalez) **California Environmental Quality Act: exemption: passenger rail service**	2/23/26 Assembly Natural Resources Failed Passage	This bill would eliminate the condition for a CEQA exemption that the public project be exclusively used by zero-emission trains or certified Tier 4 or cleaner rolling stock or locomotives, thereby expanding the scope of the exemption. For purposes of the exemption, the bill would require that the mainline rail of the project, instead of the whole project, to be located entirely within an existing right-of-way or existing highway right-of-way.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 1942 (Bauer-Kahan) **Electric bicycles: registration and special license plates**	4/21/26 Assembly Appropriations	This bill would require class 2 and class 3 electric bicycles to be registered with the Department of Motor Vehicles (DMV) and to display a special license plate issued by the department. The bill would require DMV to adopt regulations to implement these requirements and would make a person operating a class 2 or class 3 electric bicycle in violation of these requirements guilty of an infraction punishable by specified fines. By creating a new crime, the bill would impose a state-mandated local program.	**Watch**
AB 1944 (Lee) **Zero-emission transit buses: axle weight**	4/6/26 Senate Rules	This bill would, until January 1, 2032, establish specified higher weight limitations up to 25,000 pounds for zero-emission transit buses procured through a solicitation process pursuant to which a solicitation was issued at various specified periods between January 1, 2027, and December 31, 2031, inclusive.	**Watch**
AB 1976 (Wicks) **Streets and highways: pedestrian and bicycle facilities**	4/28/26 Assembly Appropriations	This bill would prohibit a city or county from holding a community input meeting to gather input on a proposed pedestrian or bicycle safety project after the project is included in a plan that will be implemented as a part of its general plan. The bill would also prohibit a city or county from terminating a pedestrian or bicycle safety project after a contract is awarded or staff directed to begin construction, unless specified findings are made at a public meeting.	**Oppose unless amended**
AB 2002 (Solache) **Local government assistance: Regional Early Action Planning Fund**	4/22/26 Assembly Appropriations	This bill would establish the Regional Early Action Planning Fund to provide agencies with one-time funding for planning activities for the regional housing needs assessment. Funds would be distributed on a population basis. While establishing a fund, the bill does not include a source of revenue for the fund.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 2051 (Wicks) **Public resources: Coastal Resilience Permitting Working Group**	4/15/26 Assembly Appropriations	This bill would require the Secretary of the Natural Resources Agency, in consultation with the Secretary for Environmental Protection, to convene a Coastal Resilience Permitting Working Group for the purpose of developing a Coastal Resilience Permitting Roadmap for coastal resilience projects proposed in specified areas. The bill would require the Coastal Resilience Permitting Working Group to consist of representatives from federal, state, and local agencies, including, among others, the California Coastal Commission, the California Environmental Protection Agency, and the Department of Fish and Wildlife. The bill would, on or before January 1, 2028, require the Secretary of the Natural Resources Agency to submit the Coastal Resilience Permitting Roadmap to the Governor and the relevant fiscal and policy committees of the Legislature.	**Watch**
AB 2059 (Wilson) **California Environmental Quality Act: transportation impacts: vehicle miles traveled: mitigation**	4/21/26 Assembly Appropriations	The California Environmental Quality Act (CEQA) requires a lead agency to prepare a mitigated negative declaration for a project that may have a significant effect on the environment if revisions in the project would avoid or mitigate that effect and there is no substantial evidence that the project, as revised, would have a significant effect on the environment. This bill would specify that a transportation project is presumed to have a less than significant transportation impact as determined by the vehicle-miles-traveled metric if at least 80% of the project lies within one or more nonmetropolitan counties, which are those that have a population of less than 200,000 people.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 2168 (Wicks) **Active Transportation Program: guidelines**	4/21/26 Assembly Appropriations	As amended on April 13, this bill requires the CTC to include in its Active Transportation Program (ATP) guidelines project selection criteria recommendations to maximize the commitments of State Transportation Improvement Program (STIP) funds to projects funded in the ATP to scale funding for larger or network-level active transportation improvements. This could disadvantage ATP project applications from Marin if TAM's STIP capacity was programmed to priority transit or highway projects. The bill requires the ATP guidelines include scoring penalties for applicants that failed to use previously programmed funds in a timely manner, while considering factors that are outside an agency's control. Additionally, the bill requires, rather than making it optional, that the guidelines include incentives to maximize the potential for attracting other funds to eligible projects. This would likely provide an advantage for the largest agencies with the greatest access to funding. The bill expands upon the references to transit in the ATP goals, project eligibility, and criteria, but in a manner that will likely have limited impact on the program.	**Oppose**
AB 2184 (Wilson) **Cap-and-Invest Program: nature-based climate solutions: funding**	4/7/26 Assembly Appropriations	This bill would annually appropriate up to $250,000,000 from the Greenhouse Gas Reduction Fund in the annual Budget Act each fiscal year from the 2027–2028 to the 2045–46 fiscal year, inclusive, to achieve nature-based climate solutions on natural, working, and urban lands, including $150,000,000 to be allocated to the Natural Resources Agency to fund nature-based climate solutions, and the remaining amount to be allocated for nature-based climate solutions at the discretion of the Legislature. The bill would also appropriate $150,000,000 from the Greenhouse Gas Reduction Fund from 2027-28 to 2045-46 to the Department of Food and Agriculture to fund sustainable agricultural practices and nature-based climate solutions.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 2284 (Dixon) **Vehicles: electric bikes**	4/20/26 Assembly Transportation Failed Passage	This bill would require, on or before June 1, 2027, the California Highway Patrol, in partnership with biking nonprofit groups, to compile a list of electric two-wheeled devices that do not comply with the definition of any single class of electric bicycles and that are commonly perceived as electric bicycles. The bill would require the department to make the list available on its internet website and to update the list and internet website, when necessary.	**Support**
AB 2346 (Wilson) **Vehicles: electric bicycles and speed limits.**	4/22/26 Assembly Appropriations	As amended on March 26, this bill would authorize a local authority to set a speed limit on a bicycle path of 15 or 20 mph, or on a multiuse trail, of 10,15, or 20 mph, and require the authority place speed limit signs that indicate the limits of the restricted zone. The bill would also establish the prima facie speed limit for a sidewalk of 10 mph and would prohibit a person under 16 years of age from riding an electric bicycle faster than 15 mph on a highway or bicycle path. This bill would require all class 1 and class 2 electric bicycles manufactured, sold, or offered for sale on or after January 1, 2029, to be equipped with a speedometer. The bill would also require all electric bicycles manufactured, sold, or offered for sale on or after January 1, 2029, to be equipped with an integrated front lamp and a rear lamp, as specified. The bill would also require manufacturers and distributors of electric bicycles to include a written description of California's electric bicycle laws with the bicycle's packaging to be provided to the consumer.	**Support**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 2560 (Schultz) **Climate Action Plan for Transportation Infrastructure: goals**	4/21/26 Assembly Appropriations	As amended on April 15, this bill establishes the Climate Action Plan for Transportation Infrastructure (CAPTI) guiding principles in statute and states that those goals are consistent with state law. Notably, the bill does not include the preface found in CAPTI that, within the state's "fix-it-first" approach and through existing funding frameworks, the state's transportation infrastructure investments should be deployed to achieve the goals, where feasible. The bill amends stated the goals of promoting projects that do not significantly increase passenger vehicle miles traveled (VMT) to recognize that highway expansion projects serve different purposes and, as a result, assessing the impact of each project will vary based on context and project-specific analysis. ~~This bill would establish the Climate Action Plan for Transportation Infrastructure (CAPTI) goals and would authorize the California State Transportation Agency to update those CAPTI goals, as specified. The bill would require a project under the above-described programs to apply, where feasible, within the fix-it-first approach, the CAPTI goals as established or updated by the agency, as specified.~~ The purpose of CAPTI is to reduce greenhouse gas emissions (GHGs) and VMT through limiting capacity projects on the state highway system, discouraging the use of single-occupant, gas-powered vehicles, while encouraging mode shift through accelerated investments into public transportation, bicycle and pedestrian programs, and electric vehicle infrastructure. Implementation of this bill could result in denying access to billions of dollars in state funds for projects in rural parts of California. This bill could undermine TAM's ability to be a funding partner on the state highway system.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
AB 2748 (Quirk-Silva) **Building standards: affordable housing developments: electric vehicle charging**	4/23/26 Assembly Appropriations	This bill would exempt new or existing affordable housing projects for which a permit application is submitted between January 1, 2025, and December 31, 2035, from specified electric vehicle (EV) charging receptacle installation requirements in the 2025 California Green Building Standards Code, including any subsequent editions, and instead requires the affordable housing project to comply with the EV charging receptacle installation requirements in the 2022 edition of the California Green Building Standards Code.	**Watch**
SB 667 (Archuleta) **Railroads: safety: wayside detectors**	1/27/26 Assembly Rules	This bill requires a railroad to operate a network of wayside detector systems on or adjacent to any track used by a freight train. By mandating comprehensive detection coverage and communication protocols, it attempts to enhance California's ability to detect potential equipment failures before they result in catastrophic incidents. As amended on January 5, the bill would cap train speed based on whether they fit into one of three classes.-While this bill is intended to enhance safety, it may have an adverse impact on freight operations and, ultimately, scheduling slots for passenger rail service and ridership if enacted.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
SB 677 (Wiener) **Housing development: transit-oriented development**	1/26/26 Assembly Rules	Existing law requires that a housing development project, as defined, within a specified distance of a transit-oriented development (TOD) stop, as defined, be an allowed use as a transit-oriented housing development on any site zoned for residential, mixed, or commercial development, if the development complies with certain applicable requirements, such as height limits, density, and residential floor area ratio in accordance with a development's proximity to specified tiers of TOD stops, and labor standards that require that a specified affidavit be signed under penalty of perjury. The term "high-frequency commuter rail" for TOD purposes is defined as commuter rail service operating a total of at least 48 trains per day across both directions, not including temporary service changes of less than one month or unplanned disruptions, and not meeting the standard for very high frequency commuter rail, at any point in the past three years. Existing law also defines the term "Tier 2 transit-oriented development stop" for these purposes to mean a TOD stop within an urban transit county, as defined, excluding a Tier 1 transit-oriented development stop, as defined, served by light rail transit, by high-frequency commuter rail, or by bus service meeting specified standards. This bill would revise the definition of "high-frequency commuter rail" to mean a public commuter or intercity rail station with a total of at least 48 passenger trains on average per weekday across all directions, not including temporary service changes of less than one month or unplanned disruptions, and not meeting the standard for very high frequency commuter rail, at any point in the past three years. SMART current runs 41 trains a day, but with MASCOTs service changes they will be running 48 trains starting in April, Marin rail stations would be covered by the current language.	**Watch**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
SB 922 (Laird) **Vehicles: local agency charges: use of streets or highways.**	3/19/26 Senate Floor	Existing law prohibits a local agency from imposing a tax, permit fee, or other charge for the privilege of using its streets or highways, other than a permit fee for an extralegal load unless the local agency had imposed the fee prior to June 1, 1989. This bill would expressly limit this prohibition to charges based on weight. The bill would also explicitly state that a fee, charge, or surcharge imposed by or for a local agency to recover the cost of street maintenance and repair and other costs associated with the use of its streets, roads, or highways to provide public services or public works is not a tax, permit fee, or other charge that is prohibited by the provision above. The bill would provide that nothing in the Vehicle Code prohibits a local agency from imposing or collecting this fee, charge, or surcharge.	**Watch**
SB 1035 (Strickland) **Motor vehicle fuel tax: greenhouse gas reduction programs: suspension**	2/18/26 Senate Environmental Quality Failed Passage	This bill would suspend the Low Carbon Fuel Standard regulations for one year. The bill would also exempt suppliers of transportation fuels from regulations for the use of market-based compliance mechanisms for one year.	**Oppose**

SB 1087 (Cabaldon) **Transportation planning: sustainable communities strategies: transportation funding programs**	4/22/26 Senate Appropriations	This bill would revise the sustainable communities strategy (SCS) process by proposing the following: Extends the timeline for metropolitan planning organizations to prepare a regional transportation plan, including a sustainable communities strategy, from 4 to 8 years. Removes the requirement for a separate alternative planning scenario (APS) document. Exempts the preparation of a Regional Transportation Plan (RTP) and SCS from CEQA. Shifts oversight responsibility from the Air Resources Board to the California Transportation Commission to determine whether an MPO's sustainable communities strategy will reduce greenhouse gas emissions. Maintains the Air Resources Board (ARB) 's responsibility for setting greenhouse gas targets, but requires establishing a Regional Target Advisory Committee before setting targets, deviating from the one-size-fits-all approach the ARB has taken in setting statewide targets. Emission targets must be based on what is achievable for the region, considering existing conditions, exogenous factors, and financial constraints, including existing resources, the built environment, and access to modes of travel outside of single-occupant passenger vehicles. Targets must also reflect the combined effect of policies, regulations, and investments by cities, counties, special districts, county transportation agencies, air districts, metropolitan planning organizations, the state, and the federal government to improve fleet efficiency and reduce vehicle miles traveled. Establishes a robust public outreach process contained in the bill. For the CTC's Solutions for Congested Corridors Program, this bill would eliminate the requirement for projects to be a part of a comprehensive corridor plan. The bill would also replace the project delivery scoring criterion with a requirement that priority be given to near-term projects in an adopted regional transportation plan that will open before 2035.	**Watch**

		This is the SB 375 reform bill, sponsored by the Big Four MPOs. ~~This bill would shift approval of sustainable communities strategies from the Air Resources Board (ARB) to the California Transportation Commission (CTC) and require that the CTC's review of the methodology be completed withing 30 days and be limited to whether the methodology aligns with CTC guidelines. The bill would also require the CTC to make one of three determinations within 60 days of submission of a sustainable community strategy: 1) the strategy would, if implemented, achieve the greenhouse gas reduction targets; 2) the strategy would, if implemented, achieve the greenhouse gas reduction targets but minor, non-substantiative corrections must be made; or 3) the strategy would not, if implemented, achieve the greenhouse gas reduction targets.~~ ~~This bill would require, on and after January 1, 2027, every 2nd regional transportation plan (providing eight years rather than the current four) prepared and adopted by those transportation planning agencies to include a sustainable communities strategy prepared by a metropolitan planning organization.~~ ~~The bill would require the CTC's guidelines for the preparations of regional transportation plans and sustainable communities strategies prescribe the acceptable technical methodologies that MPOs and RTPAs may employ to estimate greenhouse gases and the required contents for sustainable communities strategy implementation reports. The bill also specifies that the CTC maintain guidelines for travel demand models used in the development of sustainable communities strategies.~~ ~~The bill would require the ARB appoint a Regional Target Advisory Committee, which shall include practitioners and technical and policy experts, to recommend factors to be considered and methodologies to be used for setting greenhouse gas reduction targets, and how housing, affordability, resilience, economic vibrancy, and land conservation goals should be balanced in setting greenhouse gas emission reduction targets for regions.~~ ~~:The bill would require the targets set by ARB reflect the combined effect of policies, regulations, and investments to improve fleet efficiency and reduce vehicle miles traveled, and be based on what is achievable for a region, taking into account existing conditions, exogenous factors, and financial constraints. The bill defines "existing~~	

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
		~~conditions" as including, but not limited to, existing resources, the build environment, and access to modes of travel outside of single-occupant passenger vehicles. The bill would also ARB to publish its target methodology and assumptions at least 60 days before the release of a draft target. ARB would also be required to hold two workshops and one hearing in a region to solicit input on the draft target, and to adopt the final target at a public hearing.~~	
SB 1159 (Cabaldon) **Artificial intelligence: transparency and governance**	4/8/26 Senate Floor	This bill provides that for the purposes of the California Public Records Act, the Bagley-Keene Open Meeting Act, the Ralph M. Brown Act, the California Environmental Quality Act, the Administrative Procedure Act, and the Political Reform Act of 1974, the terms "person," "interested person," "participant," "member of the public," as applicable, and any other similar terms under each act referring to those who may engage with governmental agencies, do not include artificial intelligence (AI) systems, autonomous agents, robots, or other nonhuman entities, whether physical or digital.	**Support**
SB 1167 (Blakespear) **Vehicles: electric bicycles**	4/9/26 Senate Appropriations	This bill would impose regulations on "high-powered" electric devices marketed as e-bikes, making it illegal to sell or label motor-driven cycles, mopeds, or electric motorcycles (over 750W) as electric bicycles. The bill requires clear labeling and disclosure of registration/license needs for these faster, non-compliant vehicles.	~~**Watch**~~**Support**

TAM Bill Matrix – May 2026			
Measure	**Status**	**Bill Summary**	**Recommended Position**
SB 1423 (Stern) **STIP/ATP**	4/23/26 Senate Appropriations	Existing law establishes the Active Transportation Program in the Department of Transportation for the purpose of encouraging increased use of active modes of transportation, such as biking and walking. Existing law requires the California Transportation Commission to develop guidelines and project selection criteria. This bill would require the commission, on or before January 1, 2028, to conduct a study, and submit a report to the Legislature, on opportunities to improve equity, accessibility, cost-effectiveness, and the ease of application for prospective applicants for the Active Transportation Program, as specified. The bill would repeal these provisions on January 1, 2032.	**Watch**

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Transportation Authority of Marin

DATE: May 11, 2026

TO: Transportation Authority of Marin
Funding, Programs & Legislation Executive Committee

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

SUBJECT: Acceptance of the Safe Routes to Schools Program Evaluation & Summary Report (Action), Agenda Item No. 6

RECOMMENDATION

The Funding, Programs & Legislation (FP&L) Executive Committee reviews and refers the Safe Routes to Schools (SR2S) Program Evaluation and Summary Report to the TAM Board for approval.

BACKGROUND

The Marin SR2S Program was established in 2000 as an education and incentive program that encourages children and parents to use active transportation, such as walking and bicycling, or other green modes such as carpooling or transit, particularly for trips to/from schools. The SR2S Program is designed to decrease traffic and pollution and increase the health of children and the community. The Program addresses parents' safety concerns by educating children and the public, partnering with local public works department staff and traffic law enforcement, and developing plans to create safer streets. Marin County pioneered the national SR2S Program that has spread across the United States.

Marin's Program has served as a model for many counties around the Bay Area, the state and the nation. The program consists of education classes, encouragement events, infrastructure improvements, and other strategies that aim to increase the number of active green (walking and rolling programs) and green (carpooling, school bus, and transit) trips to and from schools.

Marin's SR2S Program has been in operation for more than 25 years. With the passage of a dedicated funding source from the Measure A/AA ½-Cent Transportation Sales Tax, TAM became the administrator of the program in 2005. Under TAM's administration, the program expanded to include 60 schools during the 2022/23-2024/25 evaluation period and included over 29,000 students.

Often done on a triennial basis, a comprehensive evaluation/summary report has been developed to detail many of the trends that have occurred during the time period and to develop new strategies for meeting the program's goals. The first program evaluation report was prepared in 2007, and updated reports were developed in 2011, 2013, 2016, 2020, and 2023.

Following the 2023 evaluation/summary report developed by TAM and the program contractor Parametrix, staff and the TAM Safe Routes to Schools Ad Hoc Committee explored new ways to evaluate the program in the future. It was determined that for the next evaluation period from 2022/23-2024/25, it would be helpful to have a separate consultant provide an evaluation of the program along with the program summary provided by Parametrix.

For the independent evaluation, TAM retained the work of TYLin through TAM's on call contract. Their work included research into comparable programs, program trends, national guidance, and stakeholder interviews to identify program gaps, strengths and recommendations. Parametrix also compiled a summary report for the same three year period to document the program's reach and activities.

DISCUSSION/ANALYSIS

The combined program summary report (Attachment A) and program evaluation (Attachment B) provide essential information to assess the SR2S Program's impact and to plan for continued effective delivery of the program. The TAM Safe Routes to Schools (SR2S) Program is a mature, well-established, and highly regarded program with a strong foundation of partnerships, visibility, and successful implementation across Marin County.

Through this evaluation, stakeholder feedback highlighted the program's strong name recognition, effective education and encouragement activities, and meaningful collaboration with schools and local jurisdictions. The program's fundamental structure aligns well with national best practices, including a multi-agency approach, application of the six E's framework, and a strong emphasis on safety, equity, and data-informed planning while supporting the Countywide Transportation Plan (CTP). As a result, the evaluation findings do not indicate a need for major program redirection, but rather an opportunity to build strategically on an already successful model.

The program summary report includes data on green trips and active transportation trends, allowing for analysis of program growth, school participation, and enrollment changes over time. It also examines the relationship between school engagement levels, infrastructure improvements, and resulting transportation mode shift. Additional data sources including caregiver surveys and dot maps of student travel distance further strengthen the program's ability to understand and promote school routes to support walking and rolling to school.

Equity remains a developing focus of the program. Recent efforts, such as the Youth Leading Active Communities (YLAC) Pilot Program and student leadership initiatives implemented this reporting period, demonstrate a commitment to expanding program reach in underserved communities. These efforts have supported education and encouragement activities at schools where previous engagement has been limited, particularly in communities with higher proportions of non-English-speaking families. This has led to modest but notable increases in sustainable travel modes at schools where this supplemental pilot program is offered, including walking, biking, carpooling, and school bus use. Several schools saw gains in bus ridership and carpooling, while others experienced growth in active transportation, with Lu Sutton Elementary showing increases across all green modes. Overall, the data reflects a positive trend toward increased use of alternative transportation options.

Despite these strengths, several challenges and opportunities for improvement were identified through stakeholder engagement and peer review. These include funding constraints, limited volunteer capacity, uneven participation across schools and grade levels, and the need for more high school curriculum, especially with the advent of electric bikes, as traditional Safe Routes to Schools strategies are often less effective for older students without targeted adaptation. Additionally, while the program benefits from strong data collection, there are opportunities to further streamline and centralize data systems to improve usability and decision-making while working with school partners.

Peer case studies from the Bay Area and national examples such as Seattle and Portland reinforce that TAM is performing well relative to similar programs, while also highlighting opportunities to enhance data integration, expand volunteer and school-level support, strengthen youth leadership models, and improve access to tools and public-facing resources.

Funding

Revenue for the Safe Routes to Schools program has remained relatively stable at approximately $1 million annually in recent years provided through Measure AA. In contrast, program expenditures have consistently outpaced this revenue, reaching closer to $1.3 million per year. Since the pandemic, staff have been able to draw on accumulated reserves to sustain the program at its current level of service, particularly to support the most resource-intensive components and the YLAC program. While this approach allowed the program to provide a greater level of support in the near-term, it may not be a long-term solution. Prior to the last contract procurement, in which Parametrix was selected as program operator in 2023, TAM staff determined there were sufficient reserves to fund the program at the $1.3 million level for the upcoming five years (covering the period in which the program contract can be extended through June 2028). However, when the contract is required to go back out to bid next time, the contract scope would either need to be trimmed or other mechanisms such as grants or program efficiencies would need to be identified.

Over the past three years, reserves have steadily declined as they have been used to bridge the gap between ongoing revenues and costs. At the current expenditure level, the reserves will be depleted by 2030, and decisions will need to be made in advance of the next contract procurement in early 2028. At that time, the program will either need to be scaled back to align with the $1 million annual revenue baseline or supplemented with additional funding sources. While grants may provide some opportunities for supplemental support, they are typically limited in duration and scope and many are not well suited to cover ongoing operational costs for an established program.

The program evaluation identified a range of recommendations aimed at enhancing the effectiveness and reach of Safe Routes to Schools. While these recommendations provide a clear roadmap for strengthening the program, many of the proposed enhancements would come with additional costs beyond the program's current funding capacity. The evaluation does include several lower-cost, near-term actions that could be implemented more readily within existing resources. However, the medium- to longer-term recommendations, particularly those that expand program scope, staffing, or infrastructure, would require additional funding to fully realize.

To support planning and implementation, the project team developed cost estimates for each recommendation, drawing on existing Safe Routes to Schools program expenditures and, where applicable, comparisons to peer programs. These costs are incorporated into the implementation timeline and categorized using general ranges: low cost (under $10,000), medium cost ($10,000 to $50,000), and high cost (over $50,000). Note that these are planning level estimates and future costs are to be determined. The final set of recommendations was organized to align with the program's goals and structured across the six E's framework – education, encouragement, engineering, engagement, evaluation, and equity – providing a comprehensive approach to program improvement while highlighting the financial considerations associated with each step forward.

Equity-focused recommendations identified in the evaluation tend to fall at the higher end of the cost range, particularly those planned for the medium to long term. For example, EQ-1 calls for continued collaboration with community partners to assess and improve bike access in low-income schools, including expansion of bike donation and distribution efforts building on prior pilot programs and models from peer jurisdictions. Longer-term recommendations such as EQ-5 and EQ-6 focus on ongoing monitoring and refinement of the YLAC program to ensure it effectively advances equity and supports higher need schools. These efforts would also require more staffing and reporting and while they are expected to yield meaningful outcomes, they would also require sustained investment and resources to implement and maintain effectively.

RELATIONSHIP TO COUNTYWIDE TRANSPORTATION PLAN (CTP)

This program supports the core strategy of the CTP 'Easy and Safe School Travel', which includes the implementation of Safe Routes to Schools and calls for planning and investment in safe routes and implementation of safe school-related transportation. The program promotes safe walking, biking, and other green modes while advancing equity by directing resources to underserved schools.

FISCAL CONSIDERATION

There are no specific fiscal impacts associated with this presentation. Various implementation actions recommended in the program evaluation will have associated costs, and TAM staff would return to the TAM Board for any needed budget or approval items as part of future Safe Routes to Schools program updates.

NEXT STEPS

Staff will initially work with the program contract team to identify opportunities to implement near-term programmatic and administrative actions from the evaluation within the next two years. These short-term actions will prioritize strengthening existing program elements through expanding support to schools and volunteers to sustain and build on the program. Medium to long-term efforts beyond two years, will be considered under a future scope of services for the program, under the next procurement in two years' timeframe and staff will meet with the TAM Safe Routes Ad Hoc Committee in the meantime to explore those opportunities further.

Staff will provide this presentation to the TAM Board on May 28 to gain additional feedback on next steps.

ATTACHMENTS

Attachment A – Tri-Annual Safe Routes to Schools Program Summary Report
Attachment B – Safe Routes to Schools Evaluation
Attachment C – SR2S Summary Report & Program Evaluation Presentation

MARIN COUNTY SAFE ROUTES TO SCHOOLS

Program Summary Report

2022/2023 THROUGH 2024/2025 SCHOOL YEARS

SAFE ROUTES TO SCHOOLS MARIN COUNTY

TAM Transportation Authority of Marin

DRAFT MAY 2026

Parametrix

ACKNOWLEDGEMENTS

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TAM Transportation Authority of Marin

Parametrix let's create tomorrow, together

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Introduction

The award-winning Safe Routes to Schools Program (Safe Routes) is a program of the Transportation Authority of Marin (TAM) focused on encouraging safe non-motorized and high vehicle occupancy trips to and from schools. This comprehensive program integrates health, fitness, traffic relief, environmental awareness, and safety to achieve its goals. It provides an opportunity for schools, communities, and local governments to work together to create a healthy lifestyle for children and a safer and cleaner environment for everyone.

Safe Routes is supported by Measure AA, which provides funding to reduce school-related congestion and provide safer access to schools by:

- **Maintaining the Safe Routes to Schools program**
- **Providing the crossing guard program**
- **Providing capital funding for small school safety related projects**

Safe Routes has been operating in Marin County for over 20 years. It started with five schools in 2000, and now 60 total schools participated during the three-year evaluation period reaching over 29,000 students. Safe Routes owes its success to this history and deep-rooted community participation. Schools participate in many ways, and levels of participation vary from school to school. Participation includes offering education classes, holding encouragement events, and participating in task force meetings. Not all schools participate in all Safe Routes elements, and participation varies by year depending on opportunities to incorporate the Safe Routes curriculum and encouragement programming in schools.

Previous program evaluation reports analyzed Safe Routes' achievements for the 2011-2015, 2015-2019, and 2019-2022 school years. This report covers Program activities and results from Fall 2022 through Spring 2025.

The Safe Routes program owes its success to the deep roots it has established in communities.

PROGRAM HIGHLIGHTS

Countywide Active Trip Rate Increase

Since the 2008/2009 school year, the county's active trip rate—students walking, biking, scootering, or using other non-motorized travel modes—has increased from an average of 24% to 32% in the 2024/2025 school year. In comparison, the national average is approximately 11%[1].

District-Level Gains in Active Travel

Several individual school districts have seen notable gains in active travel. For example, compared to 2015/2016, the Larkspur-Corte Madera School District increased its active trip rate by almost 12 percentage points in 2024/2025, while the Novato Unified School District and Mill Valley School District both had an 8-point increase.

Commitment to Sustainable Transportation

Marin County has also maintained a strong commitment to sustainable transportation. Since Fall 2008, it has sustained an average of at least 45% green trips (including walking, biking, scootering, carpooling, and bus travel), which rose to 52% in the 2024/2025 school year. Twenty schools maintained a green trip rate of 50% or greater during the three-year evaluation period (Figure 1).

High Active Trip Rates at Schools

During the 2024/2025 school year, active trips accounted for at least 25% of all trips at 31 schools. At 15 of those schools, active trips made up 40% or more of total trips.

Program Expansion

Safe Routes has extended its reach into 95% of public elementary schools, 100% of public middle schools, and 88% of public high schools[2] in Marin County.

$92M Obtaining Funding to Improve Safety

Since 2000, Safe Routes has helped bring in more than $92 million in external funding, including providing concept and grant assistance for 33 Safe Pathways-funded projects throughout the County.

[1] National Household Travel Survey, 2022

[2] Not counting public continuation and alternative schools

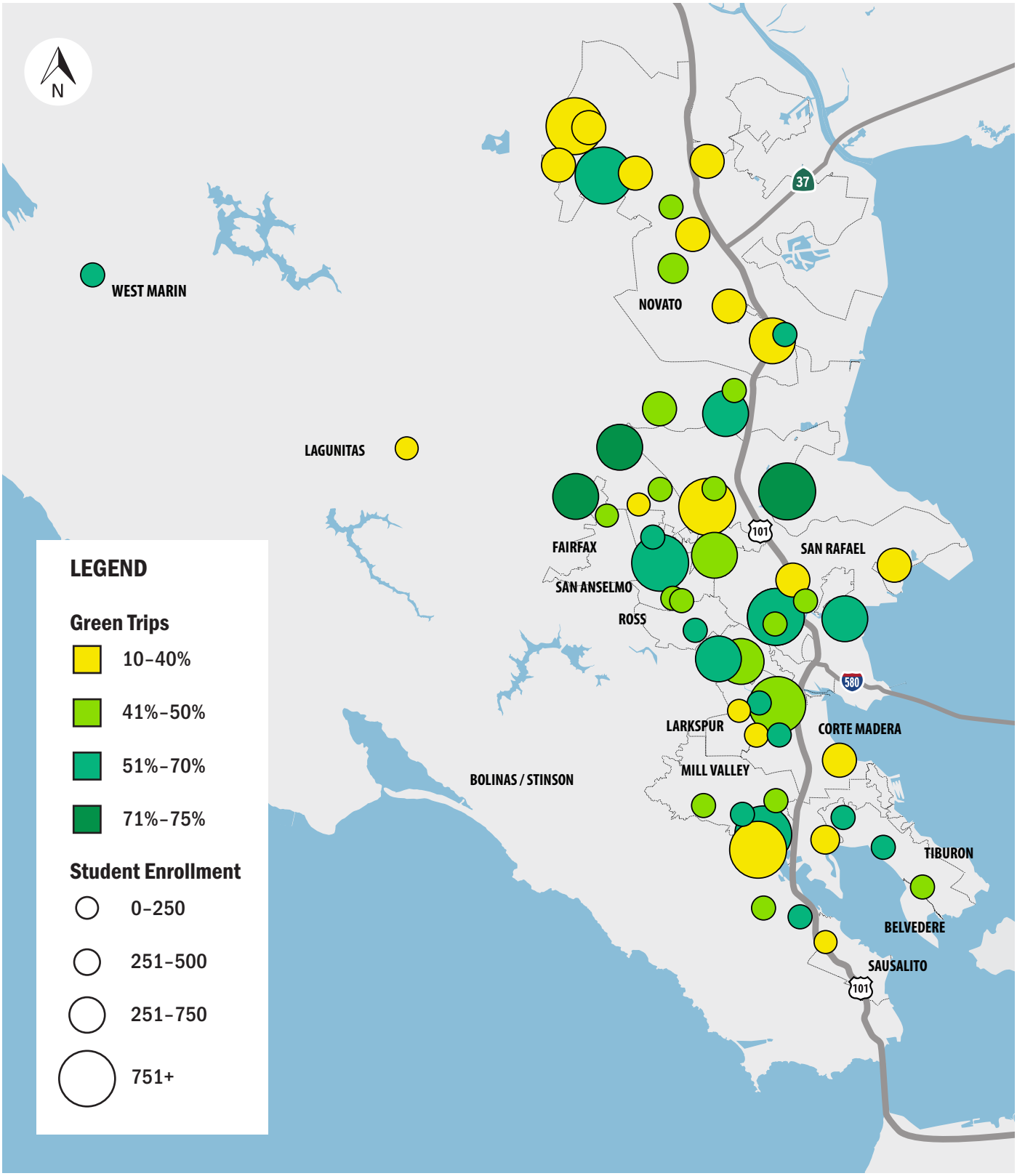


Figure 1. Green Trip Rates and Student Enrollment, 2022/2023 - 2024/2025 School Years

Safe Routes to Schools Overview

Schools participate in Safe Routes in several ways: by holding encouragement events, hosting education classes, or participating in task force meetings. Not all schools participate in all of these Safe Routes elements.

During this evaluation period (2022/2023-2024/2025) 58 total schools participated in the Safe Routes to Schools Program (Figure 2). This marks an increase of three schools since the previous evaluation period. Participation varied by year, with 58 schools in 2022/2023, 59 in 2024/2025, and 57 in 2024/2025. The program reaches over 29,000 students annually through its education classes, encouragement programs, outreach, and other services.

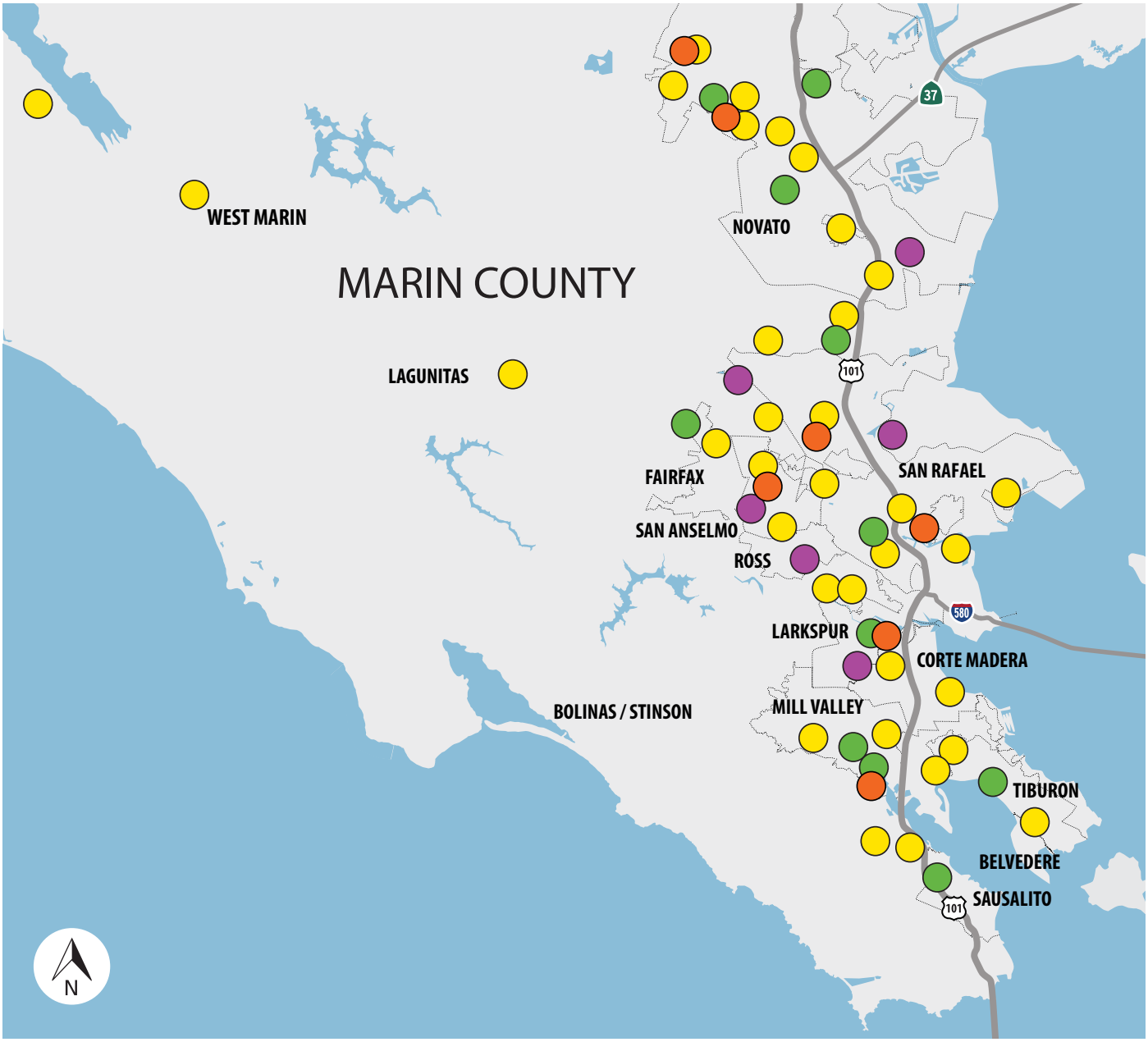


Figure 2. Schools Participating in the Safe Routes to Schools Program

Elementary School K–8 School Middle School High School

PARTICIPATING SCHOOLS BY DISTRICT TASK FORCE - 2022/2023–2024/2025

KENTFIELD

Anthony G. Bacich Elementary

A.E. Kent Middle

LARKSPUR-CORTE MADERA

The Cove School

Henry Hall Middle

Marin Primary & Middle

Neil Cummins

Redwood High

Saint Patrick School

MILLER CREEK

Lucas Valley Elementary

Mary E. Silveira Elementary

Miller Creek Middle

Vallecito Elementary

MILL VALLEY

Edna Maguire Elementary

Mill Valley Middle

Old Mill Elementary

Park Elementary

Strawberry Point

Tamalpais High

Tamalpais Valley Elementary

NOVATO

Hamilton School

Loma Verde Elementary

Lu Sutton Elementary

Lynwood Elementary

Novato High

Olive Elementary

Pleasant Valley Elementary

Rancho Elementary

San Jose Middle

San Marin High

San Ramon Elementary

Sinaloa Middle

REED

Bel Aire Elementary

Del Mar Middle

Reed Elementary

ROSS VALLEY

Archie Williams High

Brookside Elementary

Hidden Valley Elementary

Manor Elementary

Ross Valley Charter

Saint Anselm

San Domenico

Wade Thomas Elementary

White Hill Middle

ROSS

Ross School

SAN RAFAEL

Bahia Vista Elementary

Coleman Elementary

Glenwood Elementary

James B. Davidson Middle

Laurel Dell Elementary

San Rafael High

Sun Valley Elementary

Terra Linda High

Venetia Valley

SAUSALITO/MARIN CITY

Dr. Martin Luther King, Jr. Academy

Lycée Francais

WEST MARIN

Bodega Bay Elementary

Bolinas-Stinson Elementary

Lagunitas Elementary

Tomales Elementary

West Marin-Inverness

The program's school participation has generally continued to rise over the years, from five in 2000 to 60 during this three-year evaluation period. The number of participating schools varies by year (Figure 3). 58 schools participated in 2022/2023, 59 in 2024/2025, and 57 in 2024/2025.

Safe Routes maintains district policies with neighborhood public schools where students live within walking or rolling distance of campus. Private schools, which primarily serve commuting students, participate on a voluntary basis and their involvement varies with changes in volunteer and staff capacity. For the 2024–2025 school year, the number of participating schools decreased to 57 from 59 in 2023/2024 as Safe Routes prioritized larger public schools. Two small private schools—Saint Anselm and Saint Patrick—opted out of the program due primarily to volunteer and staff turnover.

Safe Routes is well represented among the County's public schools (Figure 4). It operates in 95% of public elementary schools, 100% of public middle schools, and 88% of public high schools[3]. Six private/charter schools have also participated in at least one element of the Safe Routes program during the evaluation period: Lycée Français, Marin Primary & Middle School, Ross Valley Charter, San Domenico School, Saint Anselm School, and Saint Patrick School. Private school students tend to live further from campus, so these schools often promote carpooling rather than prioritizing the Safe Routes education and encouragement services.

[3] Excluding public alternative and continuation schools

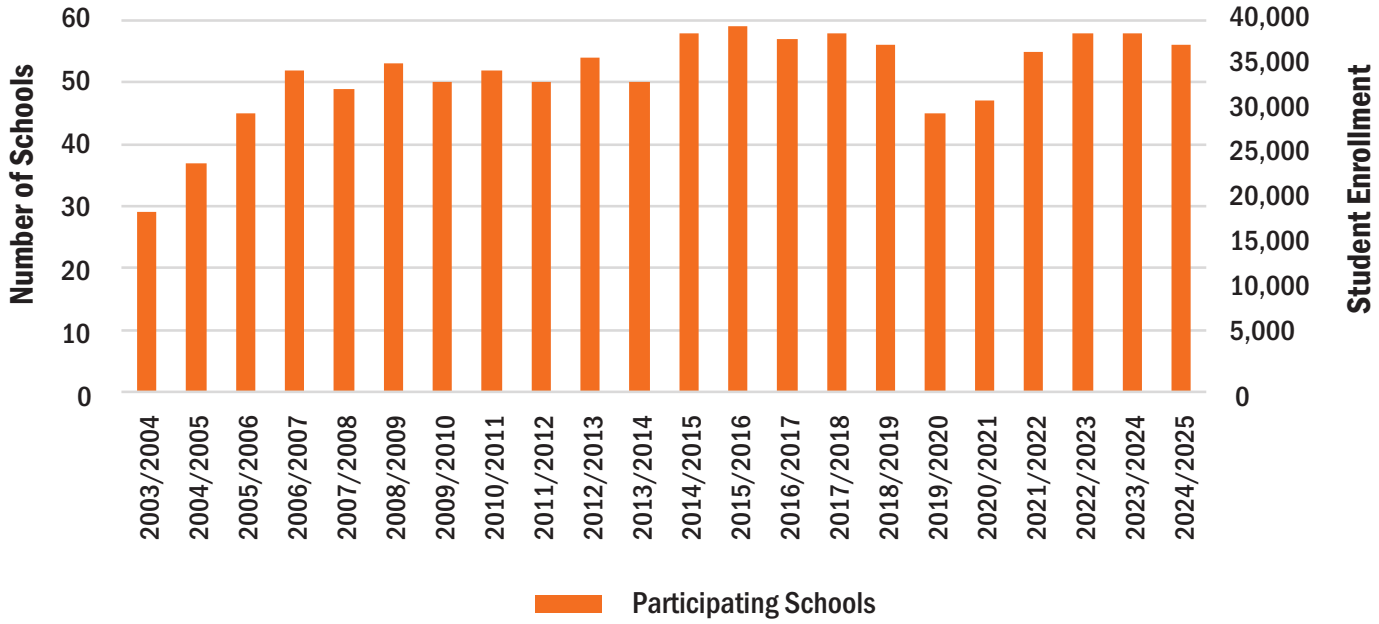


Figure 3. Participating Schools Over Time

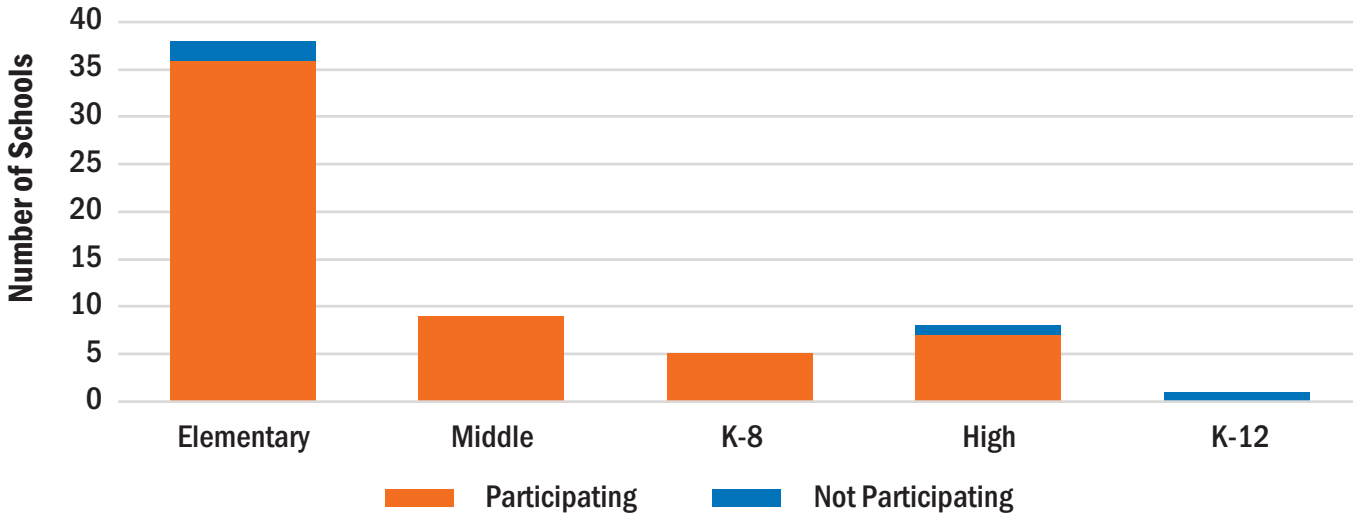


Figure 4. Participating Public Schools, 2024 – 2025 School Year

60
Total schools implementing Safe Routes programming during the three-year period

90%
Of public schools implementing Safe Routes programming

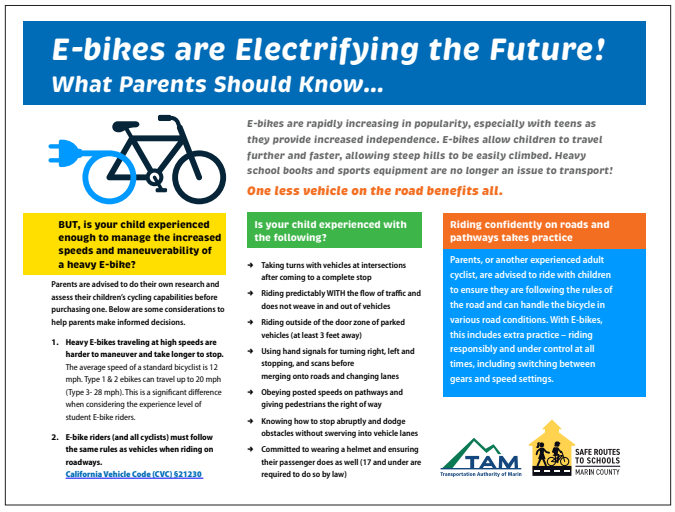
3
New schools since last evaluation period

Education

The Education element of the Safe Routes to Schools program provides comprehensive student instruction for safe and healthy travel to school. This chapter provides an overview of the classes taught annually to elementary, middle, and high school students.

EDUCATION PROGRAMS AND CLASSES

For over 20 years, Safe Routes has empowered students with the skills to walk and roll to school safely. From second grade through high school, students receive age-appropriate lessons aligned with California education standards. Most instructors are League of American Bicyclists Certified, and Safe Routes to Schools has been recognized by the League as the national standard for bicycle and pedestrian education. To advance equity goals, a fluent Spanish-speaking educator recently joined the program as Lead Instructor, strengthening access and inclusion for all students. Education classes have also expanded to include learn-to-ride instruction for students who might not otherwise have the opportunity to learn.



Responding to the needs of our constituency as e-bike injury rates rose in Marin during the 2022/2023 school year, Safe Routes introduced e-bike safety courses – both in-classroom and on-the-blacktop – for middle and high school students. The Safe Routes Director also serves as an advisor on Marin's Special Committee on Youth E-Bike Safety, ensuring that program initiatives align with countywide efforts to improve youth safety and e-bike education.

During the evaluation period, Safe Routes delivered 14 unique programs at 50 schools, ranging from classroom presentations to hands-on activities (Table 1). In total, 1,228 individual pedestrian and bicycle safety classes were taught during classroom and PE time.

Table 1. Safe Routes Education Offerings

CLASS	GRADE(S)
Classroom Presentations	
Stop Look Listen (Part I)	2
Pedestrian and Bike Safety	3
Traffic Safety Bike Education (Part I)	4
Drive Your Bike (Part I)	6
Share the Road	High
E-Bike Safety Classes	Middle and High
Experiential, Hands-On Classes	
Walk Around the Block (Part II)	2
Bike Rodeo (Part II)	4
Drive Your Bike (Part II)	6
On-Road Bicycle Field Trips	Middle and High
Family Biking *	Parents and Elementary
E-Bike Safety Classes**	Middle and High
Additional Presentations	
Sustainable Transportation	Middle and High
How to Ride the Bus or SMART Train	High
Other	
Poster Art	Elementary
Route Mapping	Elementary, Middle and High

** Program available through Spare the Air grant funding from the Metropolitan Transportation Commission (MTC)*

*** Program available through E-bike Smart Marin Class from the Marin County Bicycle Coalition (MCBC)*

Safe Routes teaches students both in and out of the classroom to reinforce good walking and biking practices.

ONLINE CONTENT

During the pandemic, Safe Routes developed a library of online video content and made it available to schools throughout Marin County. A recommendation from the 2019/20 through 2021/22 Program Evaluation was to continue offering this content when Safe Routes classes are not actively happening at schools, or for schools who are not able to fit these classes into their programming.

17
Types of in-person classes and educational activities offered annually

50
Schools participating in Safe Routes education programming

PARTICIPATION TRENDS

On average, 409 education classes reached nearly 11,300 students annually during this evaluation period. Nine additional schools offered education classes during this time:

- **Dr. Martin Luther King, Jr. Academy**
- **Marin Primary and Middle School**
- **Lu Sutton Elementary School**
- **Novato High School**
- **Saint Anselm School**
- **San Jose Middle School**
- **San Marin Elementary School**
- **Venetia Valley Elementary School**
- **West Marin Elementary School**

From 2021 to 2023, Safe Routes increased the number of classrooms taught to make up for missed grades during the COVID-19 pandemic. Scheduling efficiency increases – such as combining classes for fourth and fifth grades – reduced the number of overall classes that were taught in later years. Despite the general decline in number of classes, Safe Routes taught more students in 2022/2023 and 2023/2024 (12,942 and 12,464 students, respectively) than in 2021/2022 (12,430 students). Pre-pandemic, Safe Routes taught approximately 7,000 students each year.

Class totals dropped in 2024/2025, driven by several factors. A Fall 2024 vacancy in the Lead Instructor role led to scaling back at smaller private and charter schools – where fewer students live within walking or rolling distance – to prioritize higher-impact public schools. During this time, staff increased their hours to cover the gap. The same five middle schools (Miller Creek, Mill Valley, White Hill, Sinaloa, and Kent) were taught as in previous years, with Del Mar and Hall Schools scheduled for the spring per their request. Fewer elementary schools were taught in Fall 2024 due to staffing limitations and inclement weather.

In general, scheduling Safe Routes education is less consistent at private, charter, and high schools compared to the public elementary and middle schools. Private schools are typically commuter-based and therefore not a primary focus of the program. However, Safe Routes continues to offer education to these schools upon request. Online video content may be a useful resource for private schools where more focused programming is not practical. High schools are generally more difficult to schedule due to tight academic calendars. When scheduling allows, the Share the Road presentation is offered to multiple grade levels at once, rather than annually by grade.

Looking ahead, the recent hire of a new Safe Routes Lead Instructor will enable Safe Routes to restore education levels in 2025/2026, including making up for the prior year's cancelled classes.

INCREASING EDUCATION CLASS EFFICIENCY

Safe Routes has increased its efficiency by merging classes, having teachers show prep videos prior to on-site instruction, and focusing on larger public schools, reaching more students where they walk and roll every day.

413
Maximum number of individual class sessions taught in one year

12,942
Students participating in Safe Routes education programming

9
New schools hosting education classes since 2021/2022

Encouragement

The Safe Routes to Schools program runs a wide range of programs, events, and contests that inspire students to walk and roll to school. The program's success depends on the strong partnership between parent volunteers, local schools, and Safe Routes staff.

ENCOURAGEMENT PROGRAMMING

Each year, Safe Routes delivers 11 signature events and contests, averaging 351 events across participating schools (Table 2). Most take place in the mornings, when volunteers greet students at school entrances, recognizing and rewarding those who walk, roll, carpool, or take the bus.

A recent addition is the Rainbow Walk and Roll Challenge, launched in 2022 for elementary schools. Over four weekly events, students earn stamps on challenge cards each time they walk or roll to school. Completed cards are entered into prize drawings for items like Razor scooters, with support from parent volunteers and school staff.

Not all schools participating in Safe Routes do so by holding encouragement events. However, participation in encouragement events is consistently strong and each year 53 elementary, middle, and high schools host these Safe Routes events. In elementary schools, parents take the lead in organizing activities, while middle and high school events are often coordinated through student clubs, supported by teachers and Safe Routes staff. The program is powered by 60 dedicated parent volunteers and 10 bilingual family liaisons, school staff members whose efforts are essential to making these events successful.

Table 2. Safe Routes Encouragement Offerings

Program Name	Participating Grade(s)
Events	
International Walk & Roll to School Day	All grades
National Bike to School Day	All grades
Teens Go Green Days	Middle/High
Walk and Roll Wednesdays	Elementary
Contests	
Rainbow Walk and Roll Challenge	Elementary
Pump It Up - Classroom Contest	Elementary/Middle
Other	
Bike Blender event	All Grades
Bike Hero Award	Elementary/Middle
Buddy Up Contest	Elementary/Middle
Park and Walk Campaigns	Elementary/Middle
Poster Art	Elementary

Parent volunteers are integral to ensuring successful encouragement events such as the Rainbow Walk and Roll Challenge.

A wide variety of encouragement events get students excited about walking and rolling to school, encouraging lasting habits.


WALK


ROAD
WORK
AHEAD


WALK
Princess

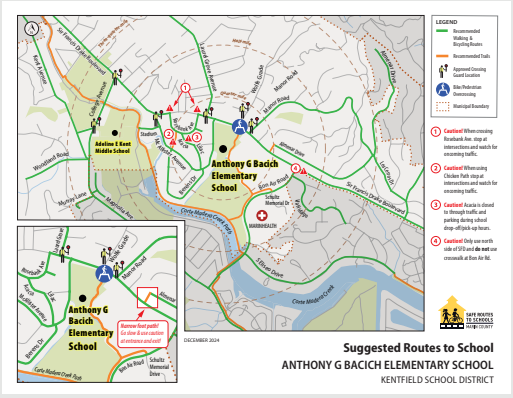
Results from the 2025 caregiver survey show that 54% of elementary school students participate in Walk and Roll Wednesdays once a month, 41% participate in International Walk to School Day, and 29% participate in Ruby Bridges Day. Schools with the highest levels of involvement in encouragement programs included Edna McGuire Elementary School, Olive Elementary School, Pleasant Valley Elementary School, and San Ramon Elementary School.

ONLINE RESOURCES

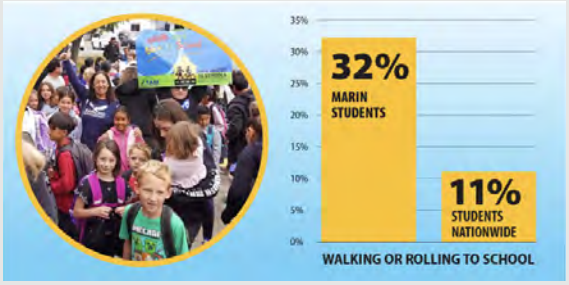
The Marin County Safe Routes to School website is an important resource available to students and parents throughout the Marin County. This site provides information about the program, upcoming activities and programs, suggested route maps, parent and teen encouragement toolkits, and other online resources. The Safe Routes newsletter, published on the website and emailed to the program's distribution list, provides program updates and highlights several times per year.

The Safe Routes to School site also includes a SR2S dashboard that helps visualize key trends in school transportation modes. This dashboard was recently updated to further enhance usability and include historical trends. It will continue to serve as an encouragement tool in the future.

The Safe Routes program also maintains a strong social media presence, with Facebook postings to keep families up-to-date on events and share program highlights.



The Safe Routes website offers a number of online resources including e-bike safety information, suggested route to school maps, biannual newsletters, and a new dashboard publicizing student mode share trends.



Engagement and Safety

Family surveys show that the top reasons parents don't feel comfortable letting their children walk or bike to school are speeding cars and difficult intersections. Local law enforcement plays a critical role in addressing these concerns by enforcing safe behaviors. The Safe Routes to Schools engagement and safety component further promotes safer driver, pedestrian, and cyclist behavior through two core programs: the Crossing Guard Program and Street Smarts.

LOCAL LAW ENFORCEMENT

Local law enforcement plays a critical role in helping to address traffic safety issues and encouraging safe travel in the areas surrounding schools. In addition to ensuring that drivers, bicyclists, and pedestrians all obey the rules of the road, local law enforcement officers use a combination of education and enforcement to promote safety: this includes ticketing, targeted enforcement around schools, radar trailers, and educational pamphlets.

Local police officers also often participate in district task forces, which may also include representatives from the Marin County Sheriff and California Highway Patrol (CHP), when appropriate. Finally, law enforcement has assisted in major events such as International Walk and Roll to School Day by leading bike parades and helping with temporary street closures.

Thus, local law enforcement officers are important partners in helping school communities successfully execute many of the Safe Routes programs.

CROSSING GUARDS

Launched in 2006 with 54 guards, TAM's Crossing Guard Program grew to cover 104 locations in the 2023/24 school year. Funds – from Measure AA – Marin County's ½ cent transportation sales tax made this countywide expansion possible (Figure 5).

Guards are trained, equipped, and managed by a professional contractor, ensuring reliable coverage during school commute hours. Locations are nominated by public works directors with school input, then evaluated against standardized criteria and ranked by priority. While funding determines how many intersections can be staffed each year, sites can also be re-evaluated outside the regular cycle if conditions change. The next full re-evaluation took place in 2025/26, with updates rolling out in fall 2026. The Safe Routes team is tasked with updating suggested route maps with the adjustments to crossing guard locations and promoting the updated route maps.

Partnerships with law enforcement and crossing guards help improve conditions around schools for walking and rolling.

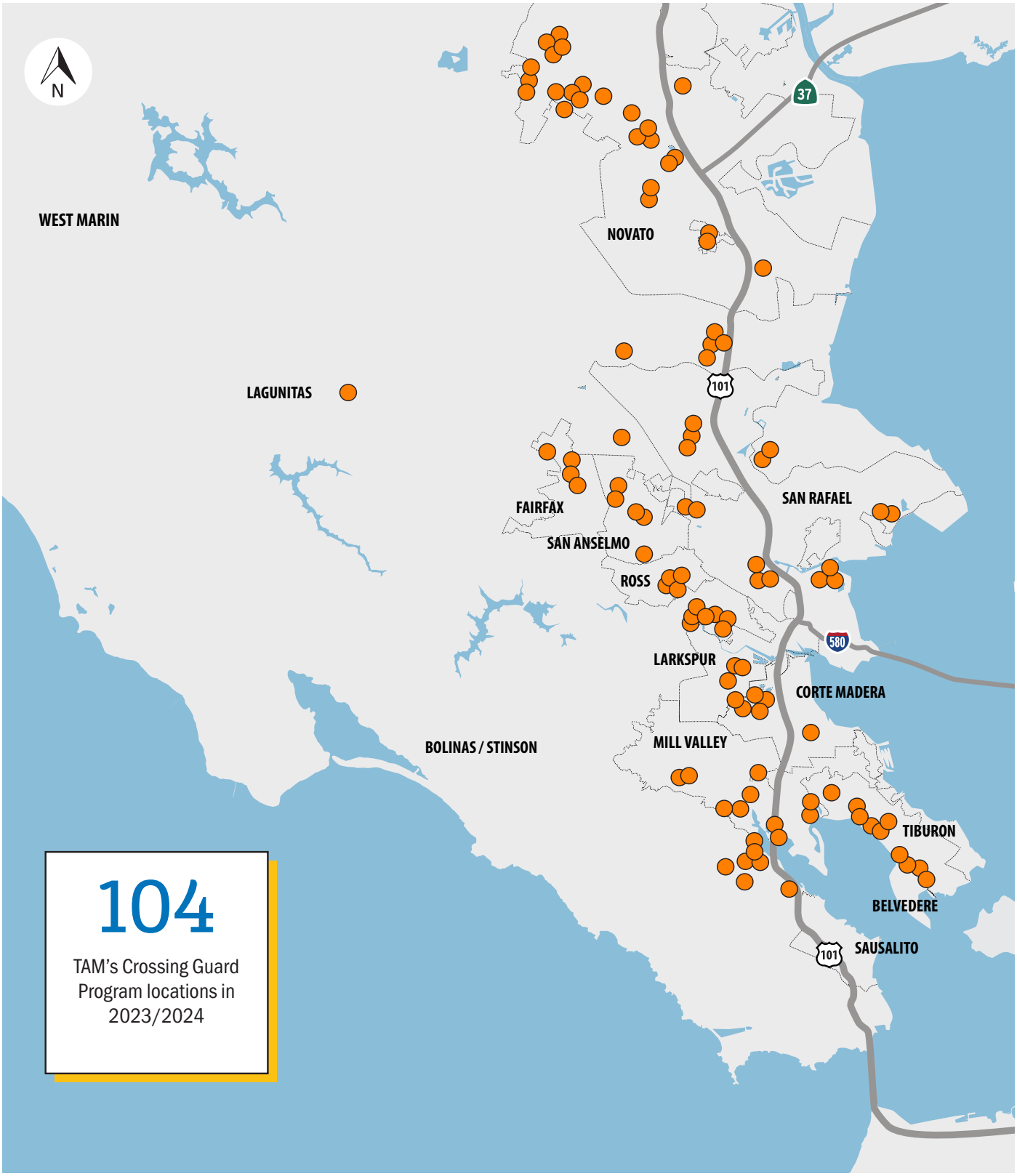


Figure 5. Crossing Guard Locations

● Crossing Guard Locations, 2023/2024 School Year

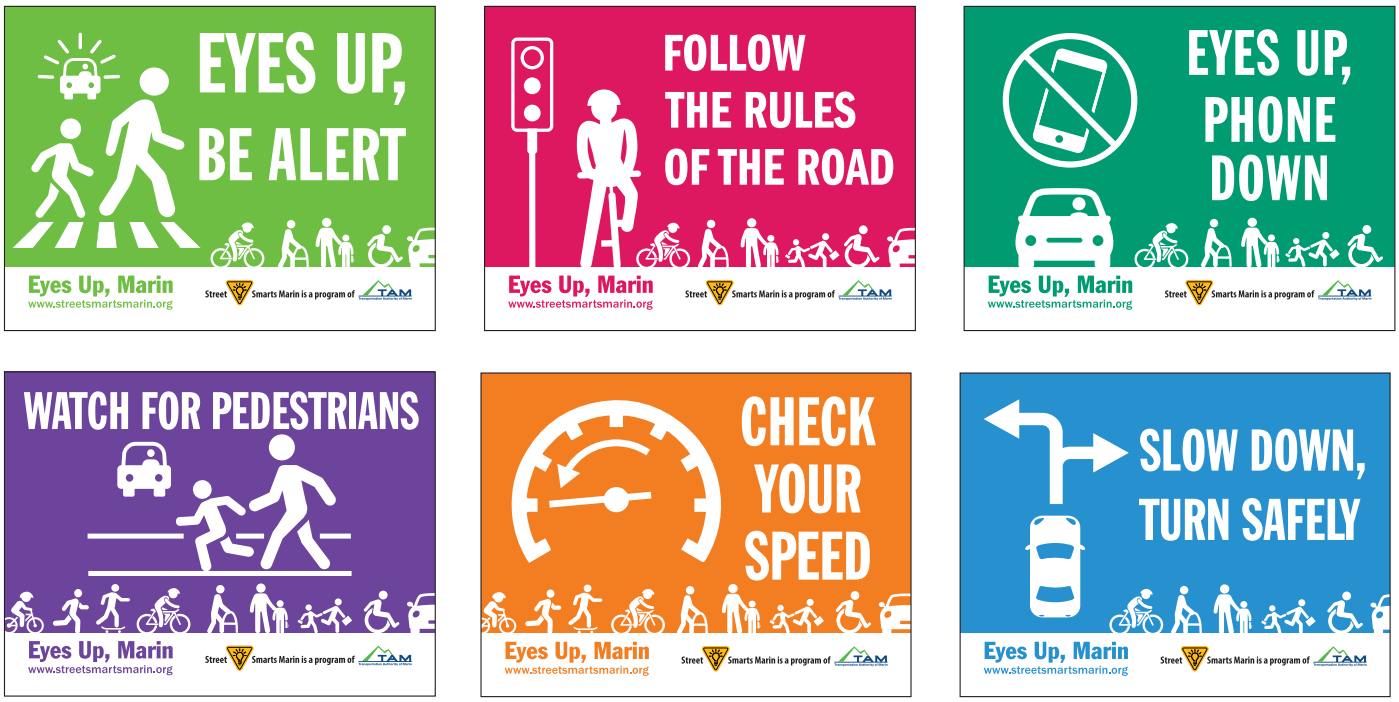
STREET SMARTS

Street Smarts complements other enforcement and safety efforts such as crossing guards by targeting driver and community behavior. This traffic safety campaign educates drivers, pedestrians, and cyclists about issues like distracted driving, aiming to shift attitudes and reduce collisions.

Initially implemented twice a year, Street Smarts now features one longer fall rollout each year. During this period, brightly colored safety banners are strategically placed at high-crash locations, supported by yard signs, visible bus back messages, resident engagement, and a social media push.

Starting in fall 2024, monthly safety tips were added to extend the campaign's reach beyond the rollout period and reinforce key messages throughout the year.

In a recent caregiver survey, approximately 31% of student caregivers reported familiarity with the Street Smarts campaign. Of these respondents, about 42% rated a 4 or higher (on a 5-point scale) when asked if the campaign increased their awareness of safe behaviors while driving, walking, or biking.



Street Smarts safety messaging (also available in Spanish).

180+
Banners hung during each rollout

1,100+
Yard signs distributed to residents

24
Safety message templates shared with distributors

Engineering

The Engineering arm of the Safe Routes to Schools program identifies safety issues, designs improvements, and secures funding to make walking and biking to school safer. Collaboration with parents, schools, local agencies, and community leaders ensures that solutions are grounded in real-world conditions and meet the unique needs of each district.

Safe Routes engineering improvements include quickbuild options such as these upgrades on Magnolia Avenue in Larkspur..

TASK FORCES

Safe Routes staff facilitate school district task forces, bringing together parents, elected officials, traffic engineers, school district representatives, law enforcement, and neighborhood leaders. These groups meet three times each year to tackle transportation safety concerns at the local level and shape customized programs for each district.

In 2024–2025, 11 task forces were active, with Ross and Miller Creek added during the three-year evaluation period (Table 1). Meetings provide a venue to air community concerns and guide key Safe Routes activities, including route maps, walk audits, and engineering concept plans. Task forces range in size depending on the district, and members are recruited by Safe Routes staff and volunteers, as well as by word of mouth. Meetings are open to the public and are advertised on the Safe Routes website.

Task forces play an important role in the Safe Pathways element of the Safe Routes to Schools program. Every three to four years, TAM issues a call for projects for the Safe Pathways to Schools program, inviting jurisdictions to submit either small (up to $100,000) or large (up to $450,000) projects to improve safety for students traveling to school. Large project applications must be approved by a Safe Routes task force to advance in the funding application process, and the discussion and approval of these projects must be documented in a task force meeting.

Table 1. District Task Forces

- Kentfield
- Larkspur-Corte Madera
- Miller Creek
- Mill Valley
- Novato
- Reed
- Ross
- Ross Valley
- San Rafael
- Sausalito-Marin City
- West Marin

11
District Task Forces

99
Task Force Meetings

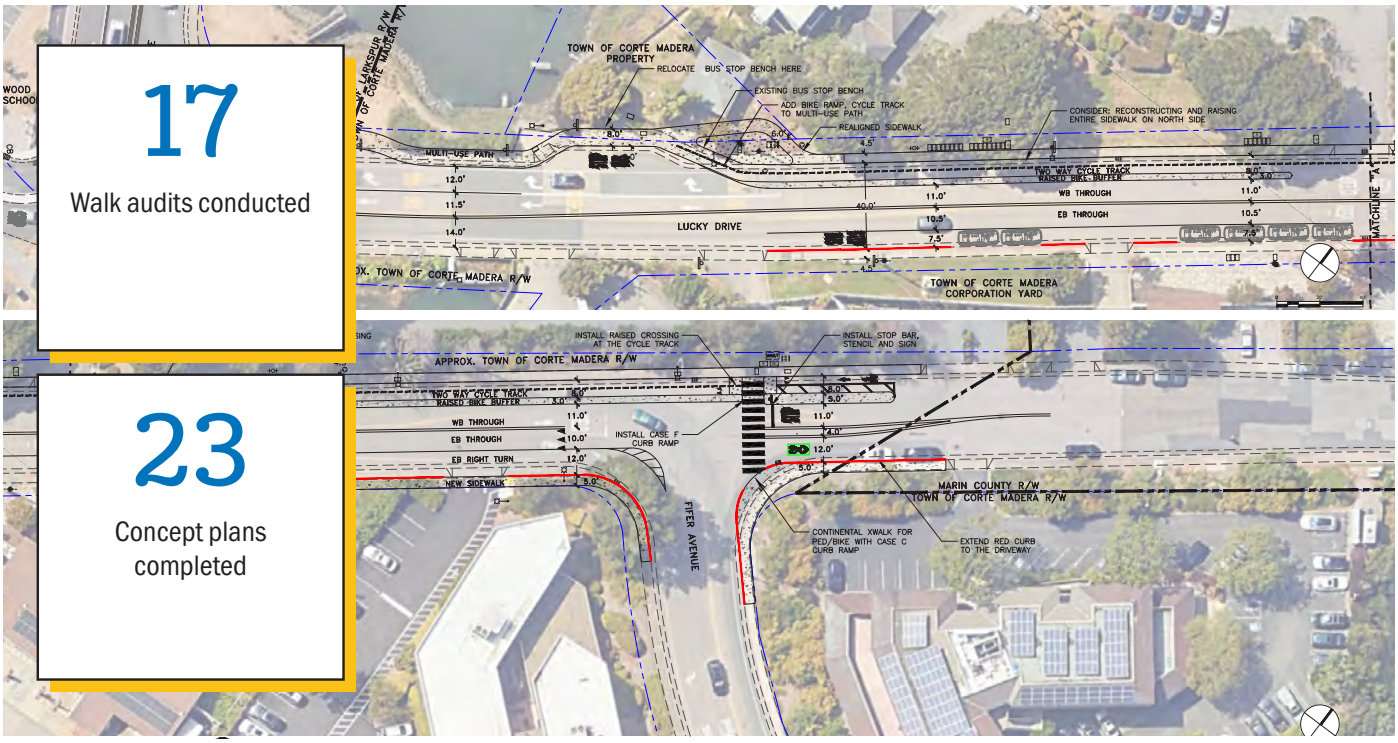
39
Schools Participating in Task Force Meetings

WALK AUDITS AND CONCEPT PLANS

Walk audits allow parents, school personnel, traffic engineers, and Safe Routes staff (including licensed engineers) to evaluate conditions on the ground. Community members share first hand knowledge of problem areas during school drop-off or pick-up periods, while engineers identify potential fixes.

After each audit, Safe Routes engineers work with participating task forces to develop concept plans that propose short- and long-term infrastructure solutions that can improve conditions for walking and biking to school (Figure 6). Concept plans are high-level engineering drawings showing proposed improvements at specific locations (e.g., a new curb extension, raised crossing, or roadway cross-section). These plans are reviewed by local jurisdictions and task forces, then serve as a foundation for funding applications, including TAM's Safe Pathways to Schools Program. The development of concept plans includes the following steps:

1. A walk and bike audit is conducted with the Safe Routes engineering team, task force members, school community, and representatives from the local jurisdiction and law enforcement.
2. The audit identifies operational and physical obstacles within the school study area, which are then prioritized by the jurisdiction and task force. The Ongoing and Upcoming Efforts section discusses the project prioritization process currently being developed by the Safe Routes team, which combines several relevant data points into school-specific overlay maps. This process provides an objective, data-driven method for scoring potential projects.
3. The Safe Routes engineering team, working closely with the local jurisdiction's Public Works department, develops draft concept plans for the highest priority locations to address the obstacles.
4. The plans are presented to the district task force for review.
5. Staff from the local jurisdiction seek funding to develop detailed engineering designs and construct the recommended measures (see Chapter 8 for more information about project funding).



Walk audits bring together Safe Routes staff and diverse stakeholders to identify issues and improvements around schools. This results in concept plan development.

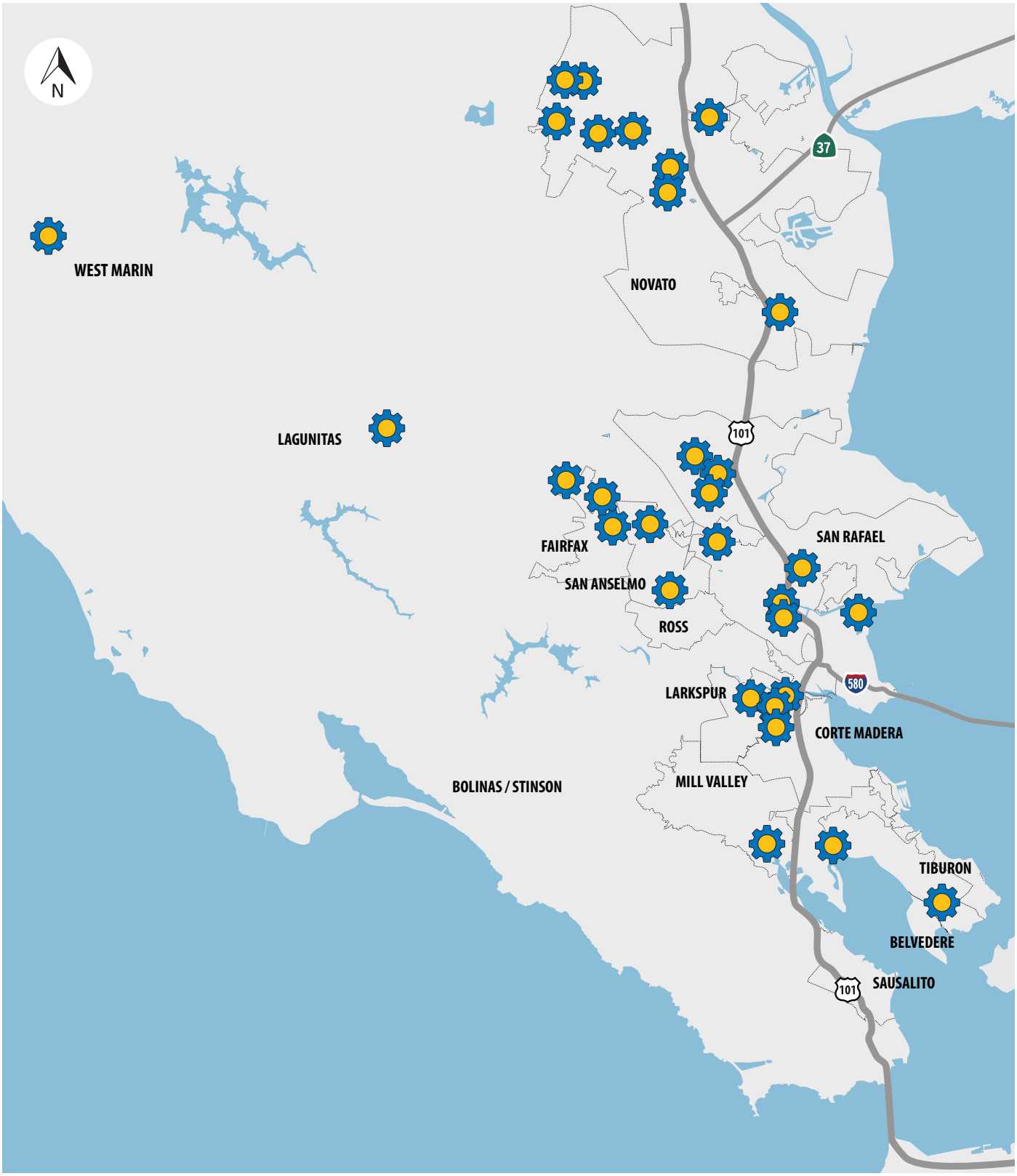
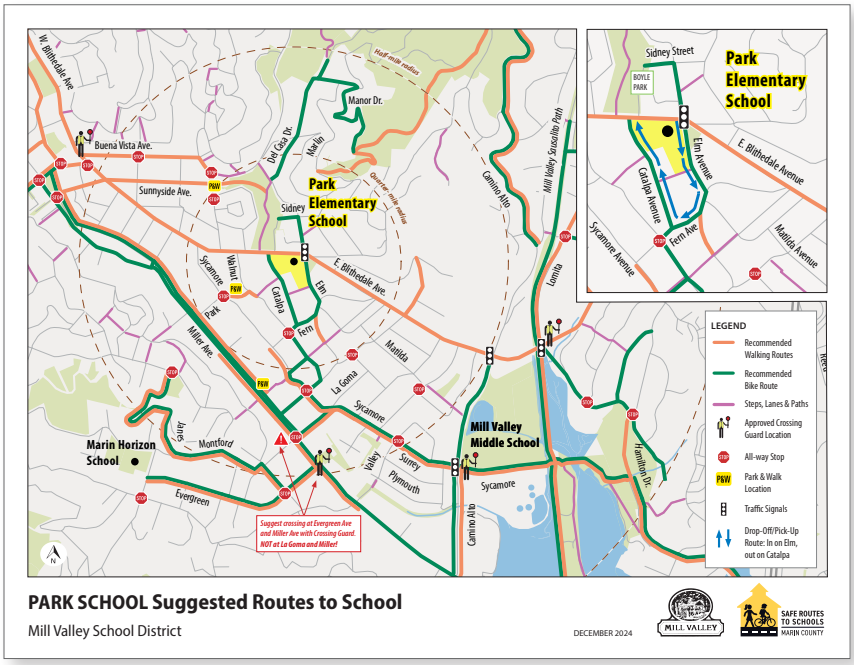


Figure 6. Concept Plan Locations

Concept plans created 2022/2023–2024/2025

MAPPING

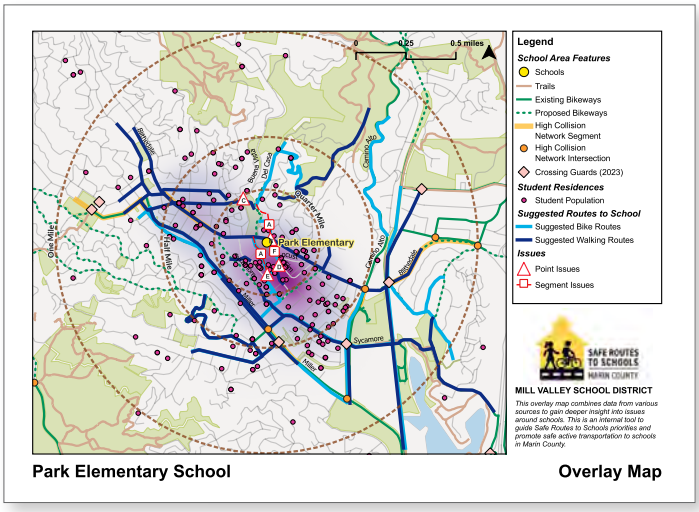
Mapping is central to both encouraging active trips and supporting infrastructure planning. Safe Routes collaborates with task forces, school communities, and public works officials to create suggested route maps, which highlight preferred walking and rolling routes, crossing guard locations, Park & Walk sites, and safety tips. All maps are vetted by the relevant Marin County jurisdiction's Public Works department before being published on the Safe Routes website, giving families clear tools to choose safer routes. Safe Routes is working to complete suggested route maps for all participating schools.



During the evaluation period, 27 suggested route maps were created or updated, with 12 more in progress.

OVERLAY MAPS

Safe Routes also introduced overlay maps, a new planning tool that combines suggested routes, safety information, anonymized student address data, and more. These maps were used to prioritize over 300 infrastructure issues across 40 schools and countywide. Looking ahead, overlay maps and prioritization results will guide future walk audits, inform concept plans at the school level, and serve as a helpful tool for Task Force discussions.



27
Suggested Route Maps created or updated

40
Overlay Maps created

300
Issues Prioritized

Equity

Equitable access to safe and healthy routes is a cornerstone of the Safe Routes to Schools program. Safe Routes works to meet the needs of all students and families—regardless of background or ability—through inclusive programming, community engagement, and support for active and shared travel. Two flagship efforts anchoring this work are the Bilingual Program and the Youth Leading Active Communities (YLAC) program.

BILINGUAL PROGRAM

The Bilingual Program currently serves 12 schools in underserved Marin County communities, where most students speak Spanish at home and 50-90% qualify for free and reduced-price meals. These schools face distinct challenges, including language barriers, cultural differences, and resource gaps, that require tailored strategies.

Over the last six years, the program has doubled in size, adding three schools – Hamilton, Tomales, and West Marin – since the previous evaluation. As of 2024/25, participating schools include:

- Bahia Vista Elementary School
- Coleman Elementary School
- Dr. Martin Luther King, Jr. Academy
- Hamilton School
- Laurel Dell Elementary School
- Loma Verde Elementary School
- Lu Sutton Elementary School
- Lynwood Elementary School
- Olive Elementary School
- Tomales Elementary School
- Venetia Valley School
- West Marin Elementary School

The Bilingual Coordinator, who is a paid member of the Safe Routes team, partners with Family Liaisons to ensure communication is culturally relevant and accessible, often prioritizing Spanish-language text messaging, which has been shown to be the most effective outreach method. Recruiting volunteers remains a challenge, but Safe Routes has built trust through consistent engagement, training, and incentives like gift cards. The program also addresses resource gaps by securing helmets, bicycles, and other equipment to ensure students can participate fully and safely. Ongoing grant support from the Marin County Health Department provides funding for contest supplies and incentives.

12

Schools participating in the Bilingual Program

7

Family Liaisons supporting Safe Routes programming

YOUTH LEADING ACTIVE COMMUNITIES

Launched in 2023/24, Youth Leading Active Communities (YLAC) extends Safe Routes programming to schools with lower engagement, fewer volunteers, and greater socioeconomic challenges. Its core offering is a three-lesson active transportation curriculum that equips students to make safe travel decisions, evaluate local conditions, and share knowledge with their peers and families. Additional activities include mapping Park & Walk sites, organizing assemblies, and supporting Safe Routes events.

YLAC engages students to consider how their environment affects their travel habits, for example by conducting walk audits at their schools.

The 2023/2024 pilot program reached four schools – Dr. Martin Luther King, Jr. Academy; Lynwood Elementary; James B. Davidson Middle; and Hamilton School – selected for their low rates of core program participation, limited parent/family volunteers, lower mode share rates of active/green trips to school, and familial poverty level (measured through the Free & Reduced School Lunch Rate and Title 1 Status). The program engaged nearly 70 students directly and an estimated 600 indirectly during this first year. In 2024/25, YLAC expanded to four more schools: Venetia Valley, Coleman Elementary, Lu Sutton Elementary, and Olive Elementary.

The YLAC program has been working closely with these schools to raise awareness of active transportation, boost student engagement, and support Safe Routes programming in the absence of parent volunteers. Activities are shown in Figure 7.

YLAC builds relationships in hard-to-reach schools and plants the seeds for behavior change.

Early outcomes are promising. By Spring 2025, participating schools recorded average increases of more than six percentage points in active travel rates compared to baseline levels (Spring 2023 for pilot schools, Spring 2024 for new schools). Gains were also seen in green trips and carpooling. These results highlight the potential of YLAC to shift travel behavior when tailored support meets community needs. YLAC participation is just one of many factors that can affect a student or family's decision to walk or roll to school. See the Evaluation chapter for a more detailed discussion of changes in YLAC school participation over time.

	Coleman Elementary	Davidson Middle	Doctor Martin Luther King Jr. Academy	Hamilton School	Lu Sutton Elementary	Lynwood Elementary	Olive Elementary	Venetia Valley Elementary
Core Instructional Sessions			✔	✔			✔	✔
Student Walk Audits				✔			✔	✔
School Assemblies	✔							
Park and Walk Site Identification	✔	✔	✔	✔	✔	✔	✔	✔
Representation at Safe Routes Task Forces	✔	✔	✔	✔	✔	✔	✔	✔
Encouragement Event Support	✔		✔		✔	✔	✔	✔

Figure 7. YLAC Activities at Participating Schools

8
Participating schools

6
Average percentage point increase in active travel rates from baseline per school

2
Average percentage point increase in carpool trips from baseline per school

Funding

The Safe Routes to Schools program supplements its core funding through a mix of infrastructure grants and in-kind donations. This chapter provides an overview of the program's funding and how that funding is leveraged.

Voters first approved Marin's half-cent Transportation Sales Tax under Measure A in 2004 and extended it through 2049 with Measure AA in 2018. The measure made Marin the first county in the nation to provide long-term funding for Safe Routes to Schools, fueling both education and infrastructure improvements.

By leveraging this local investment – especially through the Safe Pathways to Schools capital program – TAM has tripled its initial funds, attracting significant state and federal grants. Additional support also came from the 2010 voter-approved Measure B $10 vehicle registration fee.

TRANSPORTATION SALES TAX EXPENDITURE PLAN

Measure AA — the ½-cent Transportation Sales Tax Renewal — is projected to generate $827 million over 30 years (through FY 2049). As shown in Table 3, about $95.1 million (11.5%) is dedicated to school access programs (expenditure plan Category 3). Nearly $29 million will fund Safe Routes initiatives, including classroom education and community events. The remaining $66 million supports two key programs: Crossing Guards ($58 million) and Safe Pathways to Schools Projects ($8 million) — a combined investment in safer, more accessible routes for students.

Table 3. Measure AA Funding Allocation for Implementing Category 3

Category #3: Reduce school-related congestion and provide safer access to schools	%	Est. 30-year revenue (millions)
Safe Routes to Schools	3.5%	$28.9
Crossing Guards	7.0%	$57.9
Provide capital funds for Safe Pathways to Schools projects	1.0%	$8.3
TOTAL	**11.5%**	**$95.1**

Measure AA funding contributes to Safe Routes programming such as experiential learning classes.

SAFE PATHWAYS TO SCHOOL

Safe Pathways is the capital funding arm of Safe Routes, investing in engineering, environmental clearance, and construction for pathway and sidewalk improvements.

During each round of funding TAM selects projects based on the following performance criteria:

- **The project completes a gap in the bicycle and pedestrian system along a major school route**
- **The project maximizes daily use by students and others**
- **The project relieves an identified safety or congestion problem along a major school route**
- **The project attracts matching funds**
- **The project respects geographic equity**

While Safe Pathways focuses on routes near schools, its impact extends far beyond — building a safer, more connected community network that enhances mobility, safety, and reduces congestion for all.

The fifth round of Safe Pathways funding was awarded in 2024. Over $7 million was distributed to 33 projects countywide, including 19 small projects (up to $100,000 available per project) and 14 large projects (up to $450,000). In a first for the program, all applications were awarded funding. Projects were located in all 11 Marin County jurisdictions as well as unincorporated Marin County.

VEHICLE REGISTRATION FEE

In November 2010, Marin voters approved Measure B, adding a $10 motor vehicle registration fee to fund local transportation improvements. A portion of these funds supports School Safety and Congestion Reduction, with goals to:

- **Maintain and expand the School Crossing Guard program**
- **Enhance and grow congestion-reducing, safety-focused efforts like Street Smarts (a component of Safe Routes) and SchoolPool**

Each year, roughly $175,000 has been allocated under this category and has contributed to crossing guards and Street Smarts. Currently this funding category is fully utilized for crossing guards.

Safe Pathways Cycle 5 awardees included a project to close a gap to the existing cycle track at Terra Linda High School.

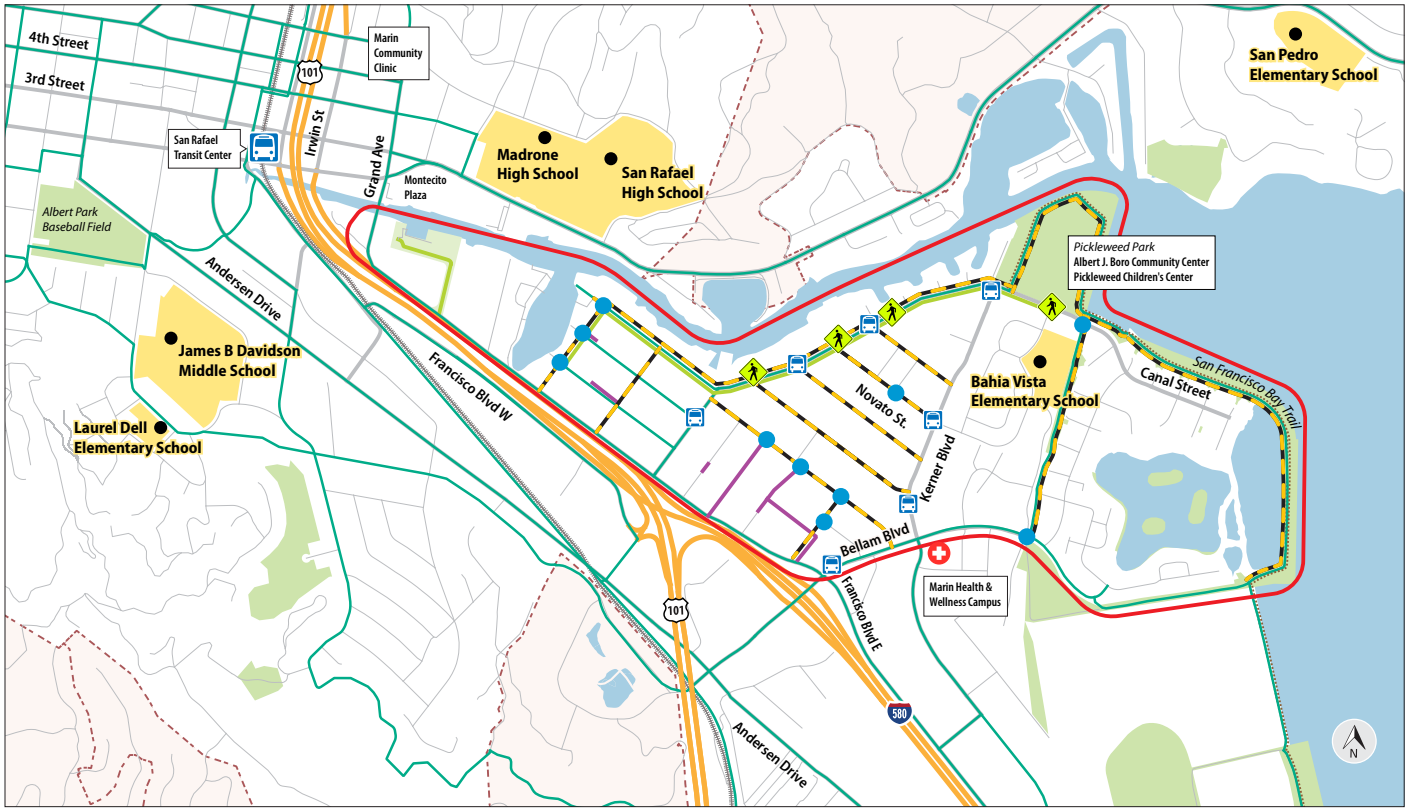
LEVERAGING INFRASTRUCTURE GRANTS

A hallmark of Marin County's Safe Routes program is its direct support to cities, towns, and the county in preparing competitive grant applications. This program assists with the identification of issues, consolidation into potential projects at the corridor scale, and the development of concept plans. The engineering drawings included in the concept plans are essential in developing a competitive grant application, as they make for a more implementable (and lower risk) project and demonstrate an ongoing commitment by local jurisdictions. The process also helps build community support and buy-in, which also makes for a more competitive grant application.

These efforts have secured projects ranging from small $5,000 crosswalk upgrades to multimillion-dollar corridor improvements. Since 2000, this support has helped bring in more than $92 million in external funding.

Since the last evaluation, funding from TAM, federal, and regional sources has risen significantly, including over $7.5 million in new Safe Pathways funding and more than $19 million from other grant sources since 2021/22. Highlights include:

- **Active Transportation Program (ATP) funding (San Rafael): Three projects to improve access for Canal-area students and close the North-South Greenway gap.**
- **MTC Regional Measure 3 and Bay Trail funding: Improvements along Bellam Boulevard, enhancing Safe Routes to Transit connections.**



The San Rafael Safe Routes task force and walk audits helped inform the City's successful ATP application to improve conditions for students walking and rolling to school.

PROGRAM FUNDING

Figure 9 shows program funding from 2008–2025 compared with the Bay Area Consumer Price Index (CPI). While TAM's Measure AA ½-cent sales tax funding has remained stable—and even grown slightly in recent years—grant funding overall has declined.

As Marin County's CPI rises, so do program staff wages, driving the need for ongoing funding increases to sustain staff hours. This presents a growing challenge as more schools join the Safe Routes program and staff capacity remains stretched.

Expanding support for participating schools — while welcoming new ones — demands additional staff time and resources. Delivering classes, contests, and hands-on tools to more students requires greater investment. Likewise, enhancing outreach to disadvantaged and bilingual schools calls for expanded staffing to ensure equitable access and impact across the county.

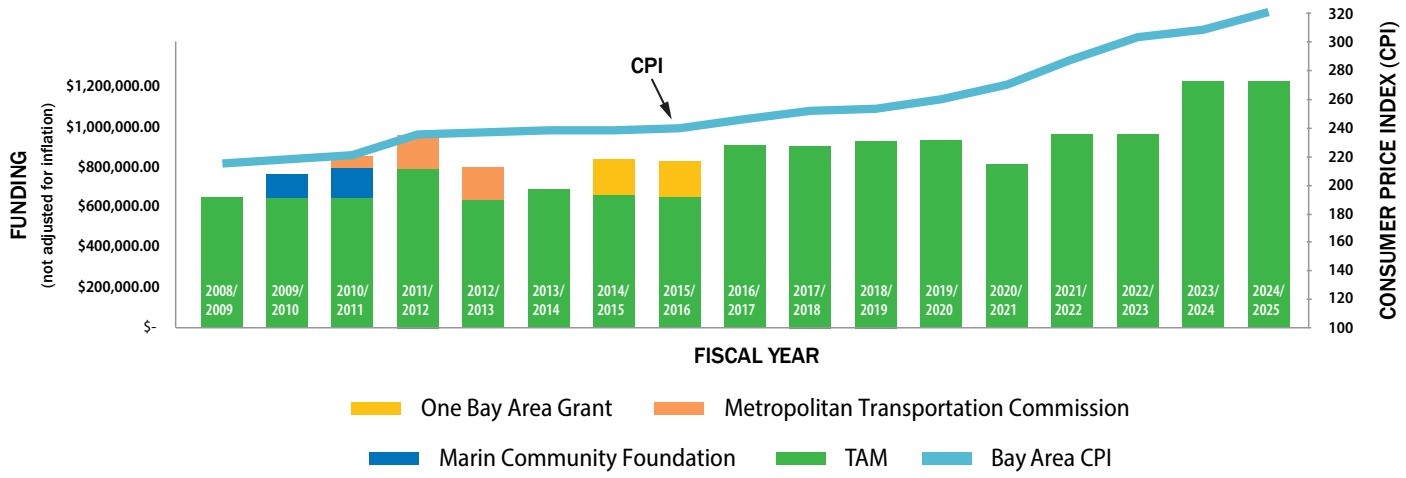


Figure 8. Program Funding Sources by Year

33
Safe Pathways Cycle 5 awards granted to 12 jurisdictions

$12.4M
Active Transportation Program funding received since 2021/2022

$6.8M
MTC Regional Measure 3 funds received in 2025

Evaluation

A central goal of the Safe Routes to Schools program is to help schools maximize their share of active and green trips. Program staff track progress each semester using in-class student tally surveys, with results displayed on the new Safe Routes dashboard available on the program's website (see the Ongoing and Upcoming Efforts section for more information).

Evaluation goes beyond tracking numbers: staff also consider the broader factors that shape families' travel decisions. This holistic approach helps explain why some schools achieve higher rates of active and green travel and how those successes can be replicated elsewhere.

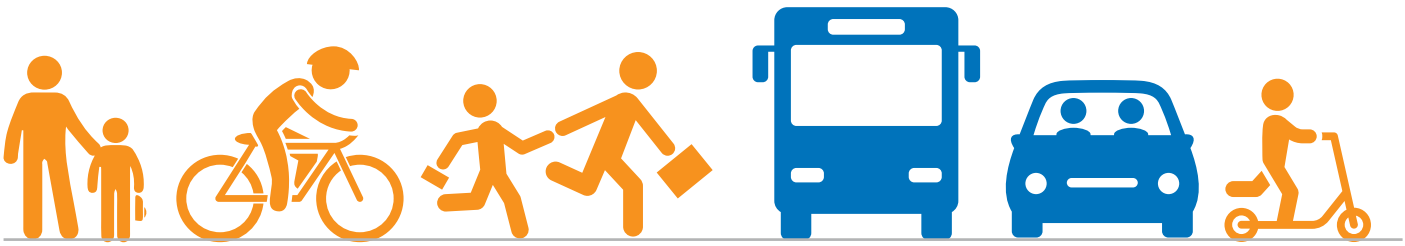
This chapter presents both quantitative and qualitative findings for the evaluation period.

Student tally surveys are an important tool to gauge student mode shift over time.

STUDENT TALLY SURVEYS

Student Tally Surveys are conducted in schools twice a year—once each fall and spring semester—to measure how students travel to and from school. Over several days during the survey period, teachers ask their students, by a show of hands, how they traveled to school that morning and how they plan to travel home that afternoon. Teachers then submit the results electronically. The Safe Routes staff process and analyze the data to calculate each school's travel mode share.

These results are used to track trends in active trips (walking, biking, scooting, and other active modes) and green trips (active modes plus school bus, public transit, and carpooling). The following sections provide an overview of active and green trip trends from the latest student tally survey data.



ACTIVE TRIP TRENDS

In 2024/25, 32% of student trips at participating schools were made by active modes (walking, biking, scooting, and other active modes). This was the highest rate in program history (Figure 9). The other two years in the evaluation period also had strong rates of 30%.

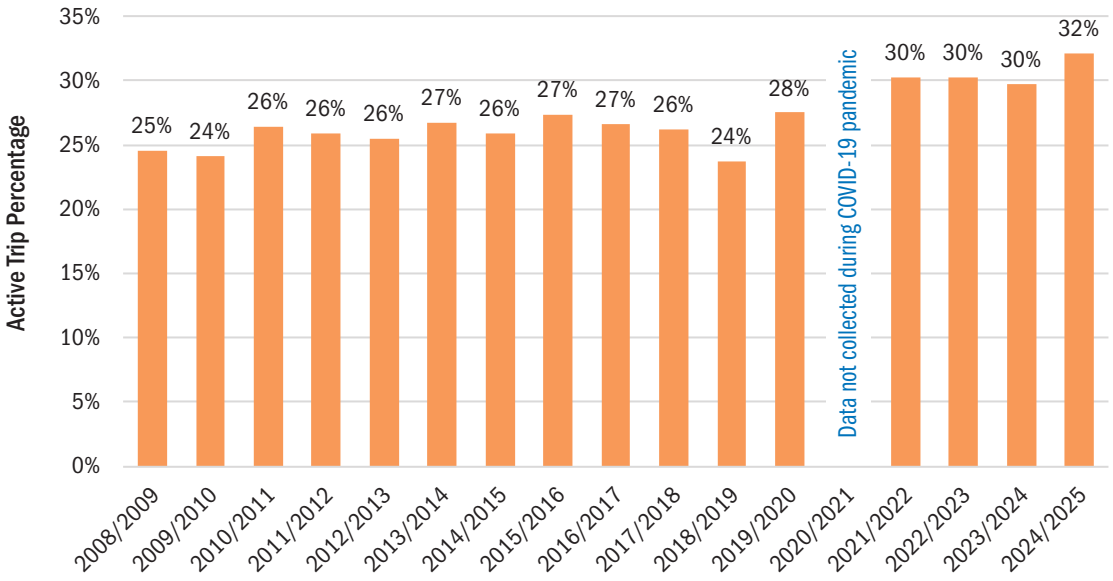


Figure 9. Countywide Active Trip Rates (2008-2025)

Note: Student tallies were not conducted during the 2020/2021 school year.
Rates may be different from previous evaluation report due to new data processing methods.

Eight schools reached 50% or higher active trip rates during the 2024/2025 school year (Figure 10). Rancho Elementary posted the largest long-term increase, up over 22 percentage points since the 2015/2016 school year. Park Elementary School had the highest active trip rate, at 59%. These schools have high levels of team leadership, education, and encouragement participation. Additionally, many of the schools are neighborhood schools where high numbers of students live within walking and biking distance.

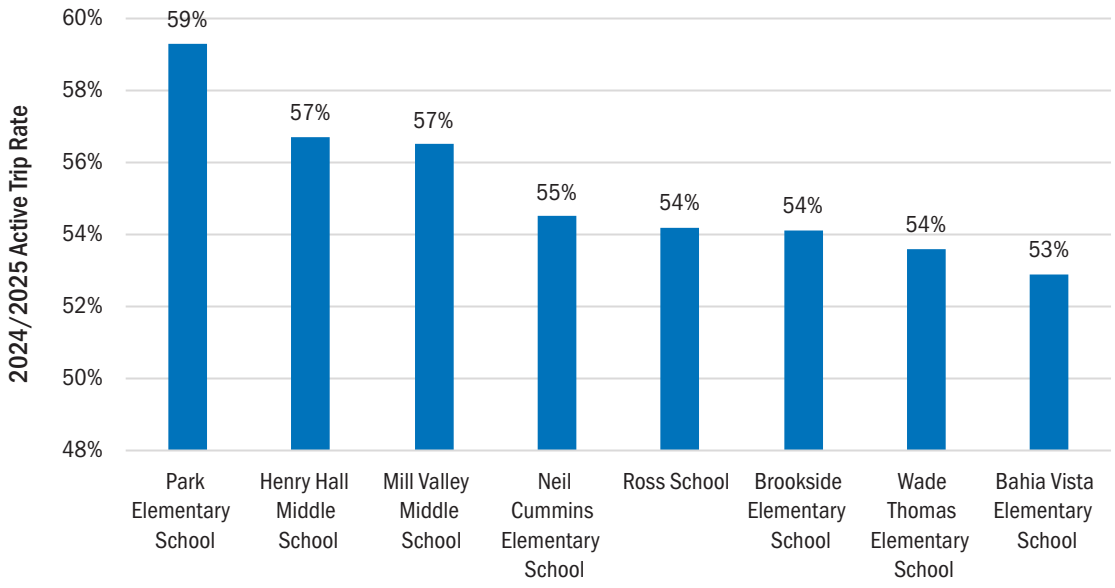


Figure 10. Top Active Trip Rates, 2024-2025

At the district level, Larkspur-Corte Madera had the largest increase in active trips, up almost 12 percentage points (from 31% to 43%) over the last decade (Figure 11). Ross School District maintained the highest overall active trip rate (54%). Eight of 11 districts improved compared to 2015/16. San Rafael maintained its trip rates, while two districts declined: Reed (a minor 3-point drop) and Shoreline Unified, which saw a larger decline likely tied to the inclusion of Tomales Elementary in the 2024/2025 statistic (students live far from school) and challenges at West Marin Elementary including loss of a key parent volunteer and infrastructure concerns. Refer to Appendix A for an evaluation of factors that contributed to these active trip rates.

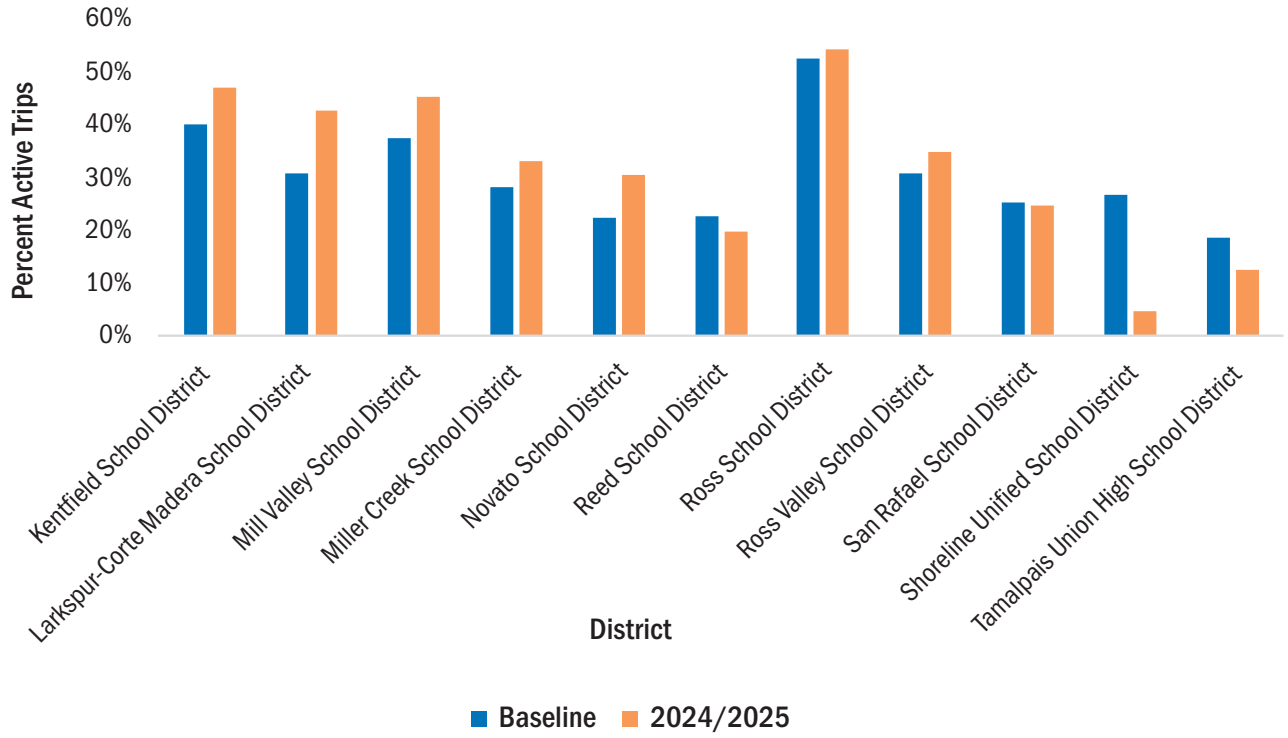
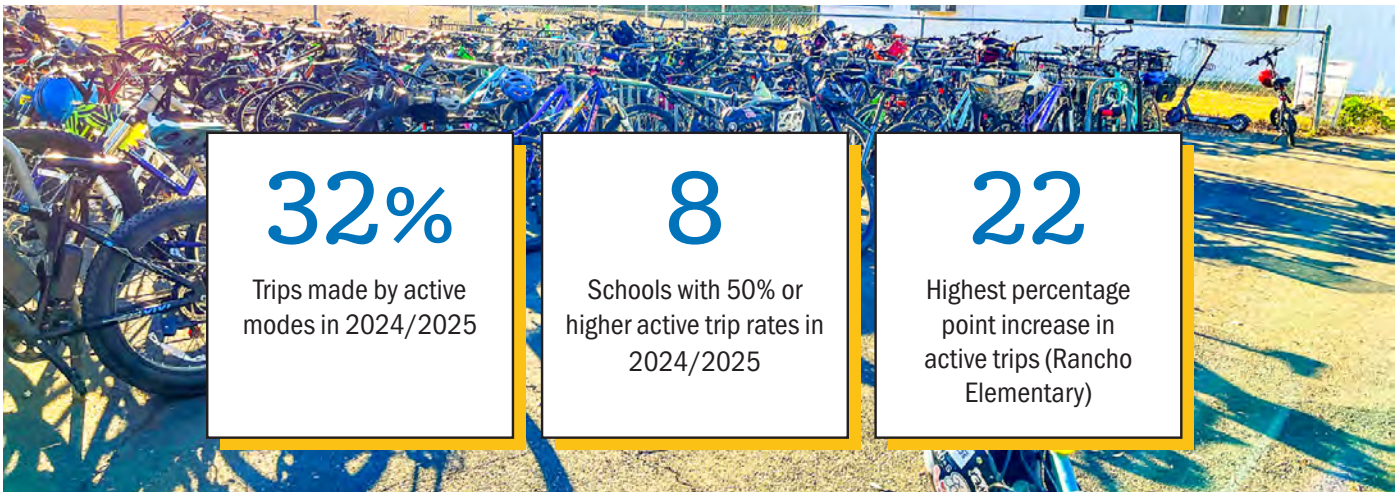


Figure 11. Changes in District Active Trip Rates

Note: 2024/2025 data was not available for all schools.



GREEN TRIP TRENDS

In 2024/25, 51% of trips were made by green modes (active modes plus school bus, public transit, and carpooling). This is one of the program's highest countywide annual rates, tying with 2016/17 and 2017/18 (Figure 12). Rates dipped during 2022/23 and 2023/24, possibly due to reduced school bus service, but rebounded in 2024/25 as active modes increased.

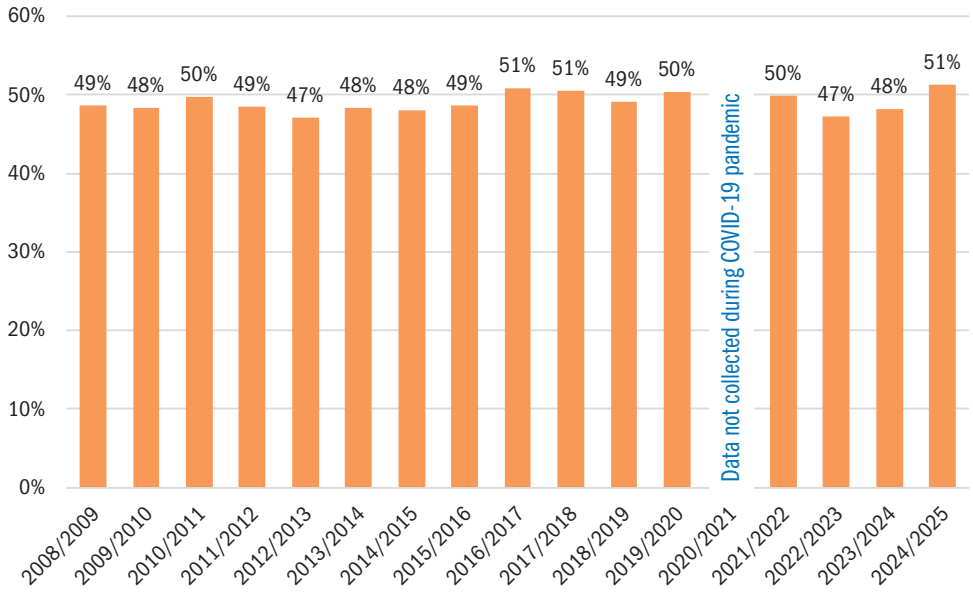


Figure 12. Countywide Green Trip Rates

Note: Student tallies were not conducted during the 2020/2021 school year. Rates may be different from previous evaluation report due to new data processing methods.

Twenty-three schools reached at least 50% green trip rates during the 2024/2025 school year, with 10 schools topping 60%: White Hill Middle School led with a 77% green trip rate (Figure 13). The school's rates were likely bolstered in part by its high education participation, the relatively high levels of other contributing factors (see Appendix A), and the relative independence of middle school students compared to younger students. Ross Valley School District's schools stood out, with five schools above 50%. Marin Primary & Middle School and Tamalpais Valley Elementary School tied for most improved, each climbing 18 percentage points since 2015/2016.

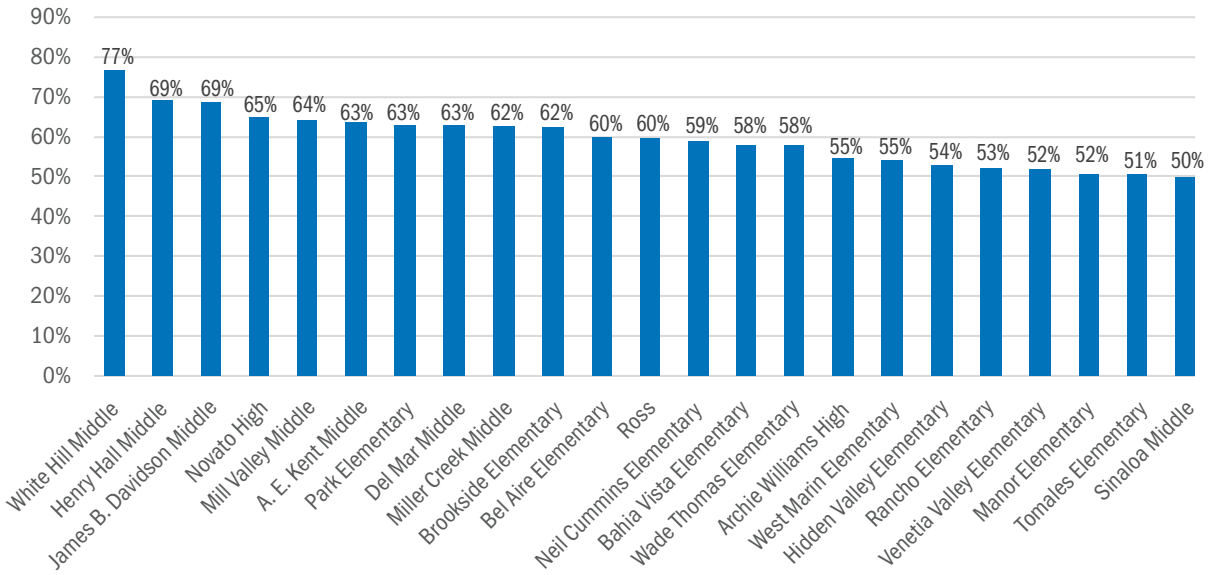


Figure 13. Top Green Trip Rates, 2024-2025

School District-level changes were generally smaller than for active trip rates (Figure 14). Ross Valley had the biggest gain (+12 points) since 2015/2016. Miller Creek and Shoreline Unified saw slight decreases, likely tied to busing reductions.

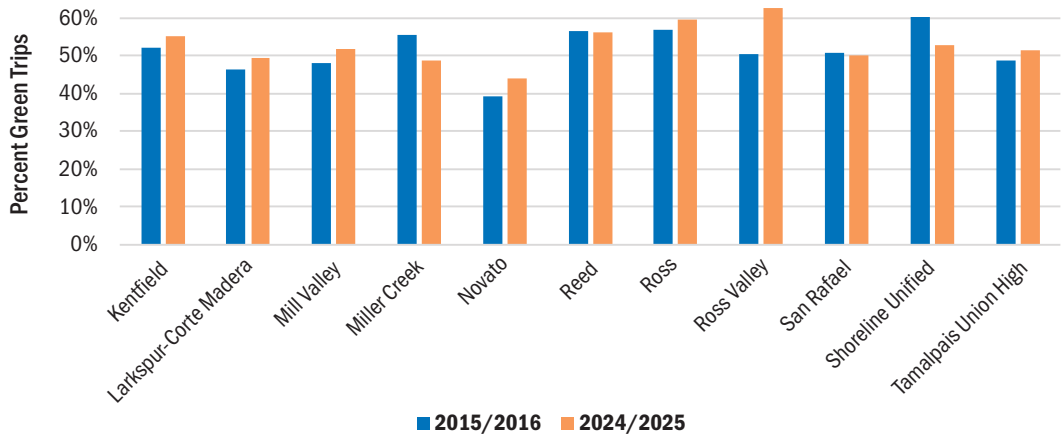


Figure 14. Changes in School District Green Trip Rates

Note: 2024/2025 data was not available for all school districts.

51%
Trips made by green modes in 2024/2025

23
Schools with 50% or higher green trip rates in 2024/2025

10
Schools with 60% or higher green trip rates in 2024/2025

18
Highest percentage point increase in green trips (Marin Primary & Middle School and Tamalpais Valley Elementary School)

PARTICIPATION FACTORS AND MODE SHARE

Safe Routes aims to boost green trip mode share as much as possible. Beyond tracking travel data, it is critical to examine the factors that shape families' choices. This holistic lens helps staff understand why some schools excel at shifting trips to walking, rolling, or other green modes, and how those successes can be replicated elsewhere.

EVALUATION FACTORS

Table 4 and Table 5 outline the factors assessed qualitatively across all schools. These were then compared to trip rates to gauge their influence on active and green travel.

Table 4. School Involvement-Based Evaluation Factors

Factor	High	Medium	Low
School Involvement-Based			
Administration	• Actively involved in promoting the program • Participates in and independently promotes events • Attends task force meetings • Hosts Safe Routes assemblies	• Promotes events at the request of Safe Routes SR2S staff • Include SR2S information in school newsletters	• Little to no participation in or promotion of SR2S events and programs
Team Leader (Parent Volunteer)	• Makes extra effort beyond the minimum requirements to ensure the success of SR2S programs • Attends task force meetings • Develops and implements new programs • Hosts extra contests and/or events	• Coordinates a weekly Walk and Roll Wednesday program • Hosts contests provided by SR2S	• No team leader
Education	• Hosts all core SR2S education safety programs each year • Coordinates additional classroom activities, schoolwide assemblies and educational events	• Hosts some SR2S education safety programs	• Does not offer an education program
Encouragement	• Hosts all available SR2S encouragement programs at least once per year • Develops and hosts additional encouragement events • Actively promotes SR2S through school newsletters and other media	• Hosts some encouragement events when coordinated by SR2S team • Coordinates monthly Walk and Roll events	• Only holds annual events e.g., iWalk or National Bike to School Day

Table 5. Geographic and Infrastructure-Based Evaluation Factors

Factor	High	Medium	Low
Geographic / Infrastructure-Based			
Supportive Infrastructure	• School is located in a very walkable and bikeable community • Pedestrian-friendly sidewalks and dedicated bicycle facilities within a one-half mile radius of the school • High-visibility crosswalks and signage at intersections and crossings serving school-based traffic • School has ample and secure bicycle parking	• School is located in a moderately walkable and bikeable community • Some pedestrian-friendly sidewalks and dedicated bicycle facilities within a one-mile radius of school; however, facilities could be upgraded to better accommodate pedestrians and bicyclist • Opportunities for improved crosswalks and signage at intersections and crossing serving school-based traffic • Minimal bicycle parking provided at school	• Noticeable gaps in pedestrian and bicycle infrastructure connecting neighborhoods to school
Bussing	**Yellow (Y)** • School is directly served by yellow school service and may also be served by public transit operators **Transit (T)** • School is served by public transit operators providing local and regional service to the community **No (N)** • School does not have a yellow school bus system and is not served by public transit operators		
Neighborhood Schools	A neighborhood school is one which draws its student population from within defined neighborhood boundaries. This would result in students living within walking / bicycling distance to their school		
Crossing Guards	Schools that have an assigned crossing guard		

EVALUATION RESULTS

Appendix A shows evaluation results for the 2024–2025 school year. Schools with the highest active trip rates tend to share three things—supportive infrastructure, active leadership, and engaged participation.

Neighborhood schools, Safe Routes education, and supportive infrastructure are the most highly correlated with higher walking and rolling rates. Busing, however, shows the opposite effect, drawing students away from active modes. Meanwhile, education, administrative backing, and team leadership drive stronger green trip rates overall.

These relationships are illustrated by several schools that score highly across multiple supportive factors but still demonstrate low active or green trip rates. West Marin-Inverness Elementary School and Bel Aire Elementary School both received high scores for administration, team leadership, education, and encouragement; however, their green trip rates remain low at 7% and 13%, respectively. This discrepancy is largely attributable to long travel distances and the availability of bus service.

Similarly, Olive Elementary School scored highly in administration, team leadership, education, encouragement, and supportive infrastructure, yet reported only 21% green trips and 13% active trips. This outcome may reflect the dispersed geographic distribution of students – indicating the school does not function as a neighborhood school – as well as the absence of bus service.

YLAC SCHOOLS

Special attention was paid to the YLAC schools to gauge the program's effectiveness in its first years. Owing to reduced participation, these schools often have lower green and active trip rates than other schools participating in Safe Routes. Nearly all YLAC schools improved their green or active trip rates compared to the pre-program baseline (2021–2022). Highlights include:

- **Coleman Elementary School:** 5-point increase in school bus use and 2-point increase in carpooling
- **Hamilton School:** 2-point increase in carpool trips
- **Davidson Middle School:** 3-point increase in walking and 6-point increase in school bus use
- **Lu Sutton Elementary School:** Growth across all active and green modes, including a 5-point increase in walking and a 3-point increase in biking
- **Venetia Valley Elementary School:** 2-point increase in public transit and 1-point increase in carpooling

These shifts are tied to leadership, education, and encouragement efforts—factors that take time but yield lasting results. Comparing current YLAC factors with 2021–2022 shows almost across-the-board improvement (Table 6). The number of schools rated "high" in Team Leaders, Education, and Encouragement jumped to five; for Education and Encouragement, the remaining schools rose to "Medium." Administration also increased to four schools with "high" rankings. Overall, the YLAC schools reduced the number of "low" scores from 12 to 4 while increasing the "high" scores from 9 to 21. The number of schools with high supportive infrastructure scores stayed the same, which reflects the relatively long timeframe needed to identify, fund, and construct safety improvements.

Table 6. Number of YLAC Schools with"High" Evaluation Factors

Factors	2021/2022	2024/2025
Administration	1	4
Team Leader	1	5
Education	2	5
Encouragement	2	5
Supportive Infrastructure	2	2

YLAC expands the Safe Routes program's presence in hard-to-reach schools, improving program participation and shifting behaviors.

VEHICLE MILES TRAVELED AND GREENHOUSE GAS EMISSIONS SAVED

Estimating vehicle miles traveled (VMT) and greenhouse gas emissions (GHG) savings is another way to gauge the Safe Routes program's progress in encouraging more green trips. While changes in these metrics cannot definitively be attributed to Safe Routes participation, they provide valuable insight into broader travel behavior trends and the potential environmental benefits associated with increased walking, biking, bussing, and carpooling. Reductions in VMT and GHG emissions suggest that more families may be choosing active or shared modes of transportation, supporting the program's goals of fostering healthier, more sustainable communities.

Using VMT or GHG emissions per student provides a more accurate and comparable measure of program effectiveness by accounting for differences in school size and focusing on changes in individual travel behavior rather than total population effects. A detailed methodology for the analysis can be found in Appendix B.

Daily VMT and GHG emissions were estimated using student travel survey mode shares, school enrollment, and trip assumptions, with adjustments for carpooling and zero-emission modes like walking and biking. Emissions were then calculated using standard EPA factors and compared to a drive-alone baseline to estimate annual GHG savings. A detailed methodology for the analysis can be found in Appendix B.

VMT TRENDS

Among all participating schools, daily VMT per student has been declining since the 2018/2019 school year, when student travel was responsible for approximately 4.6 daily VMT per student. An all-time low of 4.3 daily vehicle miles traveled per student was recorded in 2021/2022 and again in 2024/2025. This accounts for an annual savings of approximately 40 miles per student compared to 2015/2016.

Daily VMT per student varied widely from school to school during the three-year evaluation period (Figure 15). Novato Charter, whose students live further from school are more likely to be driven, had the highest daily VMT per student (11.0). High schools, such as Terra Linda High School and Redwood High School, were more likely to have higher VMT given that students live further from school and some are old enough to drive themselves. Neighborhood schools with high active trip rates had the lowest daily VMT: these include Bahia Vista Elementary School (1.0), Ross School (1.4), and Brookside Elementary School (1.7).

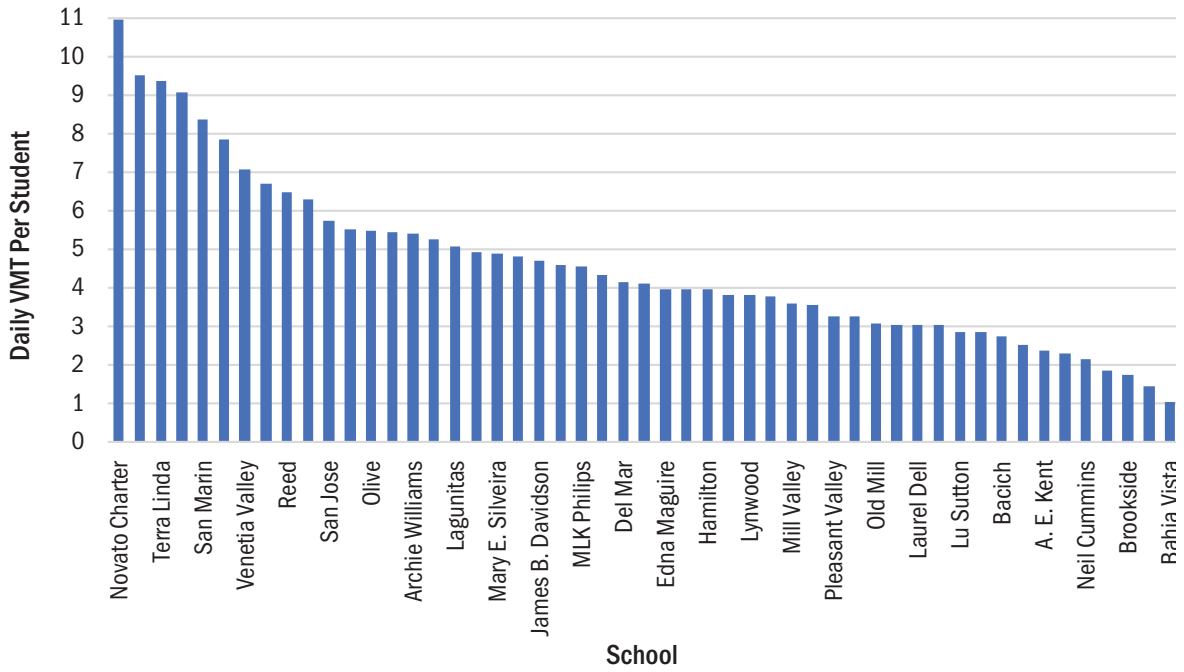


Figure 15. Daily VMT Per Student By School, 2022/2023 – 2024/2025

GHG SAVINGS

Annual GHG savings represent the amount of carbon dioxide emissions avoided because students used active or shared travel modes instead of being driven alone. They show how much lower emissions are each year compared to a scenario where every student arrived by family vehicle.

Daily GHG savings per student have largely been improving since 2008/2009 (Figure 16). During the 2024/2025 school year, the year with the highest daily GHG savings of the three-year evaluation period, students saved over 1,300 g of GHG daily through their use of active and green modes to get to and from school. During the three-year evaluation period, schools with the highest daily GHG savings per student include White Hill Middle School (2,979 g), Dr. Martin Luther King Jr. Academy (2,649 g), and Novato Charter School (2,279 g). Dr. Martin Luther King Jr. Academy and Novato Charter School may have such high GHG savings per student because any green trips replace what would otherwise be long family vehicle trips.

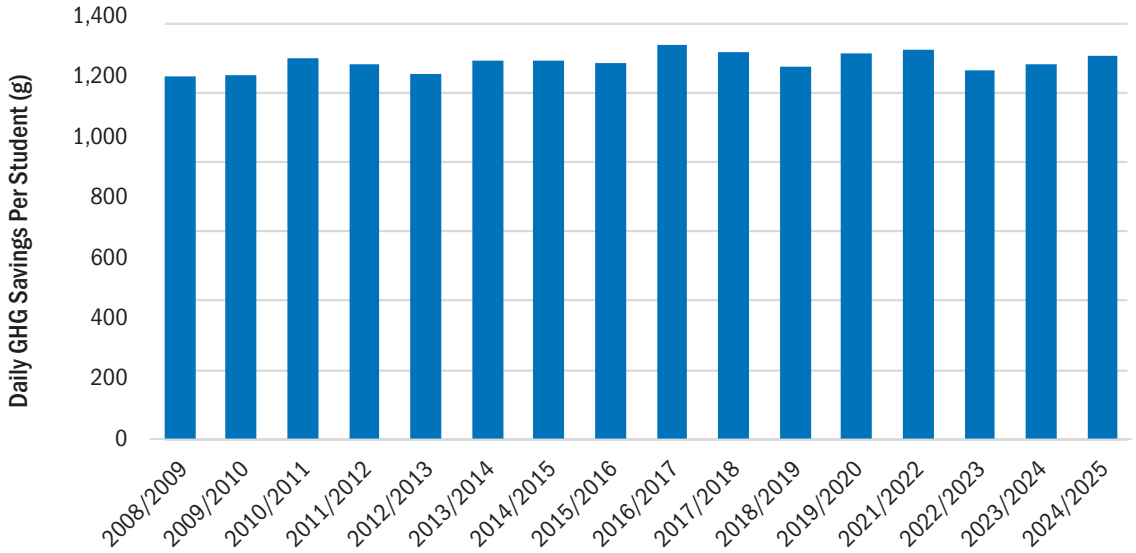


Figure 16. Daily GHG Savings Per Student by Year

Walking school buses, like this one at Bahia Vista Elementary School, can help encourage students to walk to school more regularly.

The top six schools with the most GHG savings were all middle schools. Looking at GHG savings during the evaluation period, middle schools have the highest savings (Figure 17). This may speak to mode shifts as students become more independent and are able to walk and roll longer distances, replacing family vehicle rides with more active modes. The higher GHG savings could also result from the foundational work done by the Safe Routes program in elementary schools that primes more mode shift when students reach middle school.

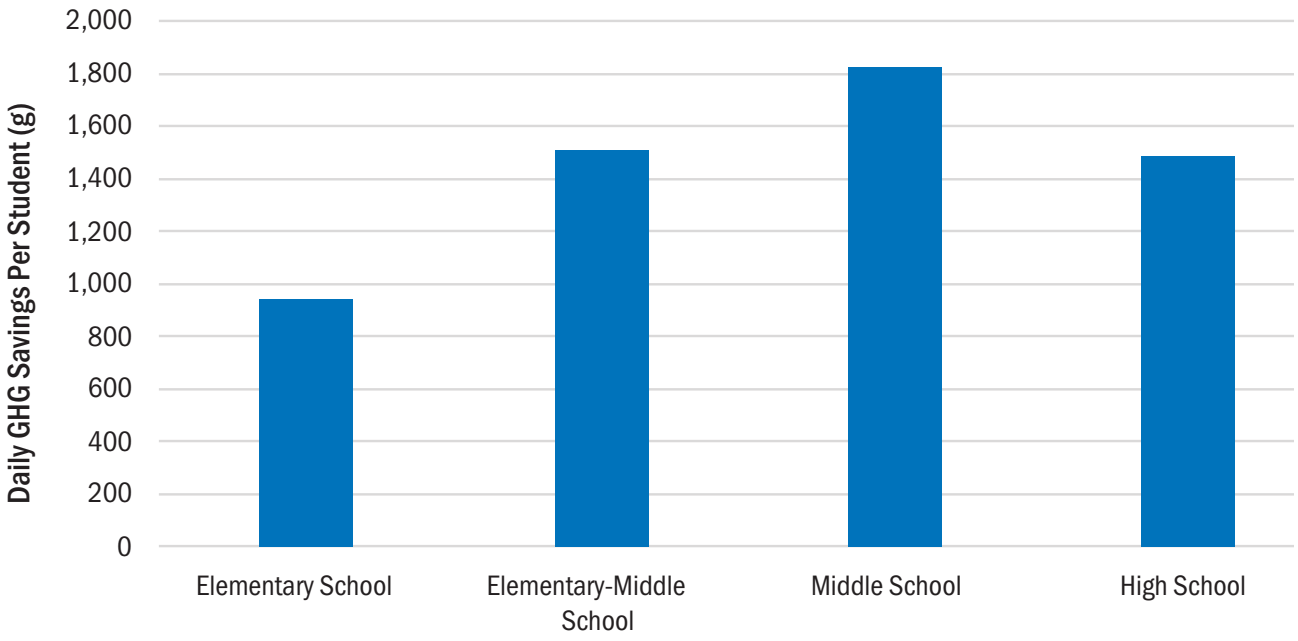


Figure 17. Daily GHG Savings Per Student by School Type, 2022/2023 – 2024/2025

4.3
Daily VMT per student, a program low (2024/2025)

36
Annual VMT savings per student in 2024/2025 vs. 2015/2016

1,311
Daily GHG savings (g) per student in 2024/2025

OVER 236,260
Annual GHG savings (g) per student in 2024/2025

CAREGIVER SURVEY

To better understand the reasons caregivers allow or do not allow their students to walk, bike, carpool, or ride the bus to school, a comprehensive caregiver evaluation was conducted across elementary, middle, and high school communities. The survey, administered in both English and Spanish, aimed to identify the motivations behind caregivers' transportation choices, their students' participation in Safe Routes activities, and the barriers that influence their students' travel behavior. In total, 2,587 caregiver surveys were collected countywide. Of these, 1,484 responses were from elementary school caregivers (1,322 English and 162 Spanish), 644 from middle school caregivers (590 English and 54 Spanish), and 459 from high school caregivers (408 English and 51 Spanish).

ELEMENTARY SCHOOL TRENDS

The elementary school caregiver survey represents the largest group of participants, with 1,484 total responses collected from 26 schools. Of these, 89% were completed in English and 11% in Spanish. The schools with the highest number of respondents were Pleasant Valley Elementary School (9% of all elementary school responses), San Ramon Elementary School (9%), and Olive Elementary School (8%), representing a strong distribution across northern and central Marin County.

Distance remains one of the strongest influences on how students travel. 41% of elementary students live more than one mile from school, 23% live between one-half and one mile, and 35% live within one-half mile.

Approximately 70% of caregivers said their child uses the same travel mode daily, with 42% traveling by car, 13% walking, and 6% biking. Far more students use active modes as non-daily commute options. 13% of students walk and 16% bike one to four times per week. For caregivers who allowed walking or biking, 43% said proximity to school was the greatest motivator, followed by quality time (35%), health benefits (32%), and participation in Safe Routes to Schools events (24%).

MIDDLE SCHOOL TRENDS

A total of 644 middle school caregivers completed the survey, including 590 English and 54 Spanish responses. The schools with the highest response rates were Sinaloa Middle School (30% of all middle school responses), Mill Valley Middle School (26%), and San Jose Middle School (21%).

Caregiver perceptions play a big role in whether students walk or roll to school.

Most middle school students live further from school, with 62% living more than one mile away. Approximately 73% of caregivers reported that their student uses the same mode daily, most commonly driving (29%) or biking (21%). For middle school families, student independence (52%) was the strongest motivator for walking or biking, followed by health (34%), confidence in the student's safety (30%), and proximity to school (29%). As with elementary caregivers, traffic safety and travel distance continued to shape decisions.

HIGH SCHOOL TRENDS

The high school caregiver survey collected 459 total responses, including 408 in English and 51 in Spanish. The largest participation came from San Marin High School (45% of all high school responses), Novato High School (44%), and Terra Linda High School (6%). High school families reported the greatest travel distances, with 75% living more than one mile from campus. Approximately 82% said their students use the same travel mode daily, most often driving (42%), carpooling (14%), or walking (8%). The most common reason caregivers allowed walking or biking was student independence (36%), followed by living close to school (17%), health (13%), reducing congestion (8%), and environmental awareness (7%).

FACTORS INFLUENCING ACTIVE TRANSPORTATION

For elementary families, proximity was the dominant factor, with 43% citing living close to school as the main reason for allowing active travel (Figure 18). Many also noted quality family time (35%) and health benefits (32%) as key motivators. In middle school, the emphasis shifted toward independence, as 52% of caregivers said their student's maturity and ability to travel independently encouraged walking or biking. Health (34%), confidence in students' abilities (30%), and environmental awareness (18%) also contributed to these decisions. At the high school level, independence remained the strongest factor (36%), but overall participation in active modes was lower due to distance and scheduling demands.

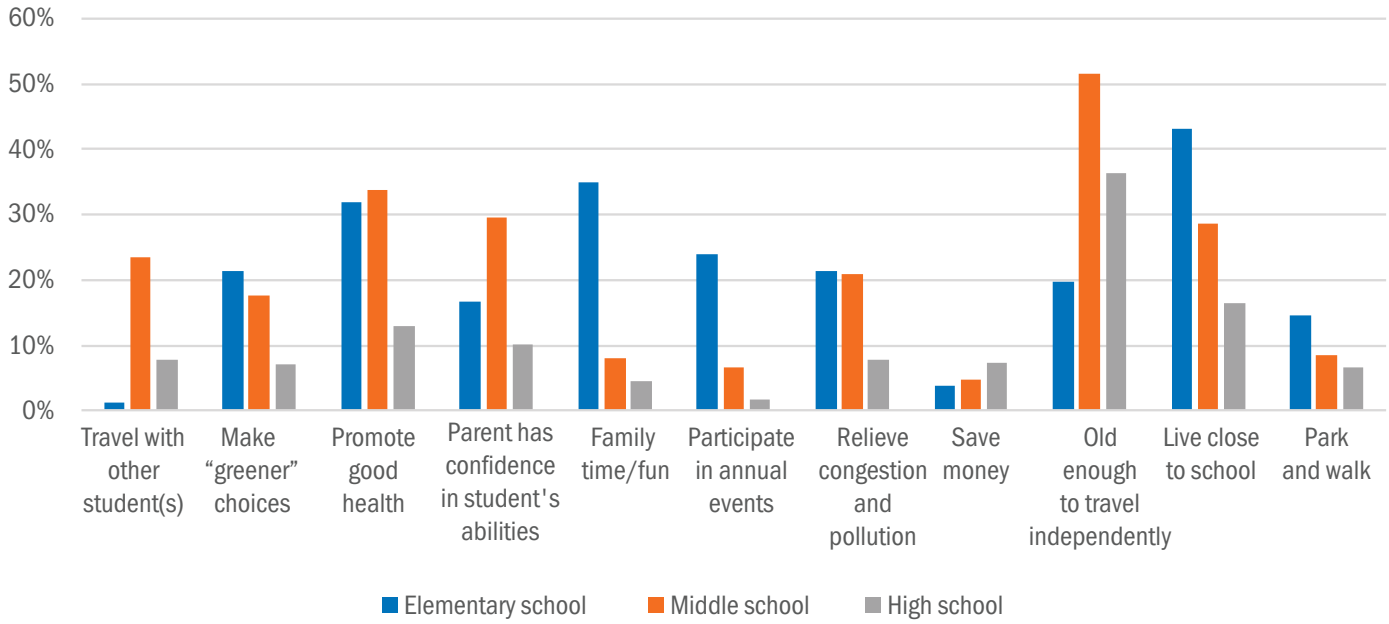


Figure 18. Factors Influencing Active Travel to School

Participation in events such as Ruby Bridges Day is a motivator for students to walk and roll to school.

BARRIERS TO ACTIVE TRANSPORTATION

Across all school levels, caregivers consistently identified distance, traffic safety, and time constraints as the primary barriers to walking and biking (Figure 19). Among elementary families, the leading limiting factors were speeding cars (50%), dangerous intersections (39%), and lack of bike lanes or separated paths (27%). Weather (29%) and long distances (26%) were also significant challenges. Middle school caregivers echoed these concerns, with speeding cars (51%) and challenging intersections (40%) emerging as the most frequent safety concerns. Many middle school caregivers cited weather (38%), distance (29%), and too much to carry (22%) as additional reasons for driving. At the high school level, barriers shifted further toward practicality rather than safety. Distance (44%) was by far the dominant constraint, followed by weather (21%), after-school activities (15%), rushed mornings (14%), and too much to carry (14%).

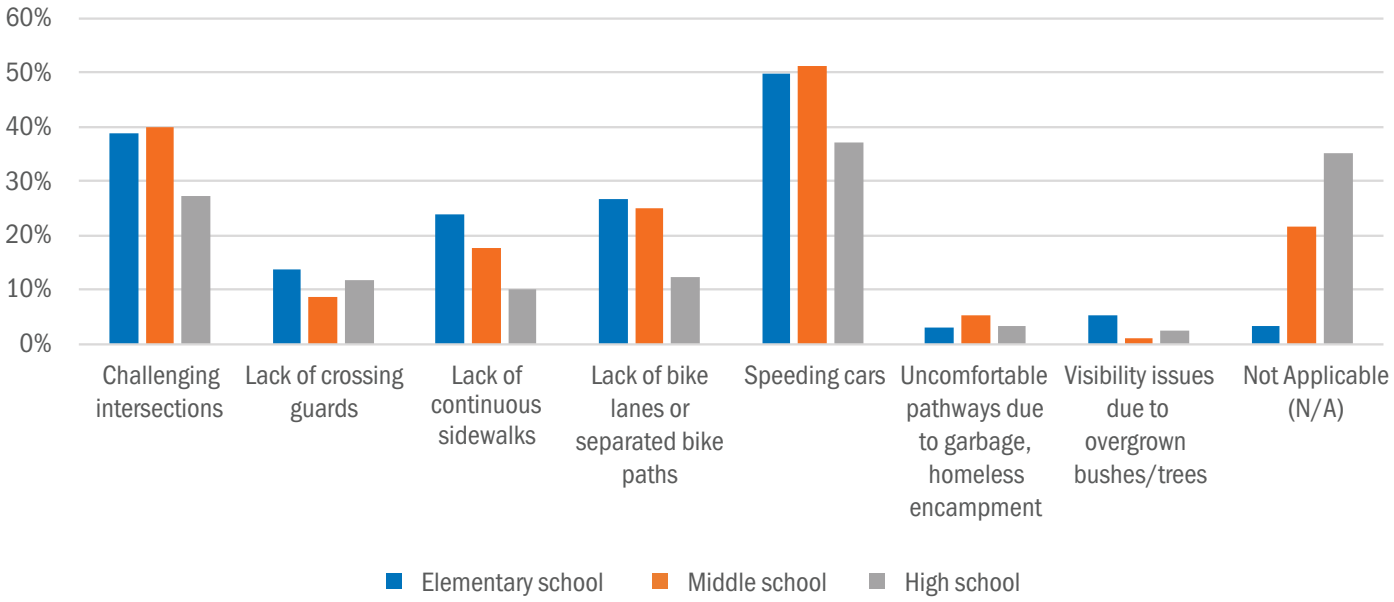


Figure 19. Infrastructure Barriers

SAFE ROUTES PARTICIPATION

Participation in Safe Routes to Schools encouragement events showed clear differences by grade level. Elementary families remained the most engaged, with 54% participating in Walk and Roll Wednesdays once a month, 41% participating in International Walk to School Day, and 29% participating in Ruby Bridges Day. Middle school participation was moderate, with 36% joining Walk and Roll Wednesdays monthly and roughly one-quarter participating in Walk or Bike to School Day events. At high schools, where less encouragement programs are offered, caregivers noted more limited participation: 66% of caregivers reported no involvement.

43%
Elementary school caregivers walk and roll to school because they live nearby

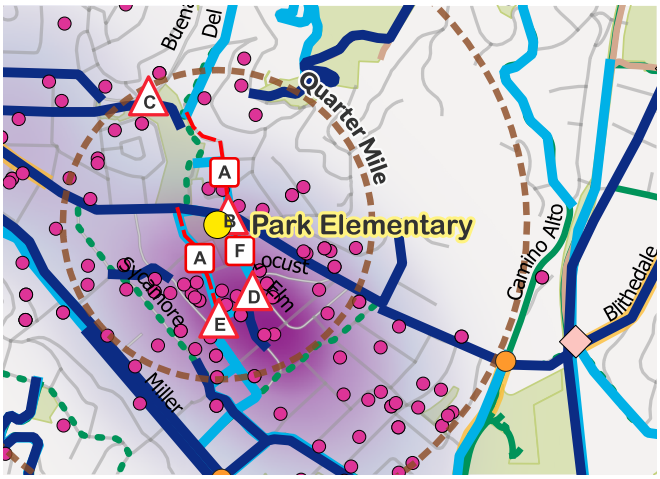
52%
Middle school caregivers allow their students to walk and roll because they are old enough

50%
Elementary and middle school caregivers citing unsafe vehicle speeds as a barrier to active travel

Ongoing and Upcoming Efforts

The Safe Routes program maintains its effectiveness through its ability to adapt and innovate. The following sections describe some new data-driven initiatives to strengthen the program.

PROJECT PRIORITIZATION PROCESS



Prioritization data is mapped for each school using Overlay Maps

The Safe Routes team has been working to develop a framework to objectively prioritize issues and potential projects for each participating school in order to most effectively use its capacity for walk audits and engineering work. The team began by compiling issues identified at each school location as part of task force meetings, walk audits, and other community feedback. These issues were then consolidated into larger, corridor-level projects. The issues and projects are documented in a spreadsheet and also summarized in the new Overlay Maps, which form the basis for the project prioritization process.

Overlay maps show each school location in relation to existing pedestrian and bicycle facilities; the countywide High Collision Network; crossing guard locations; the student population; and suggested walking and biking routes.

SCHOOL SAFETY ACTION PLAN

TAM's Marin County School Access Safety Action Plan builds on Safe Routes' ongoing work. Using Safe Routes' suggested routes and issue prioritization, the plan will pinpoint high-priority school areas for safety audits and develop targeted, site-specific safety improvements.

The project prioritization process includes eight criteria, each representing a scoring factor. They are:

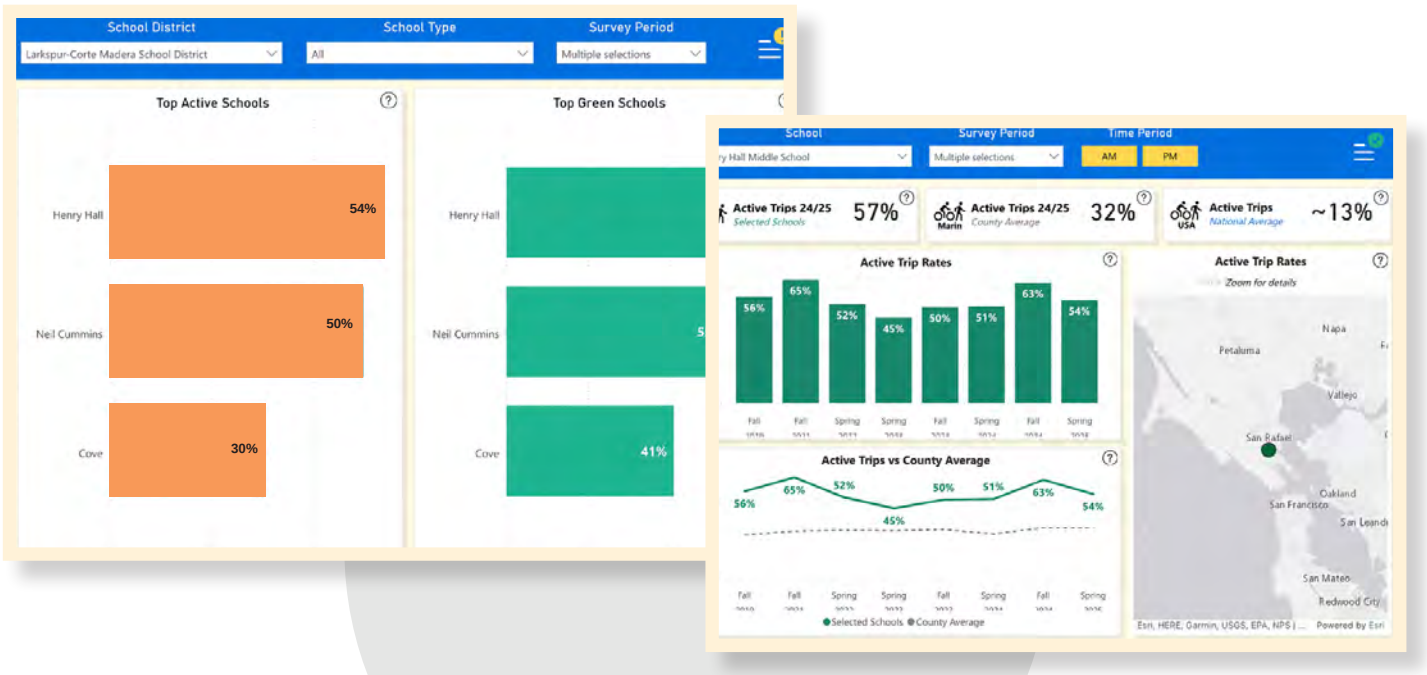
1. **SR2S PARTICIPATION**
   Points are awarded for schools with strong involvement in the SR2S program.
2. **EQUITY**
   Points are awarded for projects serving underserved or disadvantaged communities/schools.
3. **NEIGHBORHOOD ROUTE**
   Points are awarded for projects on a suggested walking and/or biking route.
4. **ROAD TYPE**
   Additional points are awarded if the project is located on a high-speed and/or high-volume road (i.e., a higher functional classification).
5. **CRASHES**
   Additional points are awarded for projects with a history of pedestrian and/or bicycle crashes.
6. **ROUTE POPULARITY**
   Additional points are awarded for projects in areas where a higher concentration of students live.
7. **INFRASTRUCTURE**
   Additional points are awarded for projects in locations with missing sidewalks, bike lanes, or crossings.
8. **OTHER SAFETY FEATURES**
   Points are awarded if the project makes additional safety improvements, such as crossing guards, signage, or lighting improvements.

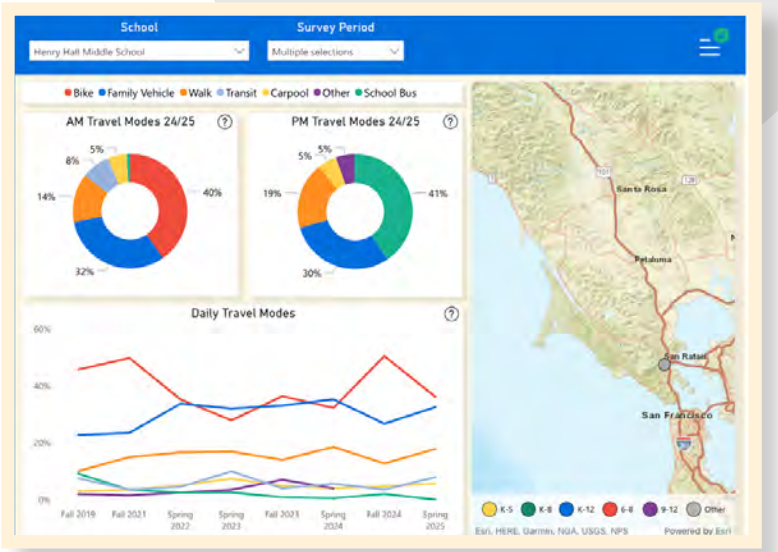
These criteria have been used to score an initial set of issues and develop lists of the top issues and projects for each task force. This process will ultimately be used to develop corridor plans for all schools and help guide future walk audits, ensuring that they focus on areas of higher need.

SAFE ROUTES TO SCHOOLS DASHBOARD

Safe Routes has recently completed an update to the Marin County Safe Routes to Schools Dashboard. The new dashboard includes historical mode share data, including information about active and green trips, from the bi-annual student tally surveys. The dashboard will be continually updated with the latest student tally data, enabling a long-range understanding of trends at the school, district, and county level. This user-friendly tool will help students, parents, teachers, and other interested viewers better understand the program's positive impacts.

Updated Performance Dashboard (currently in beta testing)





40

Schools (and counting) for which issues have been prioritized

16

Years of data available on the dashboard

Appendix


Walk and Bike to School
SAFE ROUTES TO SCHOOLS
MARIN COUNTY
TAM
RANCHO ELEMENTARY

APPENDIX A. EVALUATION TABLE 2025

		Baseline			2024/2025 Trips		2024/2025 School Trips by Mode							Factors [1]								
SCHOOL NAME	Type	Semester	Green Trips	Active Trips	Green Trips	Active Trips	Walk	Bike	Other	School Bus	Public Transit	Carpool	Family Vehicle	Administration	Team Leader/ Teacher/Family	Education	Encouragement	Supportive Infrastructure	Busing	Neighborhood Schools	Crossing Guards	Average Student Distance from School (Mi)
A. E. Kent Middle School (5-8)	Public	2001	48%	34%	63%	49%	31%	19%	0%	0%	1%	13%	37%	H	H	H	H	M	N	M	4	1.44
Archie Williams High School (9-12)	Public	Fall 2004	66%	25%	55%	31%	24%	8%	0%	2%	4%	17%	45%	M	H	H	M	M	P	L	0	2.5
Bacich Elementary School (K-5)	Public	Fall 2001	28%	20%	49%	44%	33%	11%	0%	0%	0%	5%	51%	H	M	H	H	M	N	M	3	1.24
Bahia Vista Elementary School (K-5)	Public	Fall 2002	49%	45%	58%	53%	53%	0%	0%	0%	0%	5%	42%	M	H	H	H	M	N	H	3	0.62
Bel Aire Elementary School (3-5)	Public	Fall 2002	57%	19%	60%	19%	14%	5%	0%	34%	0%	6%	40%	H	H	H	H	M	Y	M	1	2.72
Brookside Elementary School (K-5)	Public	Fall 2001	37%	16%	62%	54%	37%	18%	0%	0%	1%	7%	38%	M	H	H	H	H	N	H	1	0.98
Coleman Elementary School (K-5)	Public	Spring 2008	42%	12%	42%	27%	23%	3%	0%	8%	0%	7%	58%	H	H	H	H	L	N	M	0	1.54
Cove School (K-5)	Public	Fall 2014	59%	43%	40%	32%	19%	13%	0%	0%	2%	5%	60%	L	L	L	L	H	Y	M	1	1.65
Del Mar Middle School (6-8)	Public	Fall 2004	58%	22%	63%	30%	10%	20%	0%	23%	4%	6%	37%	H	M	H	M	M	Y	L	3	1.92
Dr. Martin Luther King, Jr. Academy (K-8)	Public	Fall 2015	22%	10%	42%	23%	13%	10%	0%	3%	0%	17%	58%	M	M	M	M	L	P	L	0	3.1
Edna Maguire Elementary School (K-5)	Public	2004	60%	23%	40%	35%	20%	15%	0%	0%	0%	5%	60%	M	H	H	H	H	Y	M	1	1.67
Glenwood Elementary School (K-5)	Public	2000	46%	26%	49%	32%	21%	11%	0%	3%	3%	12%	51%	M	H	H	H	M	Y	M	2	2.86
Hamilton School (K-8)	Public	Fall 2001	45%	28%	32%	25%	23%	2%	0%	0%	1%	6%	68%	M	L	M	M	M	N	L	1	1.51
Henry Hall Middle School (5-8)	Public	Fall 2009	54%	38%	69%	57%	16%	40%	0%	1%	7%	5%	31%	H	M	H	M	H	P	H	2	1.92
Hidden Valley Elementary School (K-5)	Public	Fall 2008	60%	30%	53%	31%	14%	17%	0%	13%	0%	10%	47%	M	H	H	H	M	Y	H	1	1.4
James B. Davidson Middle School (6-8)	Public	Fall 2010	63%	19%	69%	21%	19%	2%	0%	35%	5%	7%	31%	L	M	H	M	H	Y	L	3	2.04
Lagunitas Elementary School (K-8)	Public	Fall 2000	40%	16%	39%	20%	9%	11%	0%	3%	0%	16%	61%	M	M	M	L	M	N	L	1	1.77
Laurel Dell Elementary School (K-5)	Public	2004	45%	17%	46%	23%	23%	0%	0%	13%	2%	8%	54%	H	H	H	H	M	Y	H	2	1.21
Loma Verde Elementary School (K-5)	Public	2008	40%	16%	44%	29%	27%	3%	0%	0%	1%	14%	56%	M	H	H	H	M	N	M	1	1.39
Lu Sutton Elementary School (K-5)	Public	2004	34%	23%	36%	25%	19%	6%	0%	1%	2%	7%	64%	H	H	H	H	M	N	M	1	1.03
Lucas Valley Elementary School (K-5)	Public	Fall 2003	51%	19%	30%	17%	10%	7%	0%	1%	2%	9%	70%	M	H	H	H	M	Y	M	1	1.85
Lycée Français School (K-12)	Private	Fall 2010	9%	4%	11%	11%	11%	0%	0%	0%	0%	0%	89%	L	L	M	H	L	P	L	0	N/A
Lynwood Elementary School (K-5)	Public	2004	35%	25%	45%	36%	31%	5%	0%	0%	1%	8%	55%	M	H	H	H	M	N	M	2	1.54
Manor Elementary School (K-5)	Public	Fall 2000	39%	24%	51%	43%	23%	21%	0%	0%	0%	7%	49%	M	H	H	H	H	N	M	2	1.22
Mary E. Silveira Elementary School (K-5)	Public	2006	55%	30%	45%	27%	20%	8%	0%	11%	0%	7%	55%	L	M	L	M	M	Y	M	3	1.85
Mill Valley Middle School (6-8)	Public	2003	49%	29%	64%	57%	27%	30%	0%	0%	1%	7%	36%	M	M	H	M	H	Y	L	1	2.29
Miller Creek Middle School (6-8)	Public	2004	69%	20%	62%	42%	22%	20%	0%	9%	0%	12%	38%	H	H	H	H	M	Y	M	1	1.84
Neil Cummins Elementary School (K-4)	Public	2001	52%	25%	59%	54%	35%	20%	0%	0%	0%	4%	41%	M	H	H	H	H	N	H	3	1.25
Novato High School (9-12)	Public		53%	25%	65%	27%	19%	9%	0%	12%	6%	20%	35%	M	M	L	M	L	M	L	0	N/A
Old Mill School (K-5)	Public	2003	17%	16%	44%	35%	28%	8%	0%	0%	0%	9%	56%	M	H	H	H	M	N	H	2	1.27
Olive Elementary School (K-5)	Public	2004	30%	9%	21%	13%	13%	0%	0%	0%	1%	7%	79%	H	H	H	H	H	N	L	1	1.82
Park Elementary School (K-5)	Public	2004	44%	34%	63%	59%	46%	14%	0%	0%	0%	4%	37%	M	H	H	H	M	N	H	0	1.15
Pleasant Valley Elementary School (K-5)	Public	Fall 2003	28%	14%	39%	30%	17%	14%	0%	0%	0%	9%	61%	H	H	H	H	M	N	H	2	1.19
Rancho Elementary School (K-5)	Public	2003	43%	12%	52%	44%	34%	10%	0%	0%	1%	7%	48%	H	H	H	H	M	N	M	4	1.32
Redwood High School (9-12)	Public	2009	47%	17%	45%	22%	12%	10%	0%	3%	4%	16%	55%	M	M	L	M	H	P	L	0	3.36
Reed Elementary School (K-2)	Public	2003	36%	8%	46%	10%	7%	3%	0%	32%	0%	4%	54%	M	M	L	M	M	Y	M	2	2.24
Ross School (K-8)	Public	Fall 2001	43%	36%	60%	54%	31%	23%	0%	0%	0%	5%	40%	H	H	H	H	M	N	M	4	0.81
Ross Valley Charter (K-5)	Private	Spring 2018	60%	40%	39%	9%	5%	5%	0%	22%	3%	5%	61%	L	H	L	H	H	N	L	1	N/A
San Domenico School (K-12)	Private	Spring 2012	70%	19%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	L	L	H	L	M	Y	L	0	N/A
San Jose Middle School (6-8)	Public	Fall 2011	58%	12%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	M	M	L	M	M	P	M	2	2.12
San Marin High School (9-12)	Public	Spring 2019	42%	21%	41%	17%	11%	6%	0%	6%	4%	15%	59%	L	L	M	L	M	P	L	1	2.91
San Rafael High School	Public	Fall 2019	58%	17%	44%	15%	13%	2%		14%	7%	8%	56%	L	L	L	L	M	P	L	0	1.86
San Ramon Elementary School (K-5)	Public	2006	41%	22%	41%	27%	16%	11%	0%	4%	0%	10%	59%	L	M	H	H	M	N	M	4	1.8
Sinaloa Middle School (6-8)	Public	Spring 2012	61%	34%	50%	40%	16%	24%	0%	0%	1%	8%	50%	M	M	H	M	M	P	M	4	2.03
Strawberry Point School (K-5)	Public	2006	24%	15%	23%	18%	15%	3%	0%	0%	0%	5%	77%	L	L	H	L	M	Y	M	2	1.62
Sun Valley Elementary School (K-5)	Public	2004	41%	15%	46%	21%	16%	5%	0%	21%	0%	4%	54%	M	H	H	M	M	Y	M	2	1.79
Tamalpais High School (9-12)	Public	2004	52%	19%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	L	L	L	L	H	P	L	0	2.51
Tamalpais Valley Elementary School (K-5)	Public	2000	17%	17%	49%	42%	30%	12%	0%	0%	0%	7%	51%	L	H	H	H	M	N	M	1	1.55
Terra Linda High School (9-12)	Public	Fall 2014	37%	12%	37%	17%	11%	6%	0%	6%	0%	13%	63%	M	M	L	L	M	P	L	0	3.21
Tomales Elementary School (K-8)	Public	Fall 2024	53%	3%	50%	1%	1%	0%	0%	42%	7%	0%	50%	H	H	L	H	L	Y	L	0	N/A
Vallecito Elementary School (K-5)	Public	2000	56%	24%	40%	34%	27%	7%	0%	0%	0%	6%	60%	H	H	H	H	M	Y	L	3	0.99
Venetia Valley Elementary School (K-8)	Public	2002	46%	13%	52%	16%	14%	2%	0%	25%	4%	7%	48%	H	H	M	H	M	Y	M	2	2.55
Wade Thomas Elementary School (K-5)	Public	2002	47%	40%	58%	54%	28%	25%	0%	0%	0%	4%	42%	M	H	H	H	M	N	M	1	1.03
West Marin-Inverness Elementary School (2-8)	Public	2009	54%	17%	54%	7%	7%	0%	0%	44%	0%	4%	46%	H	H	H	H	M	Y	L	0	7.57
White Hill Middle School (6-8)	Public	2006	67%	11%	77%	23%	7%	16%	0%	42%	7%	5%	23%	M	M	H	M	M	Y	L	1	2.76

[1] Please refer to page 33 for factor descriptions.

APPENDIX B. VMT AND GHG ANALYSIS METHODOLOGY

Daily vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions were estimated from the Safe Routes to Schools travel mode student survey data for each participating school year:

1. Reported mode shares (percent of students walking, biking, taking transit/school bus, carpooling, or being driven in a family vehicle) were combined with each school's average one-way driving distance and enrollment to estimate total daily travel activity.
2. For all modes that involve a vehicle, a standard number of daily trips per student was assumed (four per day for family-vehicle and carpool trips to account for the round-trip commute and parent return trips; two per day for school-bus and transit riders).
3. "Carpool" VMT was divided by two to reflect shared rides between at least two households.
4. "Walk" and "Bike" trips were treated as zero-emission and contribute no VMT.
5. "Other" trips (unclassified motorized modes) were conservatively treated as equivalent to family-vehicle travel.
6. GHG emissions were calculated by multiplying VMT by a year-specific passenger-vehicle emission factor (g CO_2e/mile), applied year by year from school year 2008/2009 through 2024/2025. The factor was derived using the U.S. Environmental Protection Agency's Greenhouse Gas Equivalencies Calculator methodology paired with annual U.S. light-duty fleet fuel economy from Table VM-1 of the Federal Highway Administration's *Highway Statistics*. A factor of 66.6 g CO_2e/passenger-mile was applied to bus and school bus VMT, drawn from the U.S. EPA's *Emission Factors for Greenhouse Gas Inventories*. The drive-alone baseline scenario was computed using the same year-specific passenger-vehicle factor so that GHG savings are calculated on a consistent annual basis.

GHG savings represent the emissions avoided each year compared to a "drive-alone baseline" scenario: i.e., if every student were driven to and from school in a single-family vehicle.

Methodology Notes

The bus per-passenger-mile factor is held constant across evaluation years because the U.S. EPA does not currently publish a year-by-year passenger-mile emission factor for transit buses. The factor reflects a national transit bus average and does not separately distinguish school bus operations from transit bus operations. The per-year passenger-vehicle factor is derived from a national fleet average and does not reflect Marin County's higher-than-average low and zero-emission vehicle adoption.

Sources

- U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator: Calculations and References. https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator-calculations-and-references
- Federal Highway Administration, Highway Statistics, Table VM-1. https://www.fhwa.dot.gov/policyinformation/statistics/
- U.S. Environmental Protection Agency, Emission Factors for Greenhouse Gas Inventories. https://www.epa.gov/climateleadership/ghg-emission-factors-hub

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Source: Transportation Authority of Marin

Report

TAM/Marin County Safe Routes to Schools Program Evaluation

May 2026
Transportation Authority of Marin

TYLin

Table of Contents

Introduction

The Marin County Safe Routes to Schools (SR2S) program, sponsored and overseen by the Transportation Authority of Marin (TAM), is one of the county's longstanding efforts to support safer, healthier, and more sustainable travel for students. The purpose of this report is to present a comprehensive evaluation of the program, including its current structure, outcomes, and opportunities for continued improvement.

The TAM SR2S program is sponsored and overseen by TAM and implemented by TAM staff, a consultant team, and volunteers. Building on previous program assessments, this report examines national trends in SR2S programs, including key toolkits and guides, and exemplary West Coast SR2S programs, specifically in Washington, Oregon, and the Bay Area. Programs located in the Bay Area were further evaluated to prepare a comparative analysis of school SR2S participation, demographics, and active and green trip rates. This assessment helps address program performance and identify areas where additional support or refinement may be needed.

This report also reviews the extent to which these best practices have been implemented in Marin County and the measurable impacts of SR2S program activities on travel behavior and school community engagement.

By highlighting national and regional best practices and areas of innovation, the report is intended to guide future decision-making and support the SR2S program in continuing to promote safe, healthy, and sustainable travel for Marin County students.

Marin SR2S Program Summary

Program Overview

The TAM SR2S program[1] aims to encourage safe non-motorized and high-occupancy vehicle trips to and from schools in Marin County. The program began in 2000 with five participating schools, expanding over the past 20 years to 58 schools and over 29,000 students participating across Marin County today by the 2024-2025 school year. As of the 2024-2025 school year, over 90 percent of Marin County public schools implement SR2S programming, including all middle schools, 95 percent of elementary schools, and 88 percent of high schools. The public schools that do not participate tend to be very small and/or located in rural areas, requiring long travel distances for students. Private schools are less consistently represented because their students often commute longer distances, leading these schools to prioritize carpooling over active transportation education and encouragement. In addition, participation is voluntary for private schools, and involvement can fluctuate based on staff and volunteer capacity. Funding for the TAM SR2S program comes primarily from Marin County's Measure AA sales tax measure.

[1] More information about the TAM SR2S program is available on the program website, program dashboard, and in the 2021-2025 Program Summary Report.

TAM relies on a "six E's"[2] strategy to implement the SR2S program, with activities corresponding to the Education, Encouragement, Evaluation, Enforcement[3], Engineering, and Equity thematic categories. Recent program innovations have included the Youth Leading Active Communities (YLAC) program, which targets additional support to schools with lower engagement and greater socioeconomic challenges, and scheduling efficiency improvements that have allowed the program to reach more students by combining some programming across grade levels and focusing on large schools. In recent years, program active trip rates have increased to around 30 percent, and green trip rates have stabilized at around 50 percent, reflecting continued progress toward safer and more sustainable student travel. Looking ahead, the forthcoming Marin County School Access Safety Action Plan[4] is expected to complement these efforts by identifying broader transportation safety needs and infrastructure priorities that can further support safe walking, biking, and rolling to school.

Program Relationship to Countywide Goals

As stated in the Marin Countywide Transportation Plan 2050 (CTP)[5], Marin County's SR2S program is a longstanding, foundational component of TAM's multimodal strategy, focused on reducing school-related congestion while improving student safety, health, and access. SR2S is directly supported by dedicated local funding (11.5% of Measure AA revenues) aimed at safer school access and congestion reduction. The CTP further integrates SR2S into future strategies through the "Easy and Safe School Travel" initiative, which emphasizes coordinated planning with schools, adapting to demographic shifts, improving program equity, and continuing efforts to support grant applications. Specifically, the Easy and Safe School Travel initiative consists of the following performance measures:

- School transportation coordination process implemented with School districts, Marin Transit, and TAM
- Percent of students making green trips
- Percent of school funding going to schools in areas meeting federal childhood poverty thresholds

The SR2S program is therefore a key lever for achieving TAM's goals around safety, equity, and sustainability, particularly in encouraging students of all ages to travel more sustainably.

[2] "Six E's" is a nationally-recommended safe routes to school approach that organizes a framework around Education, Encouragement, Evaluation, Engagement, Engineering, and Equity. As each of these words begin with the letter "E", the "six E's" is a common phrase used to describe the program.
[3] The Safe Routes Partnership officially adopted "engagement" instead of "enforcement" as one of the six E's in 2020. The TAM SR2S program has adopted an "Engagement and Safety" category as of Spring 2026.
[4] Marin County School Access Safety Action Plan, link
[5] Marin Countywide Transportation Plan 2050, link

National Safe Routes to Schools Resources

This section provides an overview of national SR2S best practices to contextualize the TAM program within the broader landscape of SR2S planning and implementation. By synthesizing guidance from industry-leading national organizations, the intent is to identify core program elements, emerging trends, and effective strategies that can inform the evaluation of the TAM SR2S program. This review draws primarily from three key resources: *Building Blocks Toolkit*[6], American Association of State Highway and Transportation Officials *Safe Routes to School Noteworthy Practices Guide*, [7] and *Safe Routes to School Guide*[8] developed by the National Center for Safe Routes to Schools. Together, these documents provide a foundation for understanding how peer programs across the country are structured and identify opportunities to strengthen or refine TAM's SR2S program.

Safe Routes Partnership

Safe Routes Partnership is a nonprofit organization focused on improving safe walking and rolling to and from schools, promoting community health and well-being, and creating healthy, thriving communities for all. Safe Routes Partnership characterizes itself as a national leader in the SR2S movement and contributes a wide range of resources and research to support SR2S programs.[9]

Safe Routes Partnership's *Building Blocks Toolkit* recommends a six E's framework for Safe Routes to Schools Programs:

- **Education:** Providing students and the community with the skills to walk and bicycle safely, educating them about the benefits of walking and bicycling, and teaching them about the broad range of transportation choices.
- **Engineering:** Creating physical improvements to streets and neighborhoods that make walking and bicycling safer, more comfortable, and more convenient.
- **Evaluation:** Assessing which approaches are successful, ensuring that programs and initiatives are leading to equitable outcomes, and identifying unintended consequences or opportunities to improve the effectiveness of each approach.
- **Encouragement:** Generating enthusiasm and increased walking and bicycling for students through events, activities, and programs.
- **Engagement:** Listening to students, families, teachers, and school leaders, and working with existing community organizations to build intentional, ongoing engagement opportunities.

[6] Safe Routes Partnership, 2021, link
[7] American Association of State Highway and Transportation Officials, 2011, link
[8] National Center for Safe Routes to School, 2007, link
[9] "Safe Routes Partnership website," Safe Routes Partnership, n.d., link

- **Equity:** Ensuring that Safe Routes to Schools initiatives are benefiting all demographic groups, with particular attention to ensuring safe, healthy, and fair outcomes for low-income students, students of color, students of all genders, students with disabilities, and others.

Prior to June of 2020, "Enforcement" was included in place of "Engagement" as one of the six E's. In response to national conversations about racial equity and the role of policing in communities, the Safe Routes Partnership revised its framework to emphasize community engagement over punitive measures.[10] This maintains a community-centered approach dedicated to expanding opportunities rather than directing change.

Applicability to TAM SR2S

TAM's SR2S program is also guided by a six E's framework; however, the program historically maintained "Enforcement" as one of the six E's. Through conversations and further evaluation of best practices, TAM has decided to proceed with replacing "Enforcement" with Safe Routes Partnership's recommended update, "Engagement." [11] Partnerships with law enforcement on programs and safety will continue to play an important role with all SR2S activities, but will now fall under this new "Engagement" category.

Additional SR2S national practices relevant to the Safe Routes Partnership include:

- National guidance increasingly highlights youth-led models, where students help design campaigns or lead walk audits[12].
- Many regions now incorporate high school–specific programming, including transit education and teen-focused safety campaigns.

While these practices are already offered to varying degrees in Marin County, there are opportunities to further expand them to schools throughout the county.

AASHTO

The American Association of State Highway and Transportation Officials (AASHTO) is a national organization representing state departments of transportation and providing guidance on transportation planning, design, and program implementation. AASHTO's *Safe Routes to School Noteworthy Practices Guide* highlights scalable, community-driven solutions, cross-agency collaboration, and robust evaluation mechanisms. The guidance is intended to support jurisdictions in delivering consistent, equitable, and measurable Safe Routes to Schools programs that can be adapted to a range of local contexts.

[10] "Dropping Enforcement from the Safe Routes to School 6 E's Framework," Safe Routes Partnership, 2020, link
[11] The TAM SR2S program has adopted an "Engagement and Safety" category as of Spring 2026.
[12] While the TAM SR2S program encourages youth-led participation, TAM also provides significant resources to operate programs (task forces, walk audits, etc.) independent of youth-led participation.

Some key recommendations from AASHTO include:

- Implement inclusive outreach practices by using multiple communication channels (email, social media, newsletters, flyers) and meeting diverse and underserved communities where they are
- Develop toolkits/templates for schools to use in their outreach efforts
- Use transparent project selection criteria for infrastructure improvements, balancing safety data, equity, and community needs
- Collaborate effectively across governmental organizations to support implementation, including standardizing processes to engage with state and local departments of transportation.
- Standardize reporting and evaluation processes to focus on outcomes, with sufficient data collection to understand the before and after conditions

Applicability to TAM SR2S

TAM's SR2S program already incorporates many of AASHTO's recommendations in its programs, such as utilizing multiple communication channels with -materials translated into Spanish to facilitate inclusive outreach, increasing transparency in project selection by publishing SR2S Task Force meeting minutes, creating a dedicated Spanish newsletter, translating all encouragement and engagement materials into Spanish, and releasing standardized SR2S program evaluations every few years. However, there are areas where additional improvements could be considered:

- Improve transparency by clearly documenting and sharing the criteria used to advance infrastructure project applications through the Task Forces.
- Continue to strengthen regional coordination by building on existing collaborations with local jurisdictions and MTC to share best practices with regional peers.
- Enhance evaluation practices by developing structured assessment methods for newer programs such as Youth Leading Active Communities (YLAC).
- Increase use of data-driven route planning tools, such as GIS-based prioritization and before/after safety analysis.
- Continue and increase emphasis on coordinating SR2S programs with Marin County Public Health to support injury prevention and active living goals at equity priority schools.

National Center for Safe Routes to School

The National Center for Safe Routes to School is a leading national resource for research, technical assistance, and implementation guidance related to Safe Routes to Schools programs. The National Center's *Safe Routes to School Guide* provides foundational guidance on standardized tally and caregiver surveys, consistent data collection, and best practices for communication, safety training, and engineering.

Relevant best practices include:

- Prioritizing easy-to-implement and low-cost engineering solutions first, while long-term improvements are identified
- Including outreach that addresses safe driving behavior by parents during school pick-up and drop-off
- Using structured before-during-after evaluation methods for any new program to establish a consistent approach to data collection:
    - Before: collect baseline information and establish objectives
    - During: identify progress and/or challenges needing improvements
    - After: identify changes in behavior, attitudes, and/or the physical environment to inform future decisions

Applicability to TAM SR2S

As with Safe Routes Partnership and AASHTO guidance, TAM SR2S already follows many of the recommendations provided by the National Center for Safe Routes to Schools:

- TAM SR2S implements a mix of low-cost, quick-build engineering solutions and long-term safety improvements.
- The Street Smarts campaign focuses on educating all road users, including parents.
- TAM's SR2S program has implemented standardized tallies and caregiver surveys to report year-over-year changes in program performance. It is less clear if specialized data collection processes have been developed for new programs like Youth Leading Communities (YLAC).

Additional National Center–aligned practices that could be implemented in Marin County include:

- Integrating SR2S strategies with climate and sustainability goals, particularly through mode-shift initiatives and active travel promotion. The TAM SR2S program currently reports estimates of associated GHG and VMT savings.
- Applying structured before–during–after evaluation methods to newer or pilot programs, ensuring baseline conditions, interim progress, and post-implementation outcomes are consistently documented to inform future program refinement.

- Strengthening parent and caregiver–focused education during school arrival and dismissal, with an emphasis on safe driving behavior, curb management, and reducing conflicts at school frontages.

Additional Best Practices

The following emerging best practices originate from broader national research beyond the three primary reports reviewed. While several practices are already implemented by TAM's SR2S program, to varying degrees, the practices included here highlight evolving trends in Safe Routes to School programs nationwide, and present opportunities for TAM to further formalize, expand, or deepen existing efforts:

- Partnerships with public health agencies that incorporate air quality, injury prevention, and active living initiatives.[13]
- Use of app-based or GIS-supported mobility data to inform route planning and program evaluation.[14]
- Expansion of high school mobility programs focused on transit use, safe driving education, and travel independence.[15]
- Climate-focused integration, positioning SR2S as part of local greenhouse gas reduction and sustainability strategies.[16]
- Youth leadership models, where students co-design campaigns or support walk audits and program messaging.[17]

[13] "NACCHO Statement of Policy 17-01," National Association of County and City Health Officials, 2017, link
[14] "A Framework for GIS and Safe Routes to School," Safe Routes, Partnership, 2013, link
[15] "Safe Routes for Youth: Supporting and Empowering Teen Leaders in Vision Zero," Safe Routes Partnership, 2020, link
[16] "Bay Area Safe Routes to School," Metropolitan Transportation Commission, 2025, link
[17] "Walking, Riding, and Rolling for a New Generation: How to Partner with Youth on Safe Routes Projects," Safe Routes Partnership, 2023, link

Bay Area Case Studies and Statistics

To better understand Marin County's SR2S performance and contextualize program outcomes, TYLin reviewed Marin County's participation levels and program offerings relative to peer Bay Area counties, including Alameda, San Mateo, and Contra Costa counties. These case studies provide a regional benchmark for evaluating how Marin County's activities, staffing, reach, and mode-shift outcomes align with or exceed those of similar SR2S programs. By examining shared challenges, program structures, and measurable results, the comparison highlights areas where Marin County is performing strongly and opportunities where practices from peer counties may offer transferable insights.

Data and Methodology

The following subsections include a high-level overview of each peer county, including program background and history, the geography of public schools, and public-school student demographics. This is intended to provide important context for how the programs vary in size, scale, and type, and how that impacts their chosen SR2S strategies and performance. Additionally, a few innovative approaches are included for each county SR2S program, offering strategies and approaches different from Marin County that may offer insights into how the TAM SR2S program could be further improved.

Geography, Distance, and Demographics

Public school geography data comes from the National Center for Education Statistics and uses the following locale definitions:

- **City:** Inside a principal city and inside an urban area with a population of 50,000 or more
- **Suburban:** Outside a principal city and inside an urban area with a population of 50,000 or more
- **Town:** Inside an urban area with a population of less than 50,000
- **Rural:** Outside an urban area

Unlike the TAM program, which has an extensive dataset on school trip lengths, trip distance data between home and school was not readily available for the peer programs. Thus, school locale definitions were used as a proxy for distance, with students attending "City" schools on average traveling shorter distances than those attending "Rural" schools. This is supported by data from the *National Household Travel Survey*[18], which indicates distances to schools in urban areas may be lower than in rural areas. For this report, we assumed that distances to school increased from lowest to highest in areas classified by the National Center for Education

[18] In 2001, 22 percent of US students 6-12 years old within a Census Bureau urban area (population greater than 50,000) lived within a mile of school, compared to just three percent in rural areas ("NHTS Brief January 2008," U.S. Department of Transportation, 2008, link).

Statistics as "City," "Suburban," "Town," and "Rural."

San Mateo County did publish some school distance data in their *2021-22 SRTS Annual Report*[19] derived from parent/caregiver survey data; however, it was not compared with data from Marin County for the following reasons:

- The parent/caregiver survey is voluntary and not randomized, resulting in a sample that may not be representative of students at participating schools or San Mateo County as a whole.
- Relative to the Marin County geolocated dataset for student trips to and from school, the San Mateo County parent survey responses are not nearly as detailed or comprehensive.

Student demographic data is included to help frame the program background. This data comes from the California Department of Education's *Enrollment Report*[20] and includes data on student race/ethnicity and the following student subgroups:

- **Socioeconomically Disadvantaged:** Meets one of eight criteria related to income, life experience, and parent education history
- **English Learner:** Speaks another language at home and is determined to lack the clearly defined English language skills of listening, speaking, reading, and/or writing necessary to succeed in the school's regular instructional programs
- **Student with Disability:** Qualifies for special education program based on federal standards

Demographic and geographic background statistics were available for all county case studies.

Program Statistics

Program statistics for each county's SR2S program were collected to better understand the performance of peer programs relative to Marin County. These statistics include active trip rates, green trip rates, and school participation rates, defined below:

- Active trip rate: the percentage of trips to and from school using active modes that do not require a motor vehicle, such as walking, biking, and rolling
- Green trip rate: the percentage of trips to and from school using active modes, as well as shared motor vehicle modes such as carpooling, school bus, and public transit
- School participation rate: the percentage of public schools enrolled in their county SR2S program

These program statistics demonstrate how successful SR2S programs are in supporting students traveling to and from schools by modes other than single occupancy vehicles, and how

[19] San Mateo County Office of Education, 2021-2022, link
[20] California Department of Education, 2024-25, link

widespread participation is countywide. Data availability varies by program, but program statistics were available for recent years for all peer programs except Contra Costa County.

Alameda County

The Alameda County Safe Routes to School[21] (Alameda County SR2S) program is managed, administered, and funded by the Alameda County Transportation Commission (Alameda CTC). The program began in 2006 as a Caltrans-funded pilot at two Oakland schools. In 2007, the Alameda County Transportation Improvement Authority (later renamed Alameda County Transportation Authority) authorized funding from the Measure B transportation sales tax program to expand the program to all four of the county's planning areas. Alameda CTC's SR2S program has since expanded to 298 schools (202 elementary, 54 middle, and 42 high schools in 2024), with a presence in every city in the county. Alameda County relies on a combination of contracted site coordinators and volunteer champions to implement the program.

In Alameda County, 58 percent of public schools are in a "city", per the National Center for Education Statistics definition. Of the remaining 42 percent of public schools, 41 percent are located in suburban areas, and one percent are located in rural Alameda County. No schools were located in areas designated as towns. Relative to Marin County, Alameda County has more than double the share of public schools in city-designated neighborhoods, and a lower share of schools in suburban and rural communities. With a larger share of schools in urban environments, where student distances from schools tend to be lower due to higher densities, this indicates that the average distance to school may be lower on average in Alameda County than in Marin County. **Figure 1** shows the geographic breakdown of Alameda County public schools relative to Marin County.

Alameda County had 210,736 public school students during the 2024-25 academic year. Most Alameda County public school students are people of color (86 percent), 49 percent are socioeconomically disadvantaged, 19 percent are English learners, and 13 percent have a disability. **Figures 2 and 3** show Alameda County public school student demographics relative to Marin County.

[21] "Alameda County Safe Routes to School website," Alameda County Transportation Commission, n,d., link

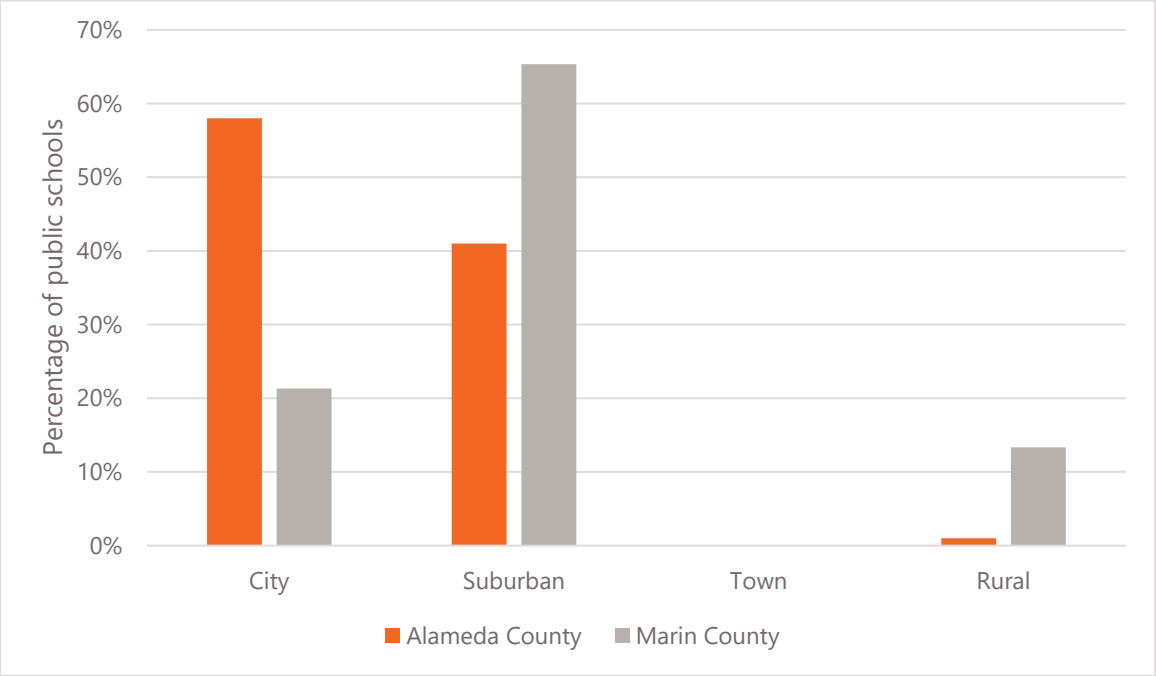


Figure 1: Alameda County Public School Geography
Source: Education Demographic and Geographic Estimates: School Geocodes[22]

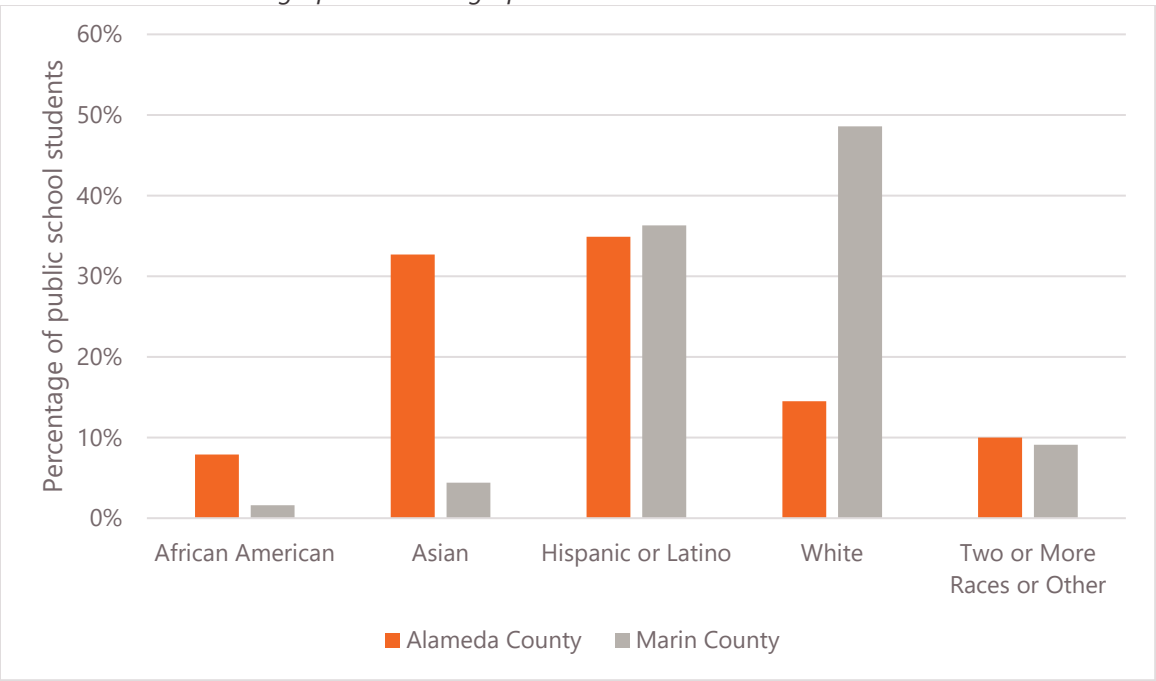


Figure 2: Alameda County Public School Student Race/Ethnicity
Source: Enrollment Report[23]

[22] National Center for Education Statistics, 2024-2025, link
[23] California Department of Education, 2024-2025, link

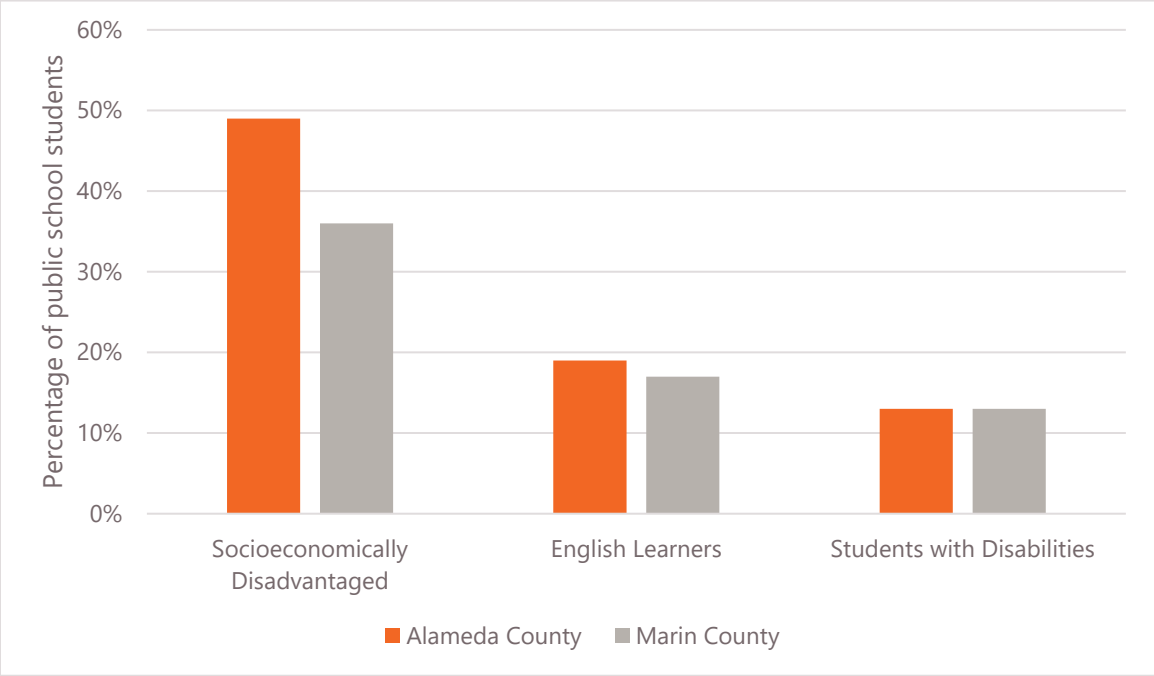


Figure 3: Alameda County Public School Student Characteristics
Source: Enrollment Report

Program Statistics

Active and Green Trip Rates

For the past few years, active trip rates at participating schools in Alameda County have stayed close to 30 percent, with a decline amongst middle and high schools in the 2023-24 academic year. For most years, elementary school active trip rates have been higher than middle and high school rates, though rates among all three age groups are similar. **Figure 4** shows the changes in active trip rates from 2018 through the 2024 school year.

Figure 5 indicates that green trip rates at participating schools in Alameda County have generally stayed between 40 and 50 percent in recent years, with a slight decline since the pandemic that corresponded with increasing school enrollment in the program. For most years, middle and high schools have had higher rates of green trips than elementary schools due to a higher use of shared modes[24].

[24] Note that the transit operator, AC Transit, runs a number of school routes serving middle and high schools throughout the county (Supplementary Service to Schools, AC Transit, n.d., link).

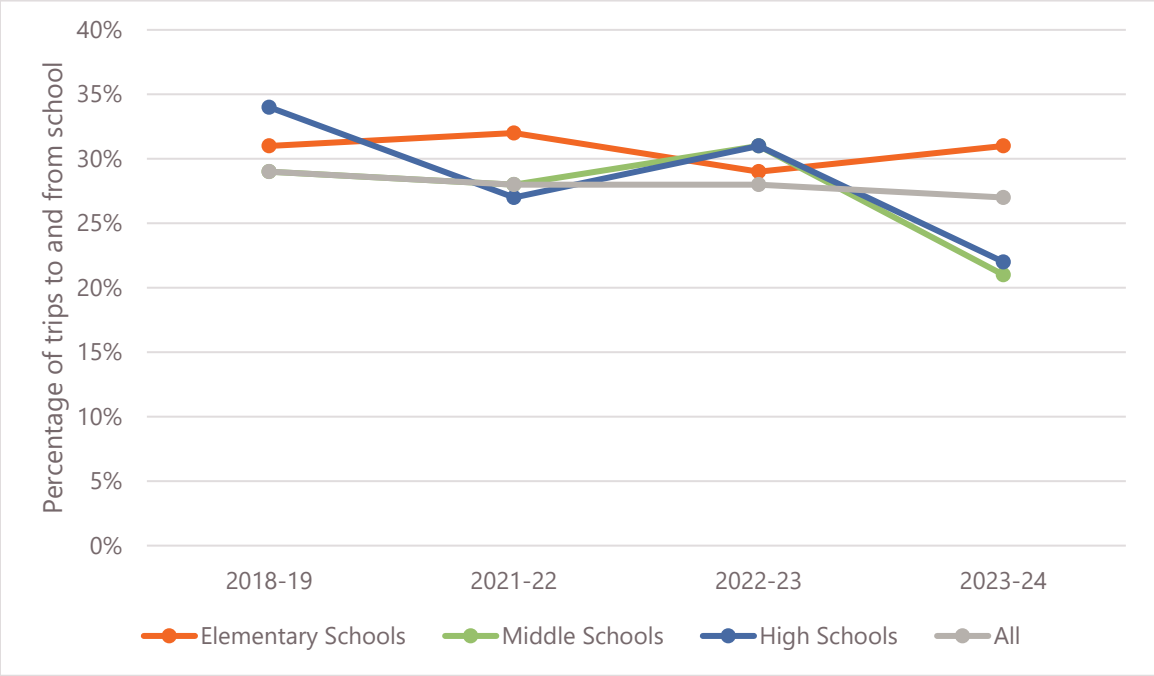


Figure 4: Alameda County SR2S Active Trip Rates

Source: Year-End Reports[25]

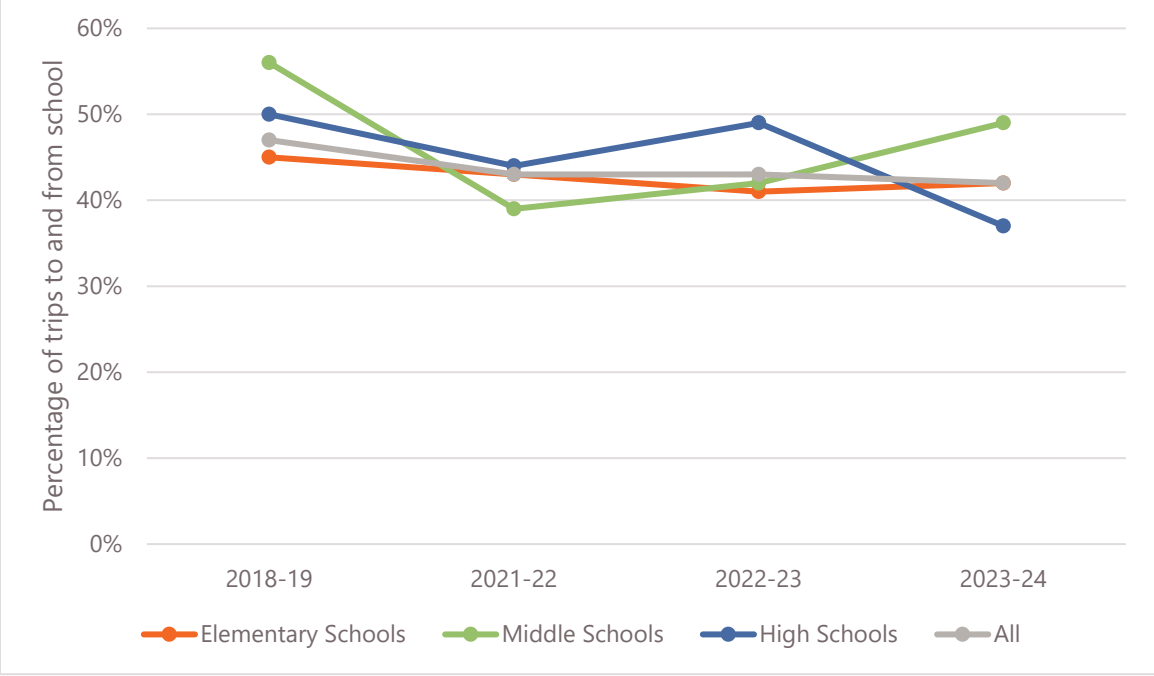


Figure 5: Alameda County SR2S Green Trip Rates

Source: Year-End Reports

[25] Alameda County Transportation Commission, 2019-2024, link

School Participation

School participation data was provided directly by Alameda County and represents the total percentage of schools in Alameda County enrolled in SR2S programs. Post-pandemic, school participation in Alameda County has been increasing, with a new high of 83 percent for all school types in the 2022-23 and 2023-24 academic years. As seen in **Figure 6**, participation rates are highest amongst elementary schools, followed by middle schools. High schools in Alameda County have the lowest participation rates.

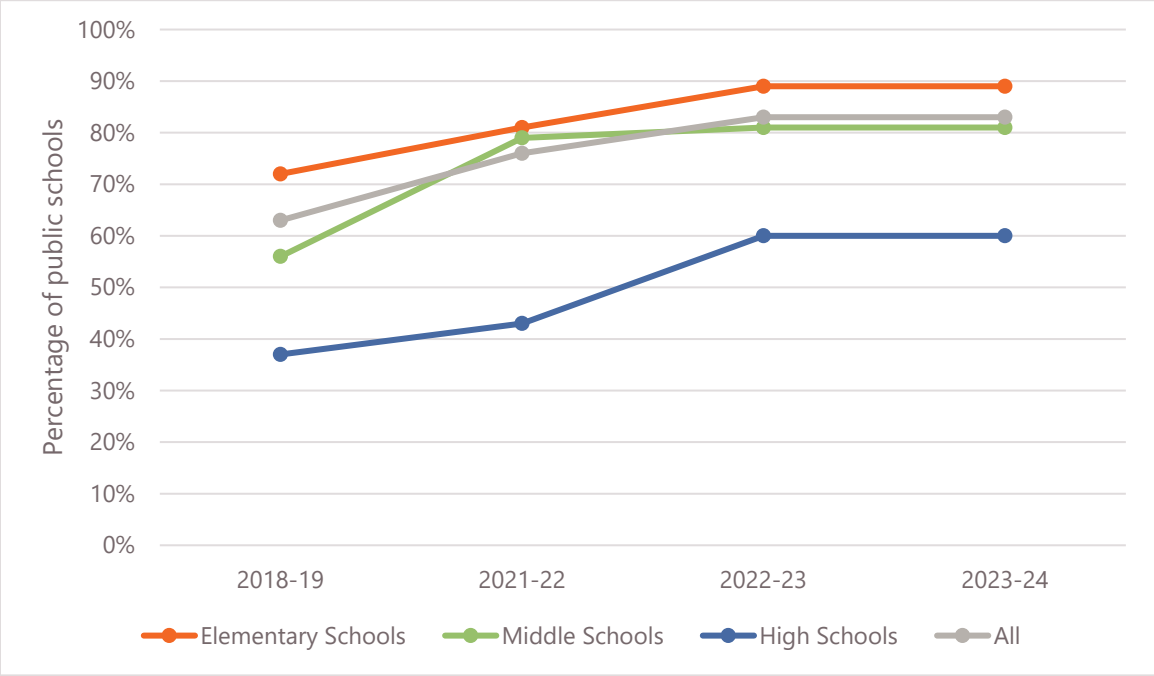


Figure 6: Alameda County SR2S School Participation Rates
Source: Year-End Reports

Program Strategy

Like Marin County, the Alameda County SR2S program is guided by a six E's framework. In Alameda County, that includes Education, Equity, Evaluation, Engineering, Encouragement, and Engagement. During the 2019-20 academic year[26], Alameda County replaced the Enforcement component with an Engagement component focused on building long-term capacity and sustainable programming, based on guidance from the Safe Routes to School National Partnership.

[26]"Alameda County Safe Routes to School 2019-2020 Year-End Report," Alameda County Transportation Commission, 2019-2020, link

The two primary desired program outcomes[27] approved by the Alameda County Transportation Commission are:

- **Mode Shift:** Increase use of active and shared transportation modes for travel to and from schools (bicycling, walking, taking transit, and carpooling) and promote these modes as viable, everyday transportation options
- **Safety:** Increase safe pedestrian and bicycling behaviors; decrease incidence of collisions; and increase student and caregiver confidence in safe walking, bicycling, and transit riding abilities

Innovative Approaches

Permanent Quick-Build Projects

For School Safety Assessments conducted under the Engineering E of the six E's framework, Alameda County has often recommended short-term safety improvements using quick-build improvements that can later be upgraded with permanent intersection reconfigurations. Quick-build improvements rely on a combination of signage, striping, and temporary materials to bring more immediate safety improvements at a lower cost. These improvements can be left installed for several years while waiting to secure additional funds, and they serve as an opportunity to trial design changes before committing to permanent implementation. Marin County takes a similar approach, with improvements implemented as funding becomes available.

Access Safe Routes Pilot Program

In 2019, the Alameda County Transportation Commission was awarded a $3.7 million Caltrans Active Transportation Program grant for the Access Safe Routes Pilot Program[28], which focused resources on supporting the highest-need schools in the County. This equity-centered program worked over the past four years with 59 of the most disadvantaged and high-collision schools in Alameda County to help them enroll in SR2S and participate in events and activities. At the conclusion of the pilot, 15 schools were designated Equity Schools that will continue to receive enhanced services under the Alameda County SR2S program.

Marin County has implemented a similar equity-focused approach through its Youth Leading Active Communities (YLAC) program and through a partnership with Marin Public Health Department, which directs additional resources and support to schools that may face barriers to participating in traditional Safe Routes to Schools activities. Like Alameda County's Access Safe Routes Pilot, YLAC prioritizes schools serving disadvantaged communities and those without the capacity to rely on volunteer champions alone. By providing structured programming, youth

[27] "Safe Routes to School Program Update," Alameda County Transportation Commission, 2024, link
[28] "Alameda County Safe Routes to School 2023-24 Year-End Report," Alameda County Transportation Commission, 2023-2024, link

leadership opportunities, and staff-led engagement, YLAC helps extend SR2S benefits to schools with the greatest need, aligning Marin County's approach with emerging national best practices for equitable program delivery.

Golden Sneaker Award

The Golden Sneaker Award is one of four annual countywide Encouragement events hosted by the Alameda County SR2S program. Over two weeks, participating classrooms record the number of students who travel to school using active or shared transportation as part of a friendly competition. The classroom at each school with the highest percentage of students participating receives the Golden Sneaker Award, and the school with the highest overall participation receives the Platinum Sneaker Award. Winning Golden Sneaker Award, classrooms receive a trophy made from a Golden State Warriors' sneaker, and the school that receives the Platinum Sneaker Award is celebrated at the Alameda Transportation Commission meeting and receives a commemorative plaque.[29]

The Golden Shoe Award is a popular safe routes to school Encouragement activity nationally and is recommended by the Safe Routes Partnership in their *Building Blocks Toolkit*.[30]

San Mateo County

The San Mateo County Safe Routes to School[31] (San Mateo County SRTS) program is a collaborative effort led by the San Mateo County Office of Education (SMCOE) and funded by the San Mateo County City/County Association of Governments (C/CAG), San Mateo County Transportation Authority (SMCTA), and the California Office of Traffic Safety. The San Mateo SRTS program launched in 2010, with 59 schools participating in the first full academic year of 2011-12. This number rose to 83 (59 K-5, seven K-8, 12 middle, and five high schools) in 2023-24, after significant year-over-year fluctuation in participation.[32] Similar to Alameda County, San Mateo County relies on a small staff team (at SMCOE), approved service providers, and volunteer champions to implement the program. Funding is primarily available from the combination of federal Congestion Mitigation and Air Quality (CMAQ) and local C/CAG Measure M and SMCTA Measure W funds.[33]

Two-thirds of San Mateo County public schools are in designated suburban communities, with most remaining schools (28 percent) located in designated cities, per the National Center for Education Statistics and Standards. San Mateo County has a similar share of public schools in suburban areas, a slightly larger share of schools in cities, and a smaller share of schools in rural areas compared to

[29] "Alameda County Schools Participate in the 2022 Annual Golden Sneaker Contest press release," Alameda County Transportation Commission, 2022, link
[30] Safe Routes Partnership, 2021, link
[31] "San Mateo County Safe Routes to School website," San Mateo County Office of Education, n.d., link
[32] "San Mateo County Safe Routes to School Five-Year Evaluation," City/County Association of Governments of San Mateo County, 2010-2015, link
[33] "Safe Routes to School Annual Report," San Mateo County Office of Education, 2023-2024, link

Marin County. This indicates that the average distance to school in San Mateo County is likely similar but potentially lower than Marin County, due to a larger share of schools in cities, where distances to schools tend to be lower, and a smaller share in rural areas, where distances to schools tend to be higher. **Figure 7** shows the geographic breakdown of San Mateo County public schools relative to Marin County. **Figure 8** shows the student distance from school based on the San Mateo County SRTS program Parent Survey from the 2021-2022 academic year.

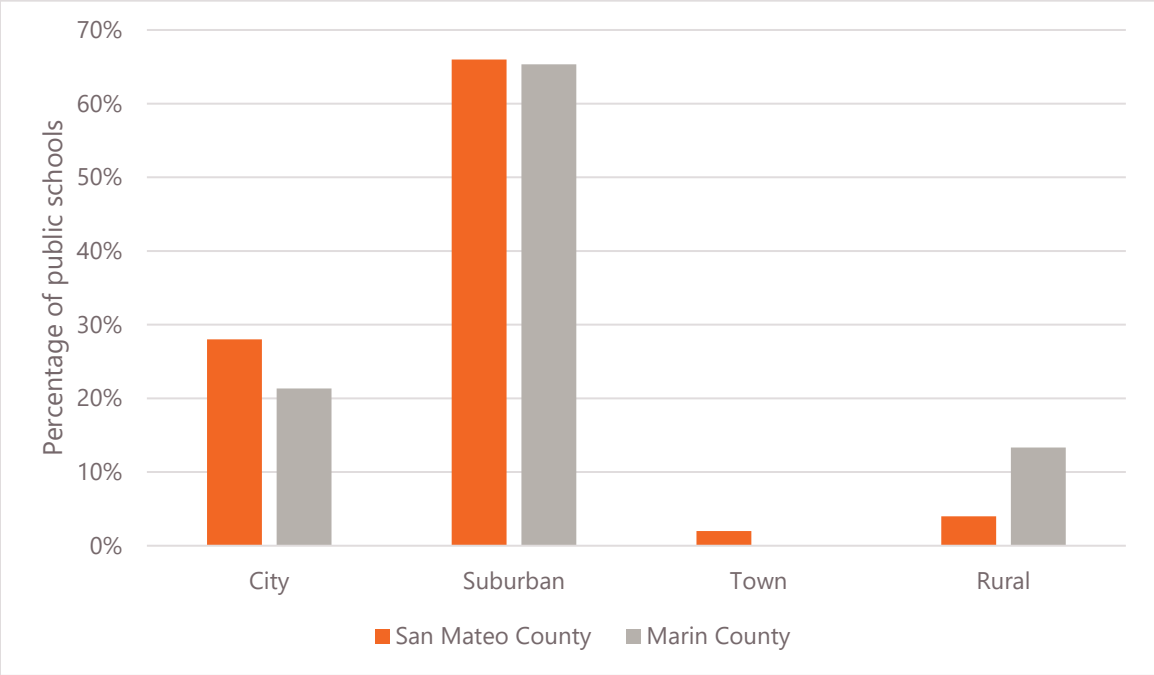


Figure 7: San Mateo County Public School Geography
Source: Education Demographic and Geographic Estimates: School Geocodes[34]

[34] National Center for Education Statistics, 2024-2025, link

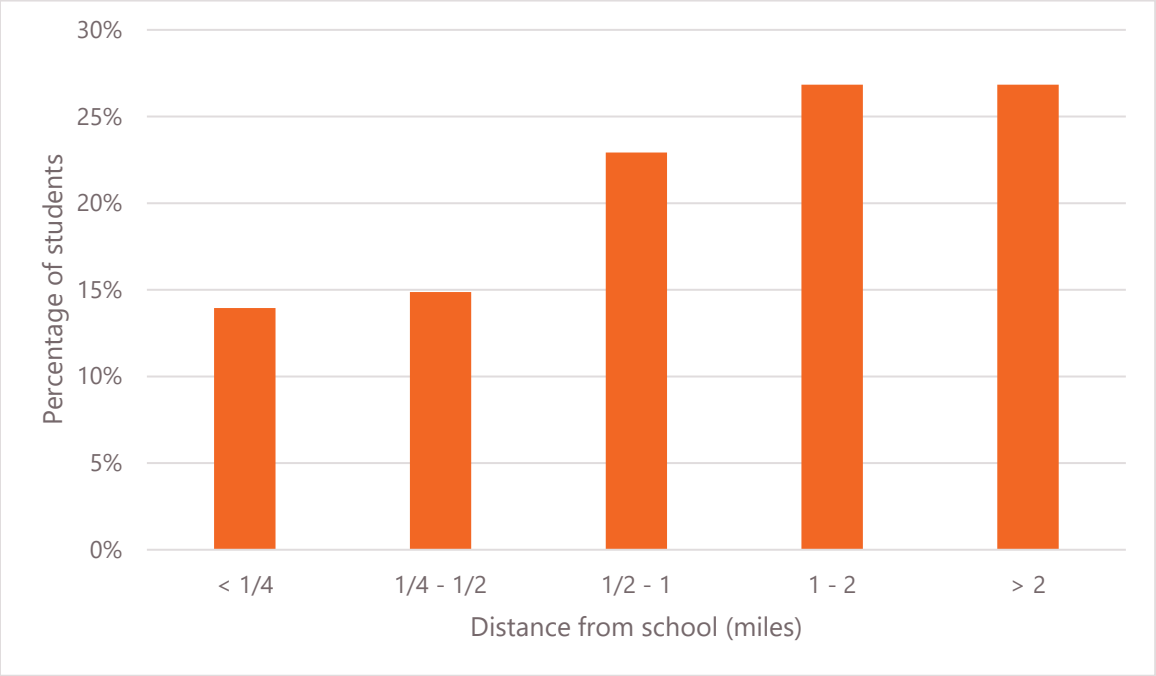


Figure 8: 2021-2022 San Mateo County SRTS Program Parent Survey Home Distance to School[35]

Source: SRTS Annual Report[1]

San Mateo County had 83,855 public school students during the 2024-25 academic year. Over three quarters of San Mateo County public school students are people of color, 36 percent are socioeconomically disadvantaged, 20 percent are English learners, and 13 percent have a disability. **Figures 9 and 10** show San Mateo County public school student demographics relative to Marin County.

Program Statistics

Active and Green Trip Rates

Active and green trip rates at participating schools in San Mateo County have experienced greater variation in the past few years than other programs, possibly due to more variation in school participation. As seen in **Figure 11**, San Mateo County SRTS active trip rates have stayed between 15 percent and 25 percent, and green trip rates have stayed between approximately 30 percent and 40 percent. Active and green trip rates by school type were not available for San Mateo County.

[35] Note that the source chart total sums to 105 percent, indicating a likely data error.

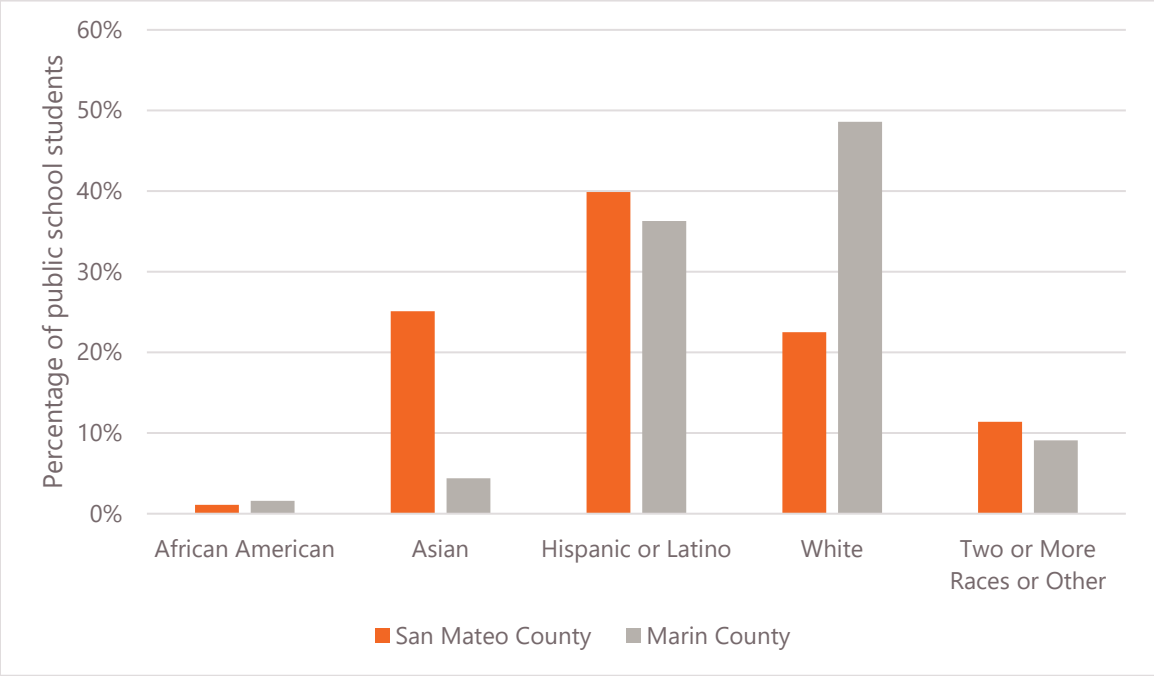


Figure 9: San Mateo County Public School Student Race/Ethnicity

Source: Enrollment Report[36]

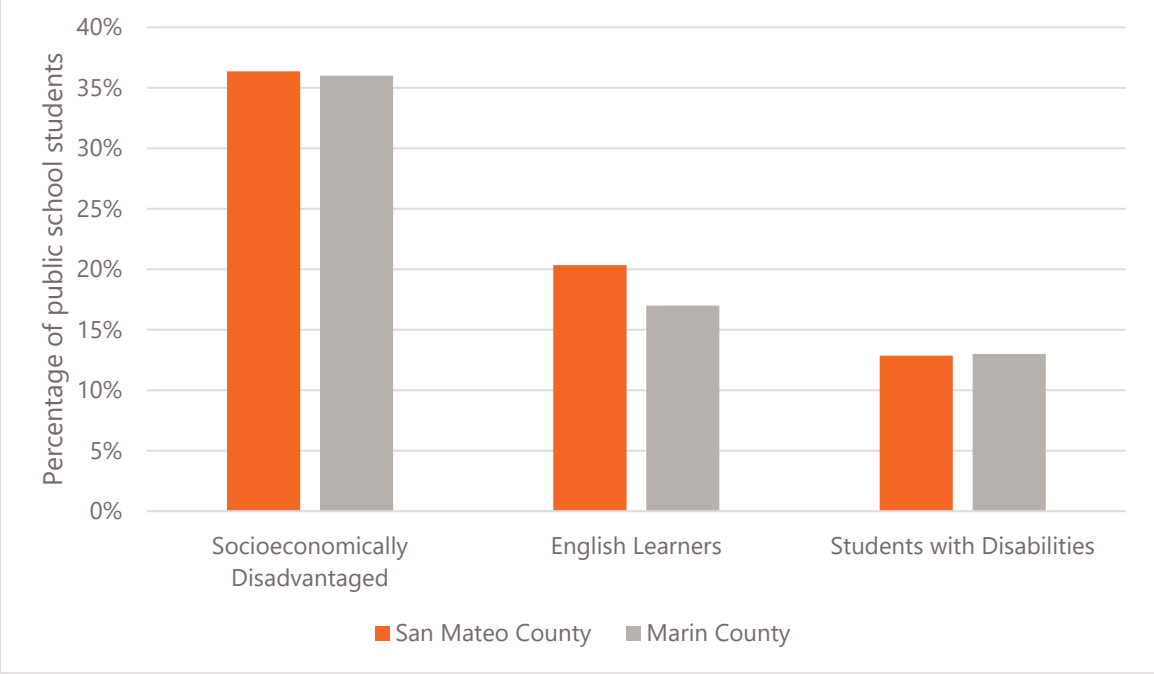


Figure 10: San Mateo County Public School Student Characteristics

[36] California Department of Education, 2024-2025, link

Source: Enrollment Report

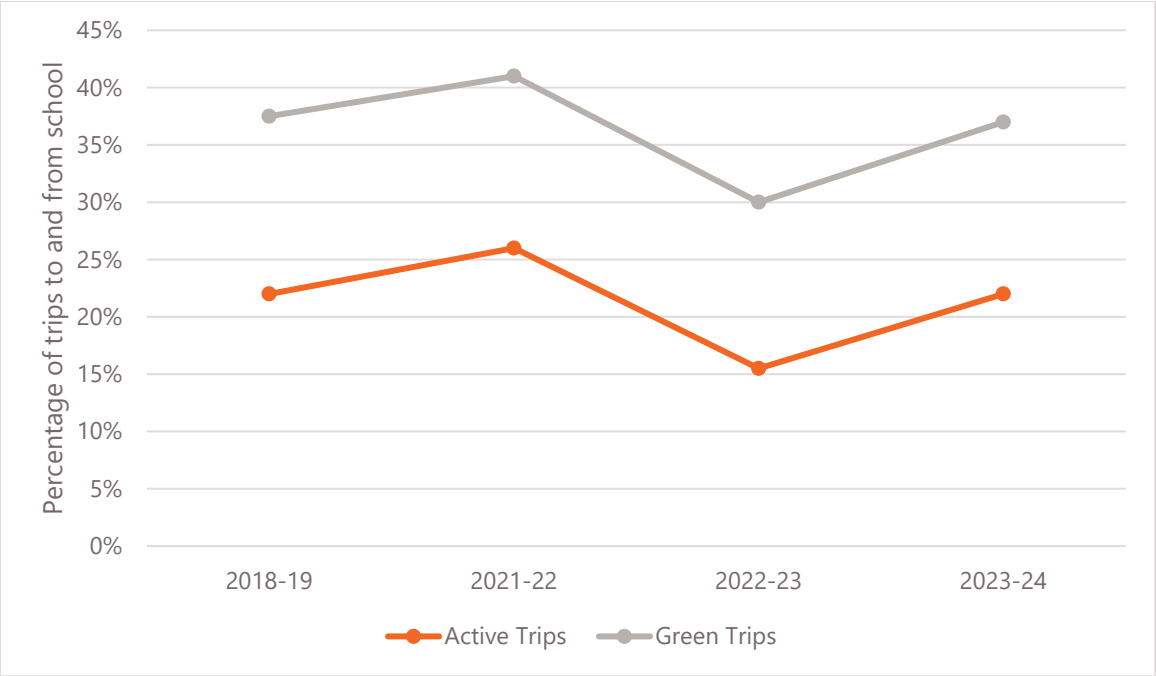


Figure 11: San Mateo County SRTS Active and Green Trip Rates
Source: Travel Tally Data Summary[37]

School Participation

School participation rates in San Mateo County's SRTS program have experienced greater variations than other programs. **Figure 12** shows that participation among all school types was approximately 53 percent pre-pandemic, declined to 44 percent in the 2021-22 academic year, rose to approximately 64 percent in 2022-23, and then declined back down to approximately 48 percent in 2023-24. Participation is highest among elementary and middle schools, with high schools reporting much lower participation.

[37] San Mateo County Office of Education, n.d., link

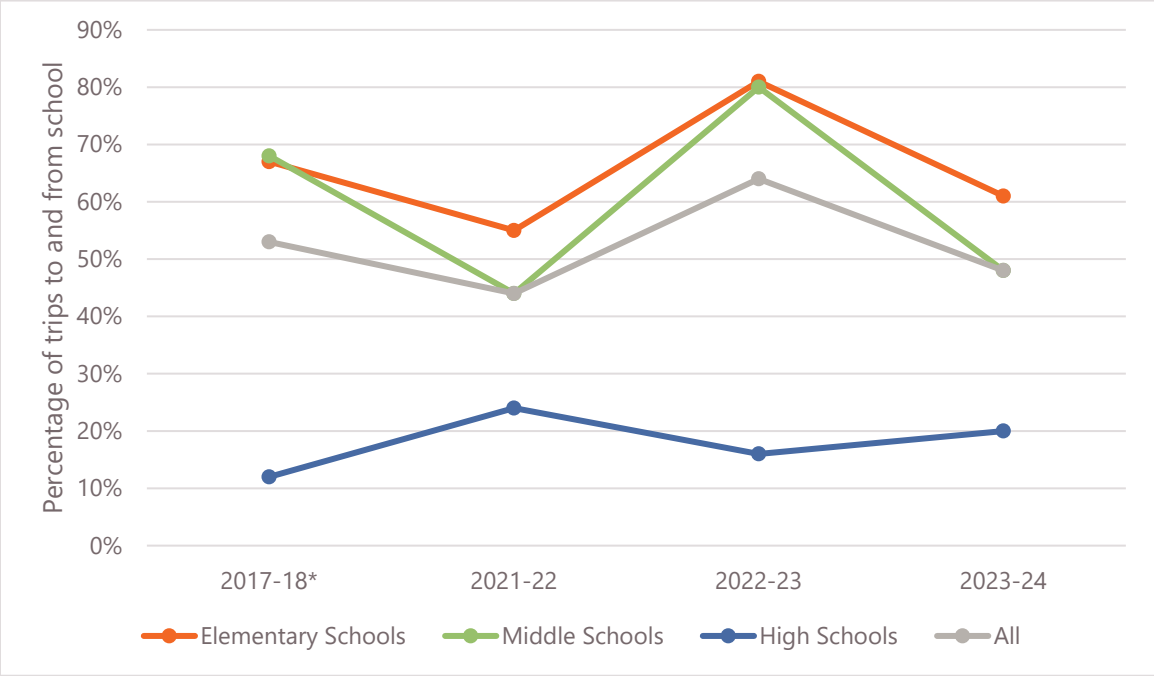


Figure 12: Estimated San Mateo SRTS School Participation Rates
Sources: SRTS Annual Report; Public Schools and District Data File[38]
**Data on school participation was unavailable for 2018-19*

As school participation data for San Mateo County didn't include the total number of active schools by year, participation rates were estimated by dividing the number of participating schools by the number of active, traditional public schools by each type in San Mateo County as of November 5th, 2025, according to the California Department of Education. Note that this does not account for prior school openings or closures.

Program Strategy

San Mateo County relies on the same six E's framework as Alameda County: Education, Equity, Evaluation, Engineering, Encouragement, and Engagement. Like Alameda County, San Mateo County replaced Enforcement with Engagement in the 2019-2020 academic year to focus on equitable access to active transportation amidst concerns about racial inequity and social injustice associated with policing.[39]

[38] California Department of Education, 2025, link
[39] "San Mateo County Safe Routes to School 2019-20 Annual Report," San Mateo County Office of Education, 2019-2020, link

Innovative Approaches

Youth-Based High Injury Network Analysis

To help determine where to prioritize future infrastructure improvements, San Mateo County produced a countywide high injury network focused on high-severity collisions affecting youth and active modes. This provides a road map for where there is the greatest need for physical infrastructure improvements in the county by school district and individual school, helping streamline safety improvements to the communities that need them most (San Mateo County Office of Education, 2022).[40]

CONTRA COSTA COUNTY

The Contra Costa Transportation Authority's safe routes to school program, Street Smarts Contra Costa (SSCC), is active in every community in the county and provided via three different locally run programs: the San Ramon Valley Street Smarts Program in the San Ramon Valley (established 2004), Streets Smarts Diablo in East and Central Contra Costa County (established 2012), and the Building Healthy Communities Program in West Contra Costa County (established 2012). The Contra Costa Transportation Authority received a One Bay Area Grant (OBAG) Program Cycle 3 award in 2023 to expand on the three subregional programs and provide service to all public school students in Contra Costa County via a new countywide non-infrastructure program.[41] Contra Costa County awarded the contract for the countywide SR2S program to Advanced Mobility Group in May 2025, with the 2025-26 academic year as the first year of the program.[42]

More than 84 percent of Contra Costa County public schools are in suburban communities, with most of the remaining schools (12 percent) located in cities. Contra Costa County has a larger share of public schools in suburban areas and a smaller share of schools in cities and rural areas, compared to Marin County. Given the larger share of suburban schools but smaller share of urban and rural schools in Contra Costa County, the average distance to school is likely similar to Marin County. **Figure 13** shows the geographic breakdown of San Mateo County public schools relative to Marin County. Three quarters of Contra Costa County public school students are people of color, 46 percent are socioeconomically disadvantaged, 16 percent are English learners, and 14 percent have a disability. **Figures 14 and 15** show Contra Costa County public school student demographics relative to Marin County.

[40] "San Mateo County Safe Routes to School High Injury Network Report," San Mateo County Office of Education, 2022, link
[41] "Street Smarts Diablo website," Contra Costa Transportation Authority, n.d., link
[42] "REQUEST FOR PROPOSALS (RFP) 24-4," Contra Costa Transportation Authority, 2024, link

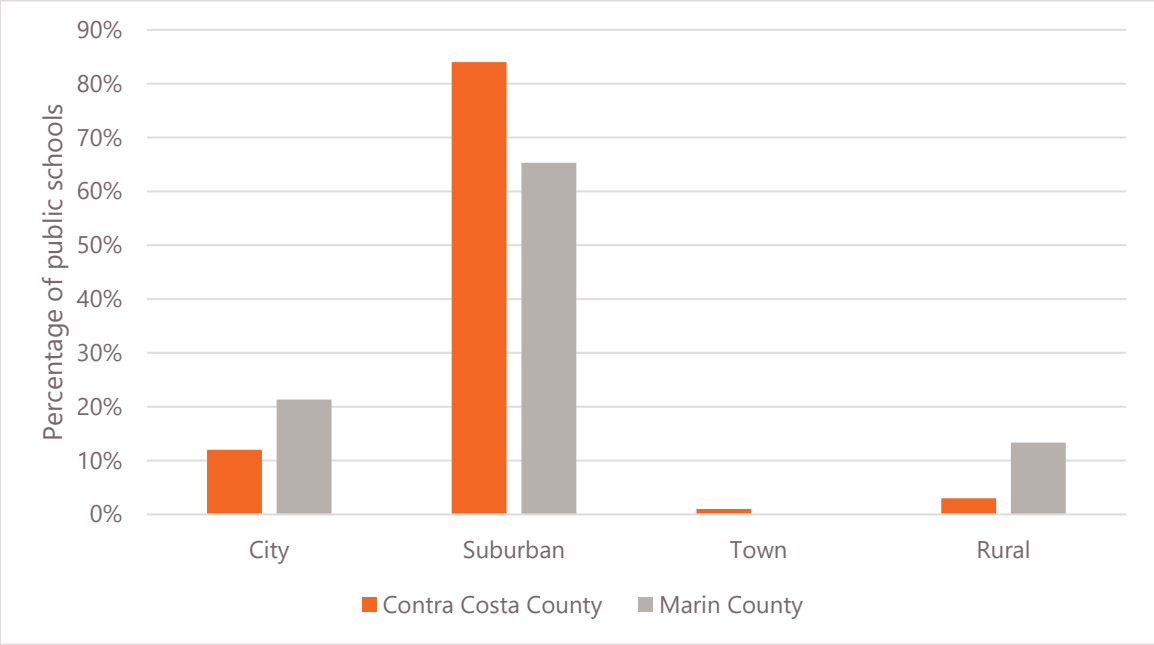


Figure 13: Contra Costa County Public School Geography
Source: Education Demographic and Geographic Estimates: School Geocodes[43]

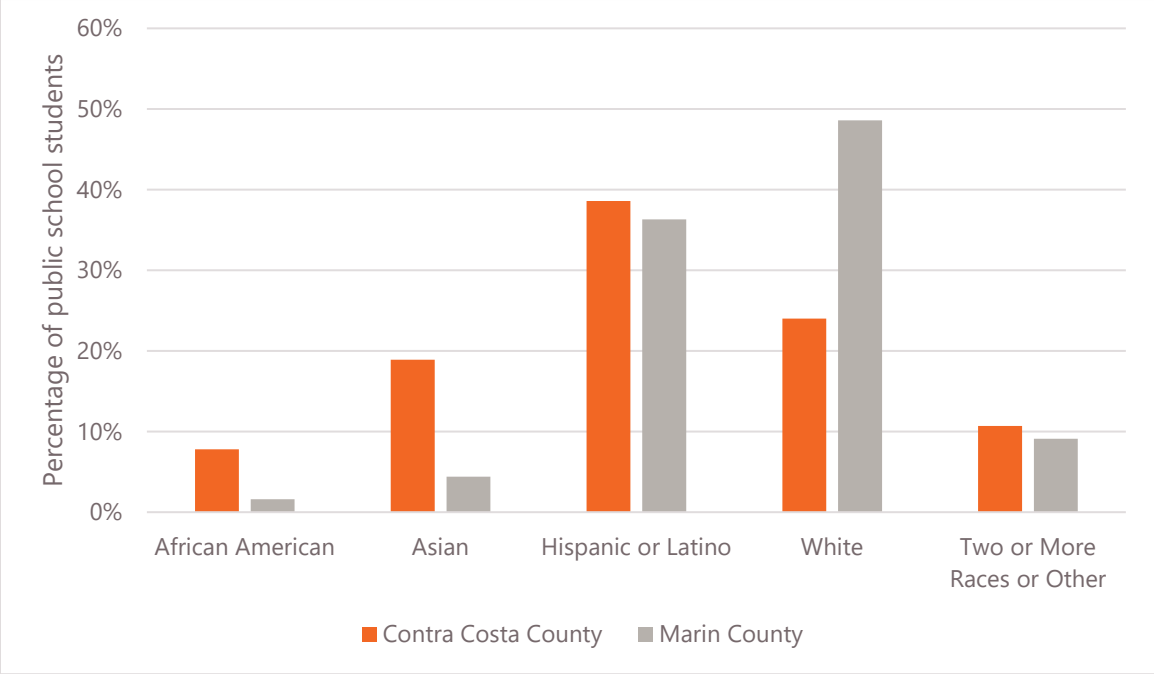


Figure 14: Contra Costa County Public School Student Race/Ethnicity
Source: Enrollment Report[44]

[43] National Center for Education Statistics, 2024-2025, link
[44] California Department of Education, 2024-2025, link

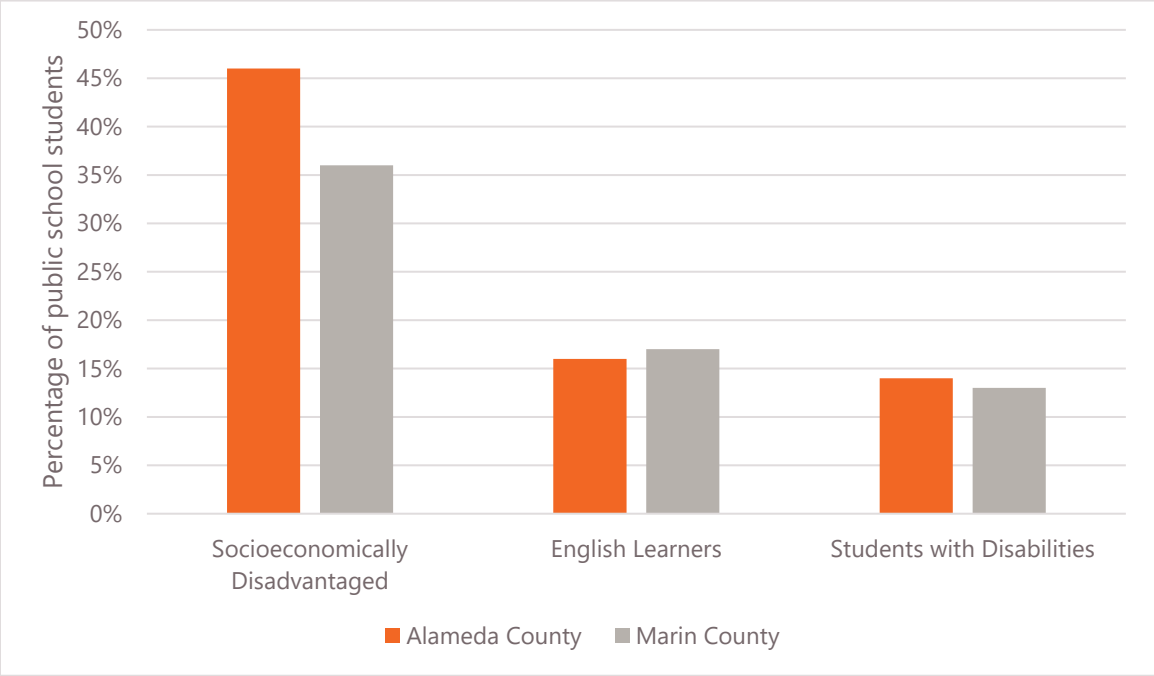


Figure 15: Contra Costa County Public School Student Characteristics
Source: Enrollment Report

Program Statistics

Active and Green Trip Rates

Due to the historically decentralized nature of the Contra Costa County SR2S program, and only a recent move to implement a countywide program, recent statistics on green and active trip rates and school participation are unavailable. A survey of how students get to school across the four county subregions included in a 2016 report found green trip rates between 45 and 50 percent and active trip rates between 15 to 30 percent, as seen in **Figure 16**.

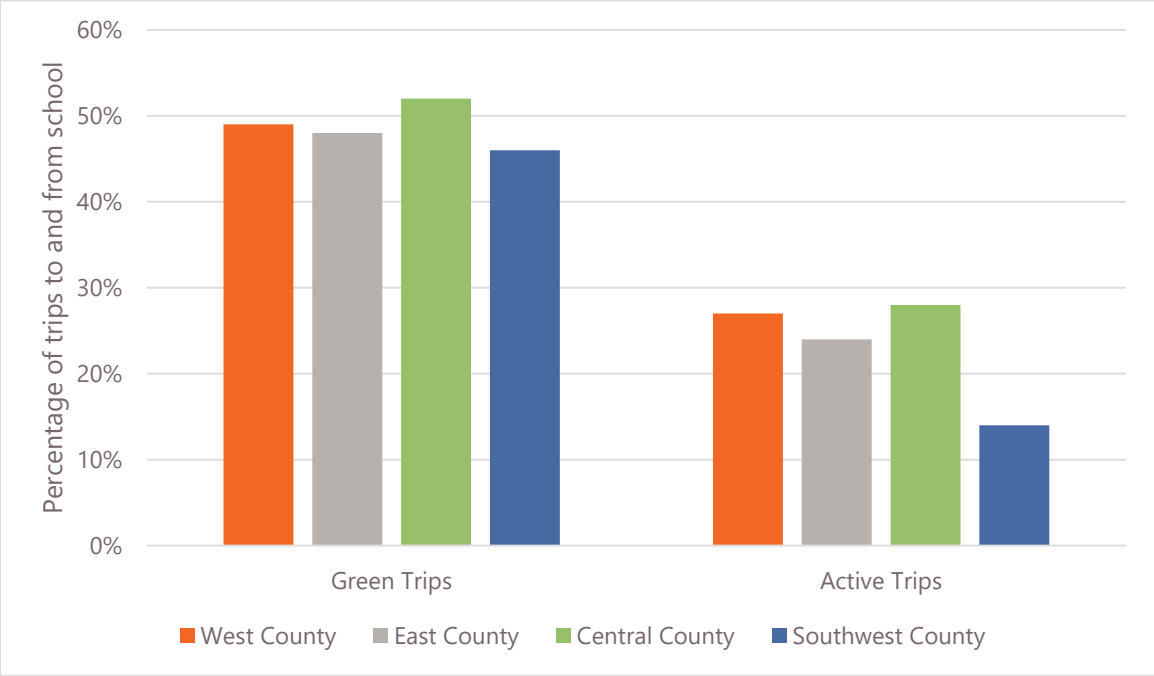


Figure 16: 2016 Contra Costa County Student Green and Active Trip Rates
Source: Contra Costa Safe Routes to School: Understanding Needs, Moving Ahead[45]

School Participation

Historical data on school participation in Streets Smarts Contra Costa is not readily available, but the expanded program funded by the One Bay Area Grant Program is intended to expand the program into all 274 elementary, middle, and high schools in Contra Costa County's 18 school districts.

Program Strategy

Streets Smarts Contra Costa historically has not had a singular strategy due to being comprised of three locally run programs. Compared to other Bay Area programs, Contra Costa's efforts have focused on widespread community education campaigns as well as incentive programs to encourage greater participation.

Innovative Approaches

Large-Scale Parent and Community Education Campaigns

Streets Smarts Contra Costa County has emphasized community safety campaigns, with a particular focus on safe driving behavior for students and parents in school zones.

[45] Contra Costa Transportation Authority, 2016, link

- In Central and East Contra Costa County, this has been implemented by Streets Smarts Diablo via the Back to School Safety campaign.[46] The Back to School Safety campaign distributed flyers that emphasize student safety practices when walking and biking to and from school and parent safety practices when dropping off their kids. An example flyer is depicted in **Figure 17**.
- Contra Costa Health's Slow Roads Save Lives campaign in West Contra Costa County, similarly, emphasizes community safety while traveling. [47] Contra Costa County Health received California Office of Traffic Safety grants in 2024 and 2025 to promote their Slow Roads Saves Lives campaign and host community events that communicate the importance of sharing the road, slowing down, and staying alert to bicyclists and pedestrians while driving.[48]
- Finally, Street Smarts San Ramon has promoted community safety efforts in the San Ramon Valley region through campaigns like the California Highway Patrol Start Smart Teen Driving Safety Program.[49] This program has previously been comprised of two-hour traffic safety classes designed for teen drivers and their parents to discuss the laws, obligations, responsibilities, and family expectations associated with safe driving. California Highway Patrol (CHP) delivered the Smart Teen Driving Safety Program, with funding from a State Farm Insurance grant.

Together, these programs emphasize community education to promote safe and attentive travel to, from, and around schools.

511 Contra Costa Incentive Programs

To decrease vehicle trips to schools, 511 Contra Costa/Street Smarts Diablo provides several youth, family, and seasonal incentive programs. These include Pass2Class, which provides free bus rides for two months on regional transit operators, and SchoolPool, a youth carpool program that helps organize sustainable carpools for the school year and includes prizes.[50]

[46] "Community Resources," Street Smarts Diablo, n.d., link
[47] "Injury Prevention and Active Transportation," Contra Costa Health, n.d., link
[48] "Office of Traffic Safety Awards Grant to Contra Costa Health for Pedestrian and Safety Program,"" Contra Costa Health, 2025, link
[49] "CHPP Street Smart Teen Driver Education Classes," Street Smarts San Ramon, 2016, link
[50] "Countywide Bicycle and Pedestrian Advisory Committee Meeting March 24th, 2025," Contra Costa Transportation Authority, 2025, link

Figure 17: Street Smarts Diablo Back to School Safety Campaign Flyer
Source: Community Resources

Walk N Roll Program

Walk N Roll is a new program in central Contra Costa County launched by 511 Contra Costa County/Street Smarts Diablo that tallies active and green trips to school once per week and notifies families of their kids' safe arrival to school. All students receive scan tags for backpacks that program volunteers scan if kids arrive by active and green modes. The scan tag then tallies participation data, notifies families of their kids' safe arrival to school, shares information about the environmental benefits with students and families, and rewards students with a trip charm after four recorded days of active and green modes. Since the program began, bike ridership is up substantially, and schools have reported less traffic and fewer tardies on Walk N Roll days. For the 2025-26 school year, Street Smarts Diablo is providing a program coordinator toolkit, volunteer training and technical assistance, orientation assistance, a one-year school subscription to Active4me (app-based platform), scan tags and key rings for each student, collectable trip charms for student incentives, up to 10 safety vest for scanning volunteers, two

program banners, outreach materials for promotion and parent education, and a year-end report to eligible schools in the Mt Diablo, Martinez, and Walnut Creek School Districts.[51] A flyer explaining the program is depicted in **Figure 18**.

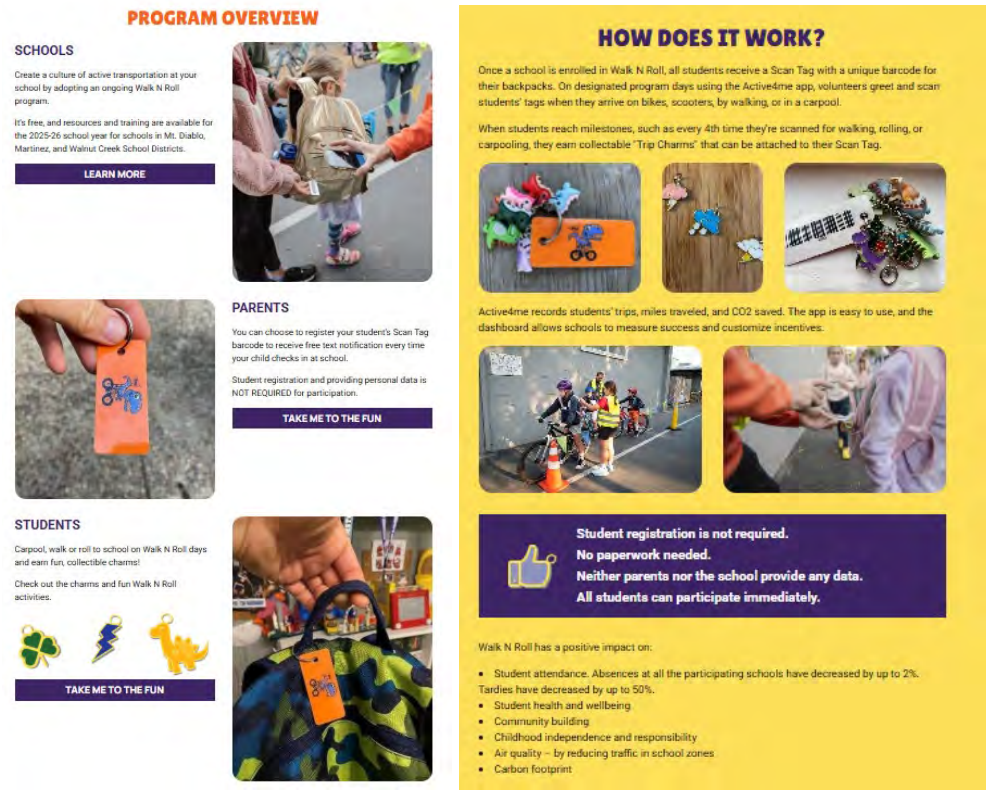


Figure 18: Walk N Roll Program Flyer
Source: Walk N Roll Program website

BAY AREA CASE STUDIES COMPARISON

Comparative School and Student Characteristics

Figure 19 depicts the school geography of peer program counties relative to Marin County. Alameda County is more urban than the other programs, with more than half of all public schools located in cities. The other three programs, including Marin County, have greater than 60 percent of schools located in suburban areas, compared to roughly 40 percent for Alameda County. Marin County has a larger share of schools located in rural areas than other programs; 13 percent of schools are located in rural areas, compared to a maximum of four percent in other programs (San Mateo County).

Based on National Household Travel Survey data,[52] as discussed in the methodology section, it is likely that Alameda County, on average, has lower distances between home and school

[51] "Walk N Roll Program website," Street Smarts Diablo, n.d., link
[52] "NHTS Brief January 2008," U.S. Department of Transportation, 2008, link

relative to Marin County due to a larger share of schools located in city environments. It is also likely that, on average, distances to schools in San Mateo and Contra Costa counties may be similar to Marin County due to comparable school geographic breakdowns, though perhaps slightly shorter in San Mateo County due to a larger share of schools in areas designated as "city" and a lower share of schools in rural areas, relative to Marin County.

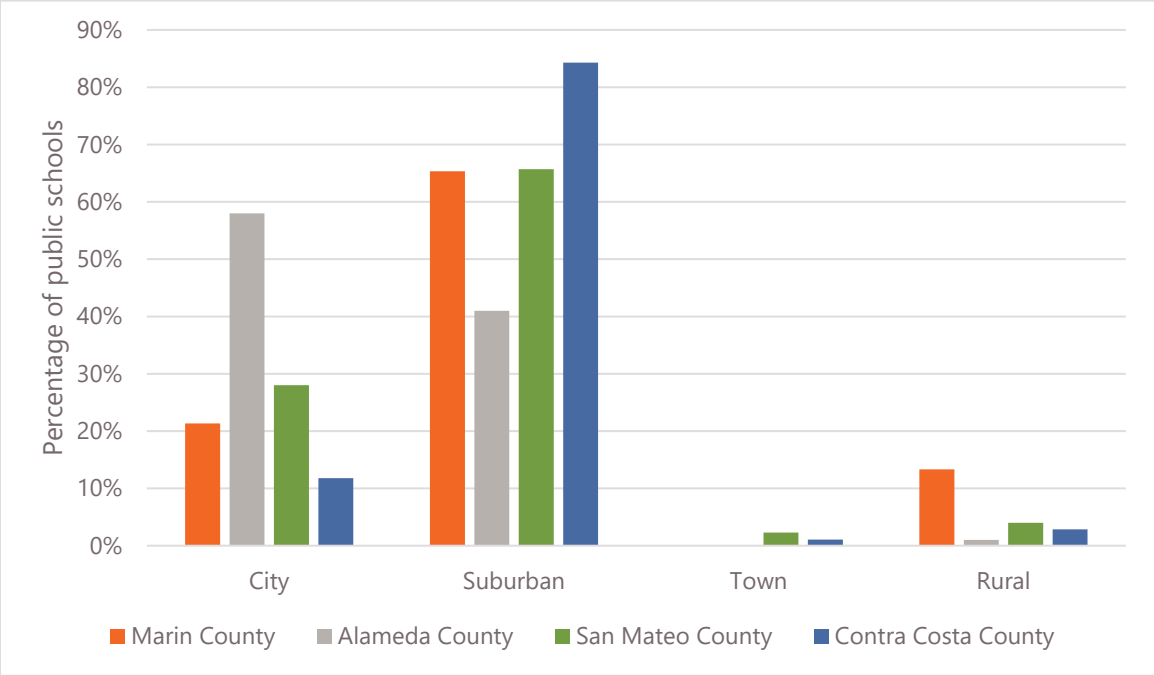


Figure 19: Comparative County Public School Geography
Source: Education Demographic and Geographic Estimates: School Geocodes[53]

Figures 20 and 21 show public school student demographics in peer program counties relative to Marin County. Overall, Marin County's public school student population has a higher proportion of white students and is less socioeconomically disadvantaged than peer programs. All districts had similar shares of students who are English learners or have a disability.

Three-quarters or greater of public school students in Alameda, San Mateo, and Contra Costa counties identify as people of color, and greater than 45 percent of students in Alameda and Contra Costa counties are classified as disadvantaged by the California Department of Education. Marin County, on the other hand, has a public school student population where 49 percent of students identify as white and 36 percent of students are classified as socioeconomically disadvantaged. Between 16 and 21 percent of students are English learners and 13 to 14 percent have a disability in all four counties.

[53] National Center for Education Statistics, 2024-2025, link

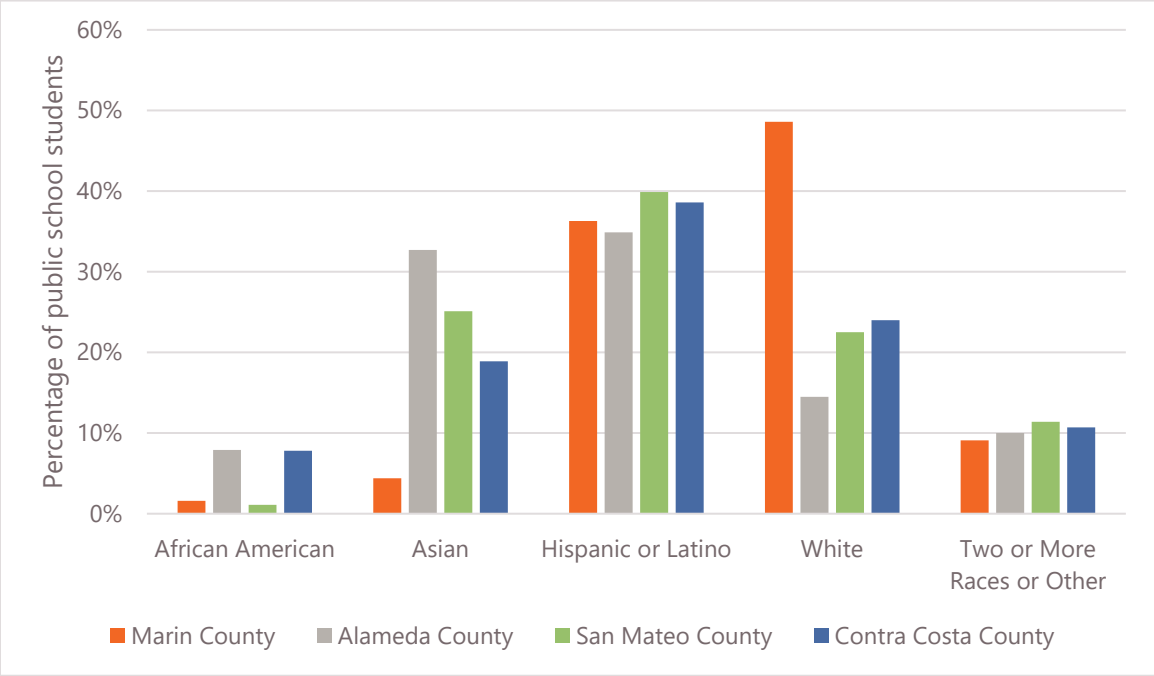


Figure 20: Comparative County Public School Student Race/Ethnicity
Source: Enrollment Report[54]

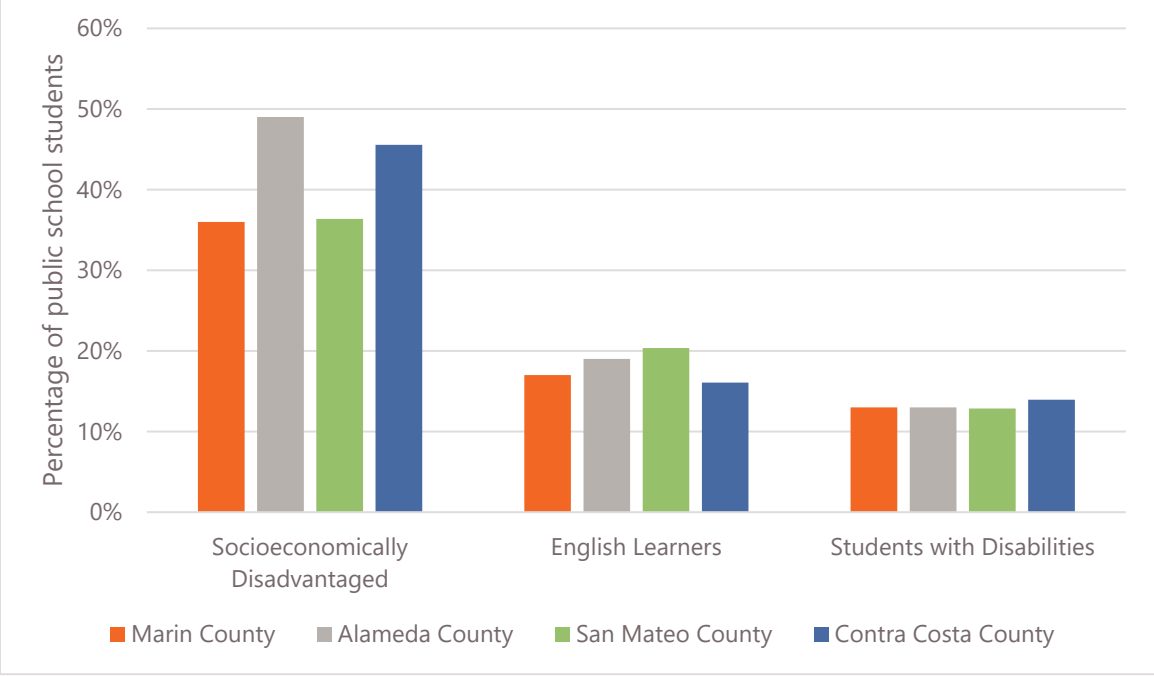


Figure 21: Comparative County Public School Student Characteristics
Source: Enrollment Report

[54] California Department of Education, 2024-2025, link

Comparative Active and Green Trip Rates

Among Marin County and the two other Bay Area programs that have provided consistent data on active trip rates over the past few years, Marin and Alameda counties have had the highest active rates. Prior to the COVID-19 Pandemic, Alameda County had a slightly higher active trip rate than Marin County. However, since the 2018-19 school year, Marin County's rates have increased, while Alameda County's rates have declined slightly. San Mateo County has consistently had lower active trip rates than the other two programs, as seen in **Figure 22**. Due to the historically decentralized nature of the Contra Costa County SR2S program, and only a recent move to implement a countywide program, recent statistics on green and active trip rates and school participation are unavailable.

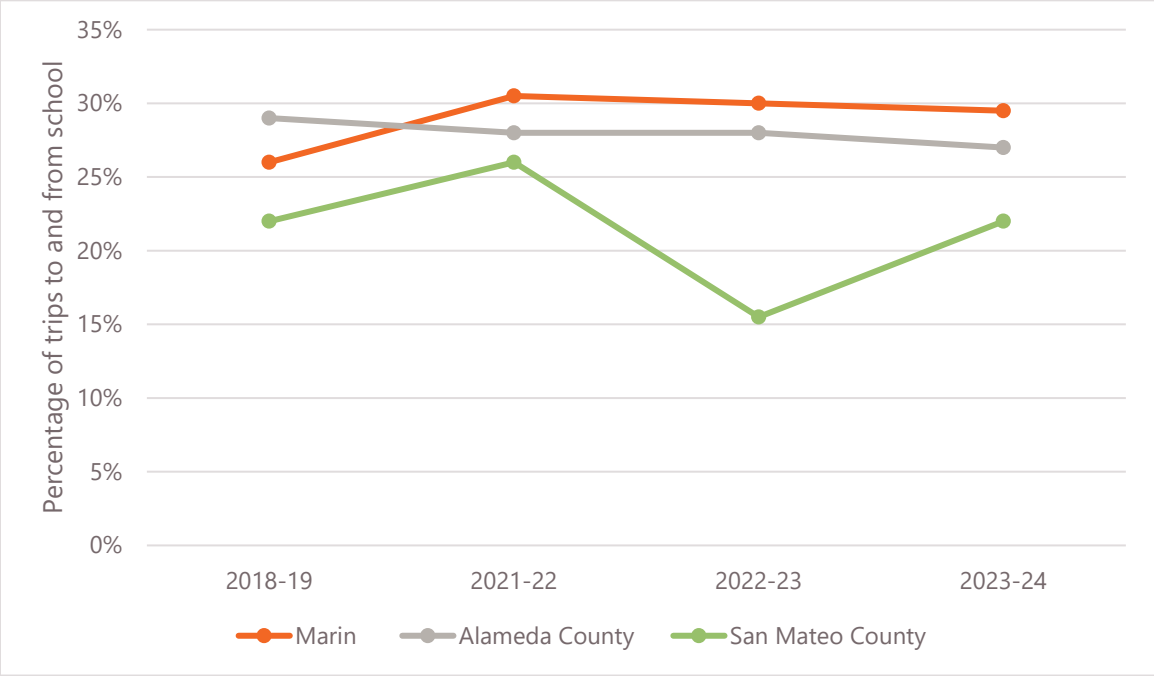


Figure 22: Active Trip Rates by SR2S Program
Source: Travel Tally Data Summary; [55] *Year-End Reports;* [56] *SR2S Dashboard*[57]

Among Marin County and the two other Bay Area programs that have provided consistent data on green trip rates over the past few years, Marin County has had the highest rates every year, with slightly less than 50 percent mode share, as seen in **Figure 23**. Alameda County has consistently had the second-highest green trip rates, which were nearly as high as Marin County pre-pandemic in 2018-19, but have since declined slightly. San Mateo County green trip rates have varied the most among the three programs but have been consistently lower than those in

[55] San Mateo County Office of Education, n.d., link
[56] Alameda County Transportation Commission, 2018-2024, link
[57] Transportation Authority of Marin, n.d., link

Marin and Alameda counties.

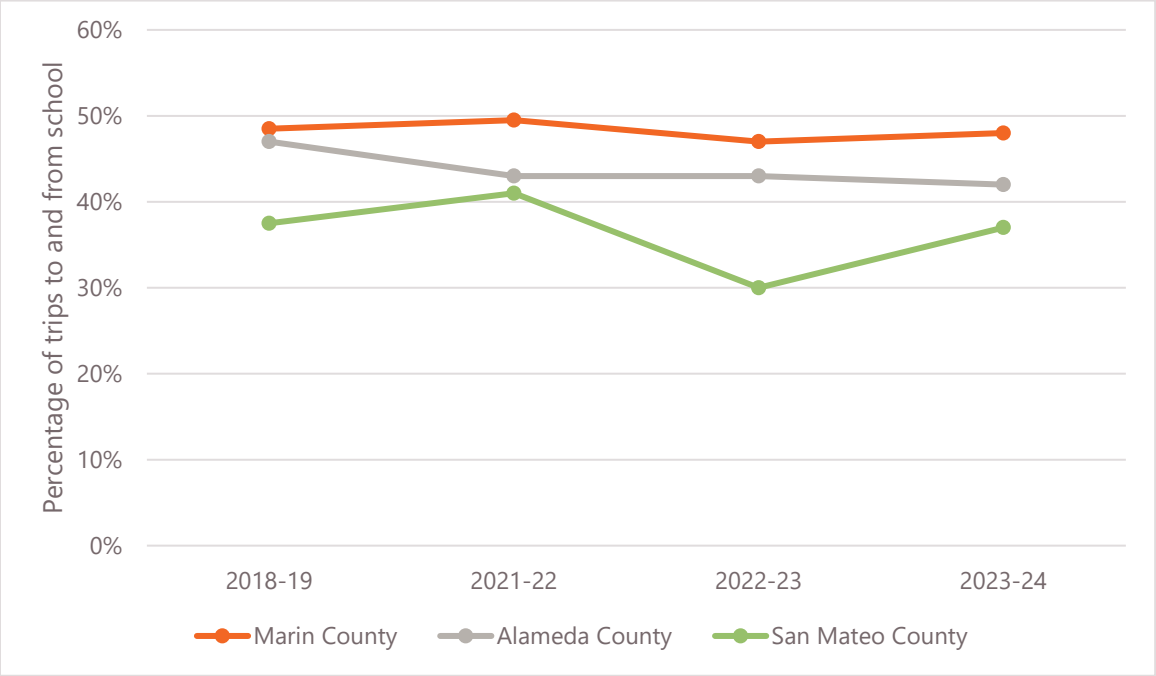


Figure 23: Green Trip Rates by SR2S Program
Source: Travel Tally Data Summary; Year-End Reports; SR2S Dashboard

Comparative School Participation Rates

Among Marin County and the two other Bay Area programs that have provided consistent data on school participation rates over the past few years, **Figure 24** shows how Marin County has consistently had the highest elementary school participation rate, followed by Alameda County. San Mateo County has had less consistent elementary school participation and has had lower overall participation than Marin and Alameda counties. No data was available for Contra Costa County. Data was unavailable for San Mateo County during the 2018-19 academic year; thus, participation data from 2017-18 were provided instead.

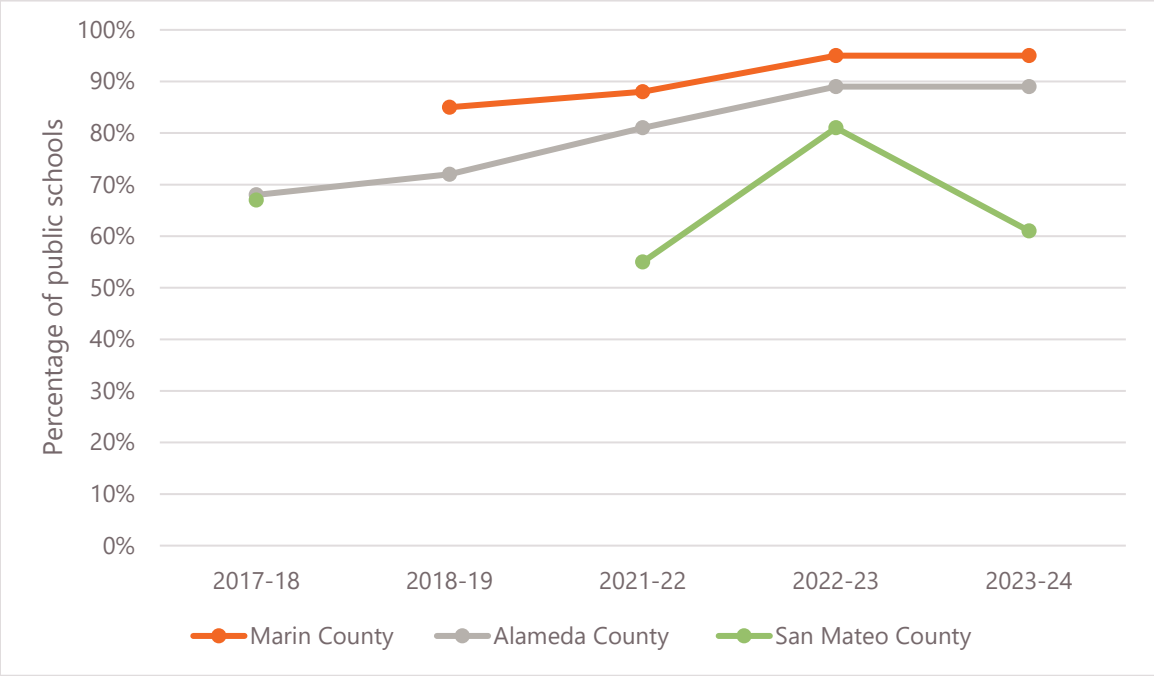


Figure 24: Elementary School Participation Rates by SR2S Program

Sources: SRTS Annual Report58; Public Schools and District Data File59; Year-End Reports60; Program Evaluation[61]

San Mateo County participation rates were estimated by dividing the number of participating schools by the number of active, traditional public schools by each type in San Mateo County as of November 5th, 2025, according to the California Department of Education. Note that this does not account for prior school openings or closures. Marin County participation rates for 2022-23 and 2023-24 were extrapolated based on having the same total number of schools participating in 2024-25, minus the two private schools that exited the program in 2024-25.

Among Marin County and the two other Bay Area programs that have provided consistent data on school participation rates over the past few years, **Figure 25** shows how Marin County has consistently had the highest middle school participation rate at 100 percent participation, followed by Alameda County. San Mateo County has had less consistent middle school participation and has had lower overall participation than Alameda County most of the post-pandemic academic years, though it had similar participation in 2022-23.

[58] San Mateo County Office of Education. 2018-2024, link
[59] California Department of Education, 2025, link
[60] Alameda County Transportation Commission, 2018-2024, link
[61] Transportation Authority of Marin, 2020-2025

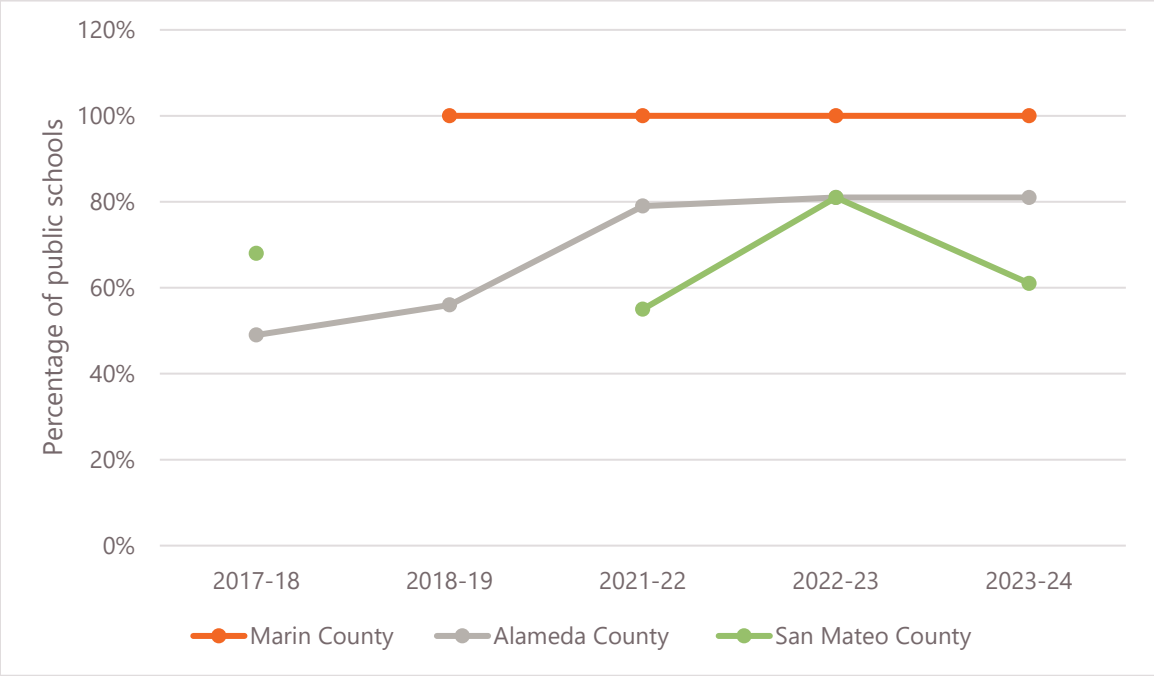


Figure 25: Middle School Participation Rates by SR2S Program
Sources: SRTS Annual Report: Public Schools and District Data File; Year-End Reports; Program Evaluation

San Mateo County participation rates were estimated by dividing the number of participating schools by the number of active, traditional public schools by each type in San Mateo County as of November 5th, 2025, according to the California Department of Education. Note that this does not account for prior school openings or closures. Marin County participation rates for 2022-23 and 2023-24 were extrapolated based on having the same total number of schools participating in 2024-25, minus the two private schools that exited the program in 2024-25.

Among Marin County and the two other Bay Area programs that have provided consistent data on school participation rates over the past few years, **Figure 26** shows how Marin County has consistently had the highest high school participation rate, with a significant post-pandemic increase beginning in 2022-23. Alameda County has had the second-highest high school participation rates, with a rise from 34 percent in 2017-18 to 60 percent in 2023-24. San Mateo County has had lower high school participation than Marin and Alameda counties, with participation levelling off at around 20 percent.

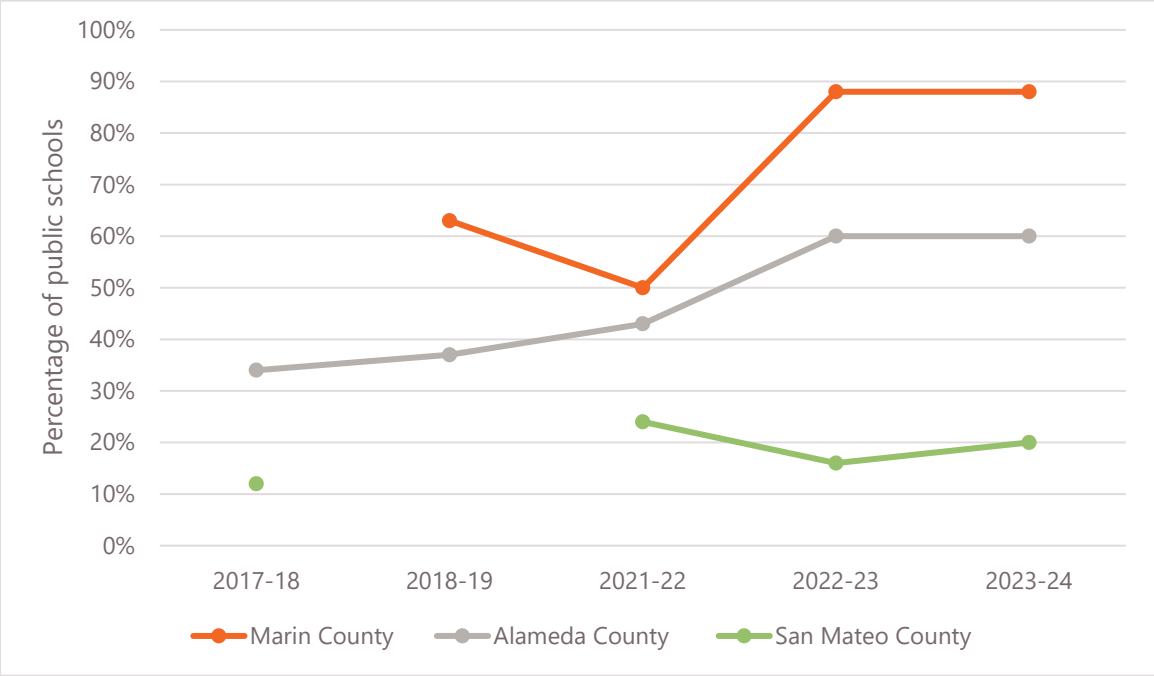


Figure 26: High School Participation Rates by SR2S Program

Sources: SRTS Annual Report; Public Schools and District Data File; Year-End Reports; Program Evaluation

San Mateo County participation rates were estimated by dividing the number of participating schools by the number of active, traditional public schools by each type in San Mateo County as of November 5th, 2025, according to the California Department of Education. Note that this does not account for prior school openings or closures. Marin County participation rates for 2022-23 and 2023-24 were extrapolated based on having the same total number of schools participating in 2024-25, minus the two private schools that exited the program in 2024-25.

Additional Safe Routes to School Case Studies

To provide insight into innovations occurring in Safe Routes to Schools programs beyond the Bay Area, case studies were developed for two other robust programs on the West Coast: Seattle and Portland. In selecting peer examples, consideration was given to programs serving student populations and community contexts that are somewhat comparable to Marin County, while acknowledging key differences in scale, density, and typical distance to school.

Seattle provides an example of a larger, more urbanized environment, where higher population density and neighborhood-based school assignment patterns can support shorter travel distances and higher rates of walking and biking. Through a comprehensive set of community resources, including step-by-step guides, supply packages, mapping data, and a process for requesting financial resources and infrastructure changes, the Seattle Department of Transportation (SDOT) empowers school communities to "own" their local SRTS program and tailor it to the local context.

Portland provides an example of another long-tenured SRTS program that operates in a mix of urban and suburban environments and interfaces with multiple school districts. The Portland Bureau of Transportation (PBOT) program is a model of interagency coordination, collaborating with Oregon's state-level SRTS program led by the Oregon Department of Transportation (ODOT) and partners like BIKETOWN Portland, Oregon Metro, and Portland's five primary school districts.[62]

While no peer program directly mirrors Marin County's specific conditions, these examples collectively reflect a range of built environments and student travel patterns that are relevant to TAM. This section includes an overview of each program, a summary of innovative program elements, and a brief overview of program data and methodology, including green and active trip rates and program success highlights.

Seattle Safe Routes to School Program

Overview

SDOT's Safe Routes to School program was institutionalized with dedicated funding in 2006 with the passage of Seattle's Bridging the Gap levy. However, Seattle has a history of informal SRTS efforts that go back to at least 1967.[63] Seattle's program emphasizes racial equity and includes additional program E's, including Environment and Empowerment, to center the environmental benefits of the program and the role of school champions in implementation.

[62] "About Safe Routes to School," Portland Bureau of Transportation, n.d., link
[63] "SRTS Action Plan (2015-2020)," Seattle Department of Transportation, 2015, link

Program Elements

- **Standardized Student Travel Tallies**
  Teachers conduct in-class tallies using a consistent script and format aligned with national tools. Students report how they traveled to school on the day of data collection, ensuring comparability across schools.
- **Annual, District-Wide Data Collection**
  Data is collected on a regular annual cycle across participating schools, supporting year-over-year comparisons and trend analysis.
- **Integration with Program Evaluation**
  Results are compiled into annual reports and used to evaluate program effectiveness, identify trends in travel behavior, and inform planning and investment decisions.
- **Environment Program "E"**
  SDOT includes Environment as one of the program E's, emphasizing the goal of reducing the environmental impact of school travel.
- **Walking and Biking Packages**
  Pre-prepared packages are available to support local school efforts, including walk/bike/roll prizes, crossing flags, and walking school bus and bike train supplies.
- **Vision Zero Yard Sign**
  SDOT makes yard signs and other community awareness materials from its Vision Zero program accessible to SRTS efforts, rather than implementing a SRTS-specific communication campaign.
- **School Street Program**
  A public process is available to request that streets adjacent to schools be closed to through traffic, with 16 temporary and five permanent school streets implemented across the city.
- **Guide for Starting Safe Routes Program**
  The community guide for starting a SRTS program includes step-by-step instructions for walking school buses, bike trains, and park and walk campaigns.
- **SRTS Mini Grant Program**
  Rolling grant program that provides up to $1,500 for schools and PTAs to support SRTS efforts like intersection murals, school traffic circulation changes, books, and outdoor clothing.
- **GIS Walking and Biking Maps**
  SDOT provides interactive route maps to schools that include data on infrastructure conditions, school attendance areas, and community features and resources for all Seattle Public Schools.
- **Website that Centers Available Resources**
  Main website centers resources for starting a local SRTS program, including activity

guides, forms to request funding and materials, and a program overview. **Figure 27** highlights the website homepage.

- **Safe Routes to School Racial Equity Analysis**
  In 2019, SDOT completed a racial equity analysis to identify and address race-based disparities that communities of color face in accessing active transportation to and from schools.

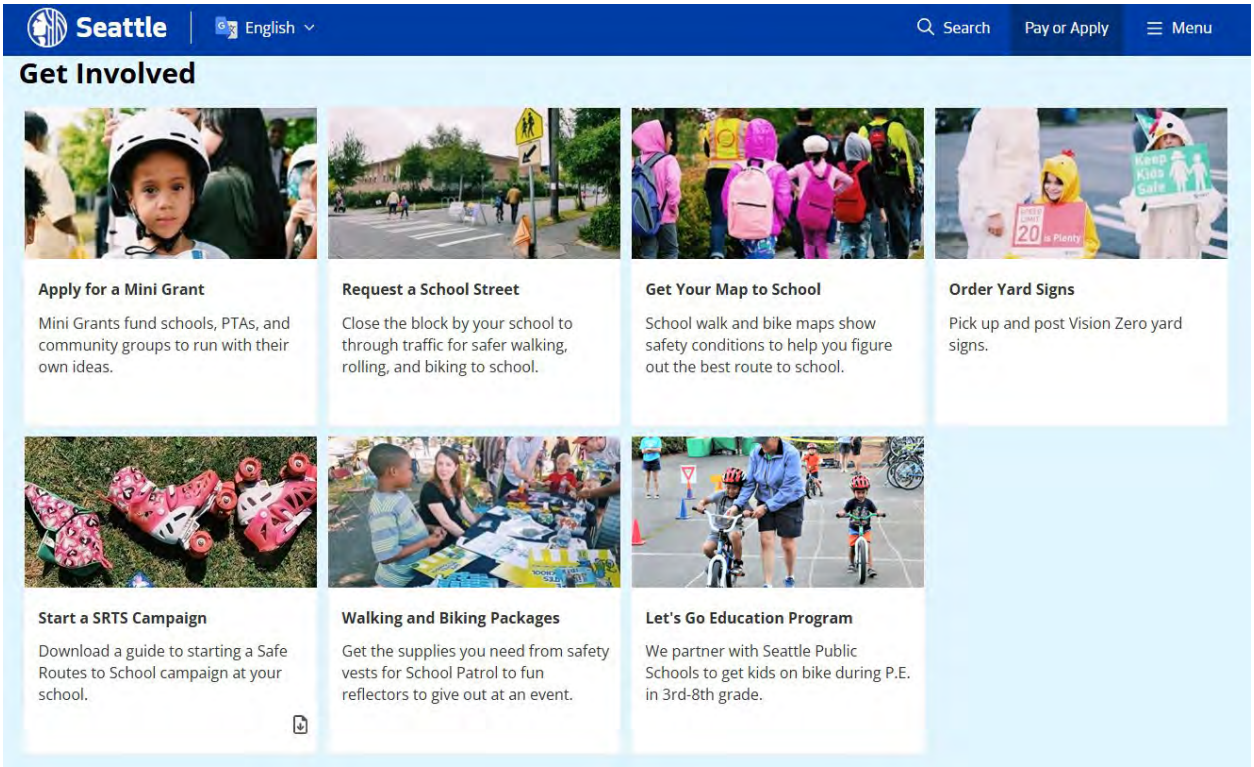


Figure 27: SDOT Safe Routes to School website home page

Data and Methodology

The Seattle Department of Transportation (SDOT), in partnership with Seattle Public Schools, conducts a standardized, district-wide student travel tally to understand how students travel to and from school. Data is collected annually across elementary and K–8 schools using a consistent methodology based on tools developed by the National Center for Safe Routes to School. This approach enables SDOT to track mode share trends over time and evaluate program performance at both the school and citywide level.

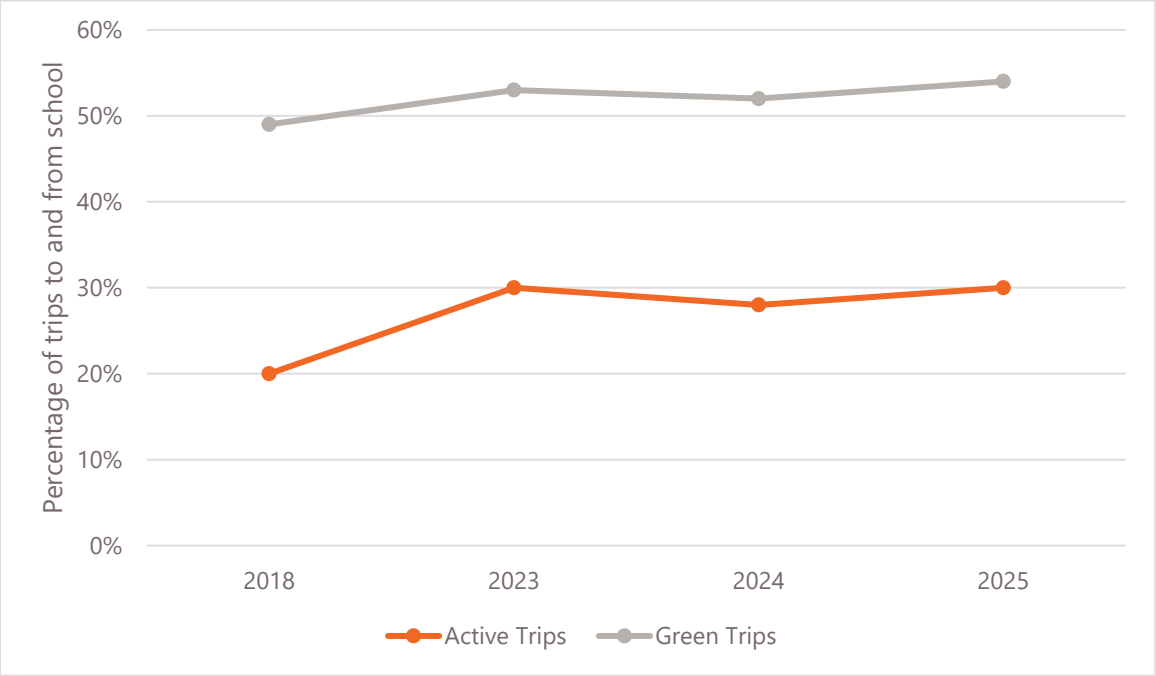


Figure 28: Seattle SRTS Active and Green Trip Rates
Source: Student Travel[64]

As shown in **Figure 28**, Post-pandemic, active trip rates have stabilized around 30 percent, and green trip rates have stabilized above 50 percent in Seattle.

Program Success

SDOT's strategy of robust program resource development facilitates organic expansion of the SRTS by empowering volunteer champions in school communities. The SRTS program focuses on high-level goals, equity efforts, and piloting innovative improvements, such as school streets, while providing resources for schools to lead in local implementation. Seattle's data approach demonstrates the value of combining standardized national tools with centralized, digital data management. This structure supports the development of reliable, comparable datasets over time and allows the program to move beyond one-time data collection toward ongoing performance tracking and evaluation.

[64] Seattle Department of Transportation, n.d., link

Portland Safe Routes to School Program

Overview

The Portland Bureau of Transportation (PBOT) Safe Routes to School program began in 2001 as part of a state-level effort to implement SRTS in Oregon.[65] The program aims to eliminate serious crashes to and from schools, educate all children about safety when walking, rolling, and taking transit, and inform the community about congestion relief and climate change mitigation efforts.

Program Elements

- **Standardized Student Travel Tallies**
  Schools conduct in-class tallies using nationally recognized tools, ensuring consistency in how travel mode data is collected across districts.
- **Parent Surveys to Supplement Data**
  Parent surveys are used to capture information on barriers to walking and biking, household travel patterns, and factors influencing mode choice, providing important context to student-reported data.
- **Safe Routes to School Infrastructure Plan**
  PBOT's Safe Routes to School Infrastructure Plan serves as a long-term funding strategy for physical improvements, with a priority list of 1,300 planned safety projects.
- **Monthly Email Sign Up**
  The main webpage for Portland's SRTS programs includes an easy-to-access form to sign up for monthly informational emails for community members.
- **State-Supported Tools and Guidance**
  The Oregon Department of Transportation (ODOT) provides templates, guidance, and technical assistance to help schools and local agencies implement data collection in a consistent and effective manner.
- **Youth Ambassador Program**
  BIKETOWN, Portland's Bikeshare system, has a youth leadership program where students build skills while supporting active transportation and sustainability efforts in school communities.
- **Youth-Oriented and Youth-Led High School Program**
  High school curriculum emphasizes youth ownership of the program, implemented in part by student interns hired by PBOT.
- **Bike-Bus Wayfinding Pilot**
  PBOT is implementing permanent and temporary wayfinding signage at nine elementary

[65] "About Safe Routes to School," Portland Bureau of Transportation, n.d.

schools to increase the visibility of established bike-bus routes.

Data and Methodology

Unlike Seattle, PBOT does not conduct standard, annual travel tallies at public schools. Instead, data collection focuses on school participation, the number of annual SRTS events held, and local, project-specific efforts at schools. As a result, active and green trip rates are unavailable for the Portland program.

Program Success

Portland's SRTS program achieves further reach through deep collaborations with school partners and other organizations working in the sustainable mobility space, including all five of Portland's main school districts, ODOT, BIKETOWN, and Oregon Metro. These partnerships support program innovation, such as expanding the youth-led model in high schools through BIKETOWN's Youth Ambassador Program and statewide SRTS resources developed by ODOT, as well as spreading program awareness.

PROGRAM COMPARISON

The review of peer programs in the Pacific Northwest reveals strong similarities with the TAM SR2S program. Many of these programs are even innovative iterations of programs that originated in Marin County.

Both the Seattle and Portland programs are guided by a six-to-seven E's framework, like TAM and most of the Bay Area peer programs. However, the Seattle program includes Empowerment and Environment, instead of Enforcement, and Portland deemphasizes the E's relative to unique strategic goals. Beyond a common program framework, the Seattle and Portland programs experiment in how they provide community resources, collaborate with partner organizations, and implement changes to the built environment.

The review of peer programs also highlights that TAM's current approach to student travel data collection is generally consistent with national Safe Routes to School practices, particularly in its use of student travel tallies to establish baseline mode share. However, comparison with programs such as Seattle and Oregon indicates several key differences in data consistency, structure, and application.

Program Innovations

Many of the innovations occurring in SRTS programs in the Pacific Northwest parallel efforts that TAM is making. Intending to improve program equity, SDOT created a Safe Routes to School Racial Justice Equity Analysis in 2019. Starting in 2023, TAM launched its own equity-focused effort, the Youth Leading Active Communities (YLAC) program, to support schools with greater socioeconomic challenges. Likewise, PBOT's Safe Routes to School Infrastructure Plan, which serves as a long-term funding and prioritization strategy for infrastructure projects, serves a similar purpose as TAM's under-development Marin County School Access Safety Action.

SDOT's packaging of resources for program champions and volunteers, including step-by-step guides for walking school buses, bike trains, and park and walks, walking and biking packages, mini-grant program, and GIS walking and biking maps, all accessible on the front page of the program website, offers opportunities for program optimization. PBOT's partnership with BIKETOWN for a Youth Ambassador Program and with schools for a high-school student intern program demonstrates the potential for greater youth leadership across organizations. Finally, both Seattle and Portland have piloted low-cost infrastructure adaptations to make the built environment more conducive to walking and biking; SDOT has a robust school streets program that closes off streets near schools to through traffic, and PBOT is piloting permanent wayfinding infrastructure for bike buses.

Data Collection

Peer programs in the Pacific Northwest exhibit similar levels of standardization and data-collection frequency to TAM. Data approaches are structured, including consistent annual collection cycles and, in some cases, data collection over multiple consecutive days. These practices improve data reliability and allow for more meaningful comparisons over time and are comparable to TAM's twice-annual tally at participating schools.

Peer programs also demonstrate a stronger emphasis on integrating multiple data sources. While student tallies serve as the foundation, additional tools such as parent surveys, which TAM also conducts every three years, are used to better understand the factors influencing travel behavior, including safety perceptions, distance, and household travel patterns. This layered approach provides a more comprehensive understanding of student travel behavior beyond a single-day snapshot.

Finally, peer programs tend to place greater emphasis on linking data collection to program evaluation and decision-making. Data is routinely used to track trends, assess program effectiveness, and inform infrastructure investments and funding strategies. For example, based on data collected as part of SDOT's Safe Routes to School Racial Equity Analysis, Seattle implemented tangible program changes to prioritize resource access in communities of color, including making ready-to-use walking and biking packages available to schools to reduce the barriers associated with applying for mini grants.[66]

[66] "Seattle models strategies for equitably advancing safe walking and biking for youth," Pedestrian and Bicycle Information Center, 2023, link

Stakeholder Interviews

To understand the strengths and weaknesses of the existing TAM SR2S program, the project team conducted stakeholder interviews with individuals involved with or knowledgeable about the program. Through this process, the project team identified and contacted a total of 26 individuals , 23 of whom ultimately shared feedback, 22 via verbal interviews and one via email.

Stakeholder Selection

The project team, in collaboration with staff at TAM and the SR2S contractors, identified a wide array of organizations and individuals across Marin County who play critical roles in realizing SR2S. The goal of this selection process was to target representation across different levels of the SR2S effort, including program leadership and decision-making, implementation and coordination, school-level delivery, and community participation. Additionally, the project team wanted to target representation across different geographies, including several school districts that represent rural, suburban, town, and city areas of Marin County.

To achieve this goal, the project team developed nine stakeholder groups, ranging from TAM board members to parents and caregivers, to connect with several representatives with different perspectives of the SR2S program. These categories are listed below in **Figure 29**:

Stakeholder Groups

Stakeholder Group	Role in SR2S Program	Reason for Inclusion
SR2S Contractors	Program implementation, coordination of education and encouragement programs	Provide insight into day-to-day program delivery and operational challenges
Bilingual Family Liaisons	Community outreach and engagement, particularly with non-English-speaking families	Promote representation of diverse communities and equity considerations
TAM Citizens' Oversight Committee	Program oversight and funding accountability	Represent decision-making and program governance perspective

Stakeholder Groups (Continued)

Stakeholder Group	Role in SR2S Program	Reason for Inclusion
Marin County Employees (Health and Human Services and Office of Education)	Program coordination, policy alignment, and interagency support	Provide county-level perspective on implementation and coordination
Law Enforcement	Traffic safety enforcement and support for SR2S activities	Offer perspective on safety challenges and enforcement needs near schools
Parent and Caregiver Volunteers	On-the-ground program support (e.g., walking school buses, events)	Represent direct user experience and community participation
Public Works Directors and City Officials	Infrastructure planning, design, and implementation	Provide insight into capital improvements and feasibility considerations
School Officials and Teachers	School-level coordination and student engagement	Reflect how programs are implemented and received within schools
TAM Board of Commissioners	Strategic leadership and policy direction	Represent high-level decision-making and program priorities

Figure 29: Stakeholder Groups

In addition to interviewing several stakeholder groups by their role in SR2S implementation, the project team worked to include individuals in each category who represent different communities. These communities included Marin County, the cities of Novato, Mill Valley, and Larkspur, the Town of San Anselmo, and school districts including San Rafael City Schools, Novato Unified School District, Kentfield School District, and Ross Valley School District.

Stakeholders were selected to reflect a cross-section of organizations and roles involved in planning, implementing, and experiencing the program, providing both system-level insight and on-the-ground perspectives.

Interview Process

Interviews were conducted virtually via Microsoft Teams, either one-on-one or with panels comprised of participants working in similar roles or representing the same organization. The project team completed a total of 17 interviews with 22 participants. Additionally, one participant who was unavailable for the virtual interview provided written responses via email. All interviews occurred during the period between January and March 2026.

Interviews were semi-structured with questions designed to elicit feedback on the TAM SR2S program's primary strengths and weaknesses, existing collaboration efforts, and ideas for program improvements. Questions were tailored to each participant's role and level of involvement in the program to help capture responses that reflect both system-level perspectives and on-the-ground experience. The project team also invited open-ended thoughts about the SR2S program and active and shared transportation in Marin County communities generally. The interviews were intended to illuminate what is currently working to support green trip rates, and what might be done to improve these efforts further.

Since the interviewees represent only a sample of the people involved in implementing SR2S on a day-to-day basis, they may not fully represent the views of all communities and participants. Also note that feedback reflects stakeholder perceptions and knowledge of the SR2S programs and may not always accurately reflect the current program offerings.

Summary of Stakeholder Feedback

Interview participants broadly expressed that they thought that the TAM SR2S program is effectively increasing green trip rates, performs favorably compared to peer counties, and has strong name recognition. Participants further praised the program's active community engagement, noting that regularly scheduled task force meetings have strong attendance and participation.

Through the interview process, participants also identified several program challenges. Stakeholder concerns centered around funding constraints for infrastructure improvements, equity considerations in prioritization of infrastructure improvements, limited collaboration with law enforcement, the need for additional crossing guards, low high school participation, the need to evaluate the cost-effectiveness of program elements, establishing clearer goals, and improving data collection and performance tracking methodologies. Stakeholder feedback and recommendations for strengthening the SR2S program are summarized below using the six E's framework.

Education

Overall, stakeholders expressed strong support for the SR2S education program, noting that it is well-established, widely implemented across schools, and effective at engaging students. Programs such as bike and pedestrian safety education, bike rodeos, and in-class instruction were consistently identified as valuable and, in many cases, "turnkey" for schools to implement. Stakeholders also emphasized that hands-on, experiential learning is particularly effective, with students responding more positively to interactive activities than classroom-based instruction.

At the same time, stakeholders identified opportunities to strengthen education efforts by expanding content to address emerging safety concerns, improving consistency across schools, and tailoring education to specific audiences more efficiently, including parents and high school students. In particular, a need to address e-bike safety and driver behavior was seen, as well as to improve education around pick-up and drop-off conditions near schools.

Stakeholder Feedback

Opportunities	Challenges
Expand parent education to address important safety topics, including e-bike use and driver awareness around schools	Limited parent awareness and education around safe pick-up/drop-off behavior
Increase the use of experiential and hands-on learning approaches to sustain student engagement	Classroom-based instruction alone is less effective at driving long-term behavior change
Expand education efforts to older students, particularly at the high school level	Participation drops off significantly in upper grade levels
Increase availability of bilingual instruction and culturally responsive materials	Limited capacity to consistently deliver bilingual programming across all schools
Strengthen coordination with school districts to promote consistent program implementation. Develop policies with School districts for high school education.	Inconsistent prioritization of education programming across schools
Build on existing programs to reinforce behavior change over time (e.g., repeated exposure, ongoing messaging)	Behavior change requires ongoing reinforcement and is difficult to sustain with one-time interventions

Figure 30: Education - Stakeholder Feedback

Engineering

Stakeholders generally viewed the engineering component of the SR2S program as strong and impactful, particularly in its ability to deliver tangible infrastructure improvements and support long-term planning efforts such as corridor studies and Safe Pathways projects. Collaboration with local jurisdictions was also seen as a key strength, with many noting that partnerships with public works departments have helped advance projects and secure funding.

At the same time, stakeholders identified several structural and physical constraints that limit the effectiveness of engineering interventions. These include major roadway barriers, limited right-of-way, and challenging topography, as well as concerns about how projects are prioritized. There was also a strong sentiment that infrastructure alone is not always sufficient to shift behavior, particularly without complementary support such as engagement and crossing guards.

Stakeholder Feedback

Opportunities	Challenges
Focus infrastructure investments on key barriers (e.g., major road crossings such as Tiburon Blvd)	Large roadways and high-speed corridors significantly limit walking and biking potential
Expand the use of quick-build and near-term improvements to accelerate project delivery	Infrastructure projects can take years to implement, often outlasting students' time at a school
Improve transparency and consistency in project prioritization processes	Perception that project selection can be influenced by advocacy ("squeaky wheel") rather than need
Strengthen coordination with cities to align SR2S priorities with local capital planning	Limited right-of-way, funding constraints, and competing priorities restrict what cities can implement
Integrate engineering improvements with other program elements (e.g., engagement, education)	Infrastructure alone is often insufficient to address safety concerns or shift behavior
Expand school-specific planning efforts to better reflect local conditions and needs	Varying school contexts (topography, distance, lack of sidewalks) limit the feasibility of standard solutions

Figure 31: Engineering - Stakeholder Feedback

Evaluation

Stakeholders generally recognized that the SR2S program has established a foundation for tracking student travel behavior, including regular student travel tallies and the use of data to support planning and funding decisions. Existing data, such as mode share estimates and mapping tools, was viewed as valuable for communicating program impact and supporting infrastructure improvements.

However, there was also concern that current evaluation methods do not fully support accurate, consistent, or actionable performance tracking. In particular, some stakeholders questioned the reliability of existing data collection approaches and emphasized the need for clearer program goals, stronger alignment between program activities and outcomes, and more consistent use of data to inform decision-making and investment priorities.

Stakeholder Feedback

Opportunities	Challenges
Establish clear, measurable program goals tied to increasing green trips	Program goals are not always clearly defined or consistently communicated
Improve data collection methods to increase accuracy and reliability	The current hand-raising method for students to report how they get to school is seen as imprecise and inconsistent
Expand use of technology (e.g., counters, digital tools) to supplement data collection	Limited use of alternative data sources to validate or enhance existing data
Develop school-specific targets to reflect varying conditions and potential	Green trip potential varies significantly by school, but goals are not differentiated
Strengthen use of data to evaluate program effectiveness and inform investments	Limited emphasis on measuring return on investment across program elements
Build more consistent, longitudinal datasets to track trends over time	Existing data collection is not always sufficient to support long-term performance tracking

Figure 32: Evaluation - Stakeholder Feedback

Encouragement

Stakeholders consistently identified encouragement programs as a core strength of the SR2S program, noting that events and campaigns are effective at generating excitement, building community, and increasing awareness of walking and biking as viable travel options. Programs such as Walk and Roll events, contests, and school-based activities were widely viewed as successful in driving short-term increases in green trips and fostering a positive culture around active transportation.

At the same time, stakeholders emphasized that sustaining participation beyond periodic events remains a challenge. Encouragement efforts are often dependent on volunteers and individual school capacity, and participation tends to decline outside of organized events or at higher grade levels. Stakeholders identified opportunities to build on existing success by increasing consistency, expanding incentive-based approaches, and strengthening engagement strategies for older students.

Stakeholders also noted that successful encouragement efforts depend not only on events and campaigns, but also on the strength of the coordination and communication structures that support program delivery. Task forces and related partner meetings were viewed as valuable forums for sharing information, building relationships, and advancing school- and community-level efforts. At the same time, stakeholders identified opportunities to improve coordination across groups, increase consistency in participation, strengthen follow-up between meetings, and better connect countywide efforts with school-specific needs.

Stakeholder Feedback

Opportunities	Challenges
Expand frequency and consistency of encouragement activities (e.g., Walk and Roll events)	Participation often drops off outside of organized events or contests
Increase use of incentive-based approaches to reinforce behavior change	Sustaining behavior change over time is difficult without ongoing reinforcement
Develop targeted strategies for middle and high school students (e.g., carpooling incentives)	Participation declines significantly at the high school level due to students obtaining driver's licenses, complex after-school schedules, and other factors
Build on successful programs (e.g., park-and-walk, contests) to expand reach	Program success is often dependent on volunteer availability and school-level capacity

Stakeholder Feedback (Continued)

Opportunities	Challenges
Explore innovative approaches (e.g., competitions, tracking tools) to increase engagement	Carpooling and alternative modes can be difficult to promote due to behavioral and logistical barriers
Strengthen year-round engagement to normalize green trips as daily behavior	Encouragement efforts are often episodic rather than continuous
Strengthen coordination between SR2S task forces and municipal committees and citizen advisory groups	Overlap and duplication between groups can reduce efficiency
Increase frequency and consistency of engagement to support follow-up and implementation	Limited opportunities for ongoing engagement between formal meetings
Expand use of in-person and hybrid formats to support participation and relationship-building	Virtual formats can limit participation and depth of engagement
Improve alignment between county-level efforts and school-specific needs	Engagement can feel too high-level and not sufficiently tailored to individual schools
Strengthen collaboration with cities and schools on local planning efforts	Limited coordination with city-led initiatives and sustainability efforts
Develop targeted engagement strategies for underrepresented groups (e.g., high school communities)	Participation is uneven across communities and grade levels

Figure 33: Encouragement - Stakeholder Feedback

Engagement

Stakeholders emphasized that engagement and safety play a critical supporting role in the success of the SR2S program, particularly in addressing driver behavior and improving perceptions of safety near schools. Crossing guards were consistently identified as one of the most effective and visible safety measures to engagement and safety, with a direct impact on parent comfort and willingness to allow students to walk or bike to school.

At the same time, stakeholders noted that engagement efforts are often limited by resource constraints and are not consistently integrated across communities. There is a strong need for greater collaboration with law enforcement and more sustained efforts to influence driver behavior, particularly around speeding and unsafe driving near schools.

Stakeholder Feedback

Opportunities	Challenges
Strengthen collaboration with law enforcement to support safe travel behavior	Limited law enforcement capacity and inconsistent presence near schools
Expand crossing guard programs to improve perceived and actual safety, even where infrastructure improvements have been made	Funding constraints limit the ability to expand or sustain crossing guard coverage
Increase visibility of enforcement efforts to reinforce safe driving behavior	Driver behavior (e.g., speeding, unsafe driving) remains a persistent concern
Integrate engagement more closely with education and engineering strategies	Engagement efforts are not always coordinated with other program elements
Explore targeted enforcement at high-risk locations and times (e.g., pick-up/drop-off)	Safety concerns persist even where infrastructure improvements have been made
Support community-wide awareness of traffic safety expectations near schools	Changing adult driving behavior is difficult and requires sustained effort

Figure 34: Engagement - Stakeholder Feedback

Equity

Stakeholders noted that equity is an important and ongoing focus of the SR2S program, with several highlighting efforts to provide translation, community outreach, and support for Title I schools. These efforts were viewed as meaningful steps toward improving access and participation across diverse communities.

At the same time, stakeholders identified several areas where equity considerations could be strengthened. Key themes included uneven access to resources across communities, challenges in reaching non-English-speaking families, and differences in transportation options, particularly for students who live farther from school. There were also concerns about how infrastructure improvements are prioritized and whether current approaches fully reflect equity goals.

The California Transportation Plan 2050 (CTP) emphasizes that while SR2S has successfully increased green trips, access to programming is not uniform across all schools. By illustrating participation gaps, the plan highlights the need to prioritize equitable expansion for schools that currently lack programming or have lower participation rates.

Stakeholder Feedback

Opportunities	Challenges
Expand translation and culturally responsive outreach to better reach diverse communities	Limited reach of SR2S messaging in non-English-speaking communities
Strengthen partnerships with bilingual family liaisons to improve engagement	Need for more consistent support and resources for community-based outreach
Improve equity considerations in infrastructure prioritization processes	Perception that more affluent communities receive a greater share of improvements
Increase support for schools and communities with fewer resources (e.g., targeted resources and program assistance)	Participation and program capacity vary across communities
Explore solutions for students who live farther from school (e.g., bus access)	Cost and availability of school bus services limit options for some families
Provide targeted support for underserved areas (e.g., West Marin)	Geographic and resource constraints create additional barriers to participation

Figure 35: Equity - Stakeholder Feedback

SR2S Program Recommendations

Stakeholder input and peer program review indicate that the TAM Safe Routes to School (SR2S) program is a well-established and highly regarded program that has successfully built strong partnerships, delivered impactful education and encouragement efforts, and supported meaningful infrastructure improvements across Marin County. Stakeholders consistently highlighted the program's strong foundation, including its high level of recognition, effective coordination across agencies, and ability to engage schools and communities. At the same time, feedback identified opportunities to strengthen the program by improving data and evaluation practices, enhancing consistency and coordination across schools and jurisdictions, expanding engagement and encouragement strategies, particularly for older students, and advancing equity in program delivery and investment.

Building on these findings, this section of the report outlines a series of detailed recommendations developed by the project team to address stakeholder concerns, increase green trip rates, and improve overall safety while considering feasibility within the context of TAM's current program structure and available resources.

Recommendation Development

Recommendations for the SR2S program were developed through a structured, multi-step process that integrated stakeholder interviews, peer program review, and an assessment of TAM's existing program structure and performance. Stakeholder interviews, including caregivers, school staff, public officials, and engagement partners, among others, provided insight into on-the-ground experiences, perceived barriers, and opportunities for improvement. In parallel, a review of peer SR2S programs at the regional and national level identified proven strategies and best practices. These inputs were synthesized to identify recurring themes, key gaps, and areas of opportunity, which formed the foundation for the recommendation framework.

Recommendations were developed with a clear understanding of TAM's role as a coordinating agency and were grounded in practical implementation considerations. Strategies were evaluated based on anticipated cost, implementation timeline, and level of effort, with the assumption that recommendations should be achievable within existing or reasonably anticipated resources. The process also distinguished between near-term actions that could be advanced through programmatic or administrative changes and longer-term strategies requiring additional coordination, policy development, or funding.

Key Themes

To maintain relevance to TAM's current context, recommendations were further refined through key program-specific lenses. These lenses reflect areas of particular importance to TAM's current program context and helped shape where recommendations were emphasized, how they were framed, and what level of action was considered appropriate. These included the following:

- **High School Travel Behavior and Safety**
  High school active and green trips have historically been lower than those in elementary and middle schools, in part because of after-school activities creating complex trip patterns and because many students earn their driver's licenses in high school. Rather than focusing solely on increasing active and green trip rates among high schoolers, the project team instead concentrated its recommendations around encouraging safe travel behavior, particularly for new drivers and those using e-bikes.
- **YLAC Evaluation and Expansion**
  The YLAC program in Marin County is still relatively new; thus, it is premature to determine overall program effectiveness. However, due to positive initial program findings, the project team focused its recommendations on solidifying and expanding the program to reach more schools.
- **Funding**
  The project team used a resource and funding lens to shape recommendations to support strategic use of limited program capacity and position TAM to take advantage of future local, state, and federal funding opportunities.

Organization

After an initial set of strategies was developed by synthesizing common themes from stakeholder input and peer practices, the project team reviewed each strategy to align it with TAM's goals and to eliminate redundancies. These refined strategies were then organized into the six E's framework by sorting them into categories, with each E representing a category. An additional funding category was added to the recommendations to discuss financing the SR2S program.

Within each category, strategies were organized by topic areas that focus on key issues identified throughout the engagement process, including the key themes previously discussed. Priority levels of high, medium, or low were assigned based on the compiled research on program element effectiveness, as well as stakeholder feedback and alignment with TAM priorities. Strategies were also evaluated for their potential to improve the performance metrics identified in the CTP:

- Coordination of school transportation among school districts, MCOE, Marin Transit, and TAM
- Percent of students making green trips
- Percent of school transportation funding going to schools in areas meeting federal childhood poverty thresholds

Collectively, these categorized strategies represent the project team's SR2S program recommendations.

The final organization of the recommendations is as follows:

- Overall topic areas are listed in alphabetical order under each of the categories.
- Recommendations within the same topic area are organized from high to low priority
- Recommendations with the same priority level are organized by anticipated timeline
- Recommendations with the same timeline are organized by cost.

To distinguish quick programmatic or administrative changes from medium and longer-term strategies with greater complexity, each recommendation was assigned a timeframe. Short-term recommendations were envisioned to represent changes that could be implemented within two years. Medium-term changes would occur over the next two to five years, and long-term changes would take more than five years to reach implementation.

Costs for each recommendation are included as part of the timeline category. The project team estimated costs for each recommendation based on existing SR2S program expenses and peer programs, where applicable. Recommendation costs were then categorized using the following cost approximations:

- Low $: Under $10,000
- Medium ($$): $10,000 to $50,000
- High ($$$): Over $50,000

The final recommendations were organized, prioritized, and tailored to support implementation across all six E's: education, encouragement, engineering, engagement, evaluation, and equity.

The CTP identifies SR2S as a key strategy for increasing walking, biking, and other "green" school trips, highlighting its demonstrated impact on shifting travel behavior. Positioned as a priority within broader transportation demand management and safety efforts, these recommendations provide a clear, actionable roadmap for strengthening and expanding the program in alignment with countywide goals.

RECOMMENDATIONS

Education

Education recommendations aim to further improve reach to families and caregivers, improve safe travel behavior among older students, and strengthen community understanding of emergent safety issues. Education activities are already a key strength of the TAM SR2S program, with a comprehensive set of grade-appropriate classroom presentations and experiential classes offered to students from second grade through high school. Community confidence in Education programming is high, with stakeholders expressing that it is well-established, widely implemented across schools, and effective at engaging students. Education recommendations aim to build on the program's success by modernizing the curriculum, expanding efforts to educate families about opportunities in the SR2S program, and renewing focus on high school safety. Education recommendations are provided in **Figure 37**.

Education Recommendations

Number	Topic	Recommendation	Priority	Timeline
ED - 1	Classroom Offerings	Refresh the e-bike safety information in the 6th grade Drive Your Bike (Part II) classes to incorporate peer-to peer strategies to influence riding behavior and compliance with laws. This would enhance the current programming around bicycle safety and prepare students for subsequent grades. Portland's youth ambassador program and bike-focused initiatives could inform the development of targeted e-bike safety education programs.	High	Medium Term ($)
ED - 2	Classroom Offerings	Continue to offer presentation of Share the Road classes in all high schools. This program would be adjusted to refresh graphics to increase engagement and focus on evolving safety concerns, particularly e-bikes. Evaluate opportunities to expand to high schools not currently receiving this program, estimated to be about 50%.	Low	Short Term ($$)

Figure 37: Education Recommendations

Engineering

Engineering recommendations emphasize the importance of continuing effective programs. Through the Safe Pathways program, collaborations with public works departments, and community mapping efforts, SR2S has a long history of successfully implementing physical safety improvements around schools. The in-development Safety Action Plan will expand on this work by planning out future priorities and improving TAM's ability to apply for external funding. Engineering recommendations focus on continuing these efforts at the school level to achieve countywide safety improvements. Engineering recommendations are provided in **Figure 38**.

Engineering Recommendations

Number	Topic	Recommendation	Priority	Timeline
ENG - 1	Mode Shift	Continue to develop corridor plans for each school based on the recently adopted prioritization process within each task force. Plans should incorporate recommendations from the Marin County School Access Safety Action Plan to support integration in the overall process.	High	Long Term ($$)

Figure 36: Engineering Recommendations

Evaluation

TAM can test new data collection and goal-setting strategies that optimize program performance and return on investment, continuing its role as a model for SR2S programs nationally. The TAM SR2S program has extensive data on school mode share, participation, and event history, as well as comprehensive mapping tools, all of which help to communicate program impact and support planning and funding decisions. However, adoption of newer data collection methodologies has lagged since the program's inception in the early 2000s, even as technology has transformed. Evaluation recommendations focus on piloting new tools to improve the accuracy and consistency of data and applying more robust data to measurable goals at individual schools. Evaluation recommendations are provided in **Figure 39**.

Evaluation Recommendations

Number	Topic	Recommendation	Priority	Timeline
EV - 1	Cutting-Edge Pilot Programs	"Drill down" into a small number of focus schools each year to pilot and evaluate targeted SR2S strategies, provide customized goals, and conduct a mini evaluation. Pilot strategies may include observing one/more YLAC schools looking for an opportunity to shift to a self-sufficient or alternative data collection method to assess program effectiveness.	High	Medium Term ($$)

Evaluation Recommendations (Continued)

Number	Topic	Recommendation	Priority	Timeline
EV - 2	Data Collection & Performance	Continue coordination with Spare the Air and other county stakeholders to share data and best practices.	High	Short Term ($)
EV - 3	Data Collection & Performance	Develop more precise benchmarks and targets that reflect the specific circumstances at each school. For example, calculate a theoretical maximum active trip rate based on percent of students living within walking or bicycling distance for each school accounting for barriers such as major roadways and geography. Include this statistic on each school's overlay maps and dashboard, and report at the county level.	High	Medium Term ($)
EV - 4	Data Collection & Performance	Test alternative in-school data collection approaches, such as barcode applications, where appropriate. This could be implemented in coordination with pilot implementations.	Medium	Short Term ($)
EV - 5	Data Collection & Performance	Continue periodic SR2S evaluations and maintain the dashboard, while exploring opportunities to refine data collection and reporting methods where feasible. This may include exploring options for web-based platforms to collect and aggregate online survey data across schools.	Medium	Short Term ($$)
EV - 6	High Schools	Further differentiate high schools in reporting and program development to better reflect their unique travel patterns, challenges, and opportunities. Report separate statistics for 9^{th}-10^{th} grade and 11^{th}-12^{th} grade as well as the high school category as a whole.	High	Medium Term ($)

Figure 39: Evaluation Recommendations

Encouragement

Encouragement recommendations aim to expand on successful programs that already support mode shift in schools, increase volunteer capacity and utilization, improve task force effectiveness, and innovate in school infrastructure management. Encouragement programs are a core strength of the SR2S program, with stakeholders praising their role in generating excitement, building community, and increasing awareness of walking and biking as attractive travel options. Recommendations for encouragement focus on the expansion of successful programs like Park and Walk and Walk and Roll Wednesdays, leveraging student leadership and educational resources to catalyze the expansion of encouragement events by volunteer champions, expanding program reach through enhanced task forces, and exploring ways to improve the use of street space at schools to support SR2S efforts. Encouragement recommendations are provided in **Figure 40**.

Encouragement Recommendations

Number	Topic	Recommendation	Priority	Timeline
ENC - 1	Cutting-Edge Pilot Programs	Update the high school toolkit for student clubs with input from teen stakeholders. The toolkit should provide information about SR2S, such as general safety tips and suggested club activities. Develop a guidebook for school administrators on policies that prioritize active/shared travel over accommodating parking on campus.	Medium	Medium Term ($$)
ENC - 2	Cutting-Edge Pilot Programs	Consider temporary School Streets or other special events such as fire truck escorts on national bike to school day to create a safer, more welcoming arrival and dismissal environment.	Medium	Medium Term ($$)
ENC - 3	Cutting-Edge Pilot Programs	Conduct a review every reporting period to understand what schools aren't participating and why. Consider whether targeted outreach to non-participating schools could be beneficial, prioritizing schools where increased participation could have the greatest impact.	Low	Short Term ($$)

Encouragement Recommendations (Continued)

Number	Topic	Recommendation	Priority	Timeline
ENC - 4	Cutting-Edge Pilot Programs	Adapt the "Golden Sneaker" program among schools; a nationally recognized Safe Routes to School encouragement strategy recommended by the Safe Routes Partnership. Participating classrooms record daily travel modes and compete to achieve the highest rates of active or shared transportation. Structuring the program as a friendly competition both within and across schools can help build excitement and shift travel behavior. Recognition may include trophies, plaques, or public acknowledgment to elevate visibility and celebrate success.	Low	Medium Term ($)
ENC - 5	Mode Shift	Continue to expand Park and Walk programs to introduce families to walking to school and work with school districts on policies to prioritizing active modes as an alternative to using the drop-off zones for students.	High	Long Term ($$)
ENC - 6	Mode Shift	Increase the impact of Walk and Roll Wednesdays by encouraging participating families to form regular walking buses. Establish campaign encouraging a second regular weekday for active modes.	Medium	Medium Term ($$)

Encouragement Recommendations (Continued)

Number	Topic	Recommendation	Priority	Timeline
ENC - 7	Outreach & Transparency	Establish an opt-in calendar subscription for caregivers to supplement the website and provide updates on events and opportunities. Promote signups for the existing countywide newsletter. An example may be Portland's SR2S program, which includes an easily accessible monthly email sign-up, demonstrating a scalable model for maintaining consistent communication.	High	Medium Term ($$)
ENC - 8	Outreach & Transparency	Refresh and expand social media strategy for outreach activities, including use of additional platforms and promotion of events such as task force meetings.	Medium	Short Term ($$)
ENC - 9	Outreach & Transparency	Update the SR2S website to include web maps for each school. This public-facing tool would supplement the current printable maps with a digital resource parents can use. The web map application could also include a regularly updated summary of issues and planned projects. A comparable example is Seattle SDOT, which provides GIS-based walking and biking maps through an interactive web platform, offering a strong precedent for improving accessibility and usability beyond static PDFs.	Medium	Short Term ($$)
ENC - 10	Outreach & Transparency	Track more closely and promote the inclusion of SR2S family welcome materials In back-to-school information packets. This could be implemented in concert with **ENGS-1** by requesting that principals "register" their school and confirm actions undertaken at each school.	Low	Short Term ($)

Encouragement Recommendations (Continued)

Number	Topic	Recommendation	Priority	Timeline
ENC - 11	Task Force Operation	Provide/recommend more structure to task force agendas, including a brief review of previous action items and a running table of issues or action items that carry forward from one meeting to the next. Completed items stay on the list for one additional school year. Explore opportunities to increase transparency and communication with school districts regarding SR2S processes.	High	Short Term ($)
ENC - 12	Task Force Operation	Continue to host annual countywide SR2S "Kick-Off" that invites all task force members and the general public to increase program awareness and facilitate greater engagement and exchange of best practices. Consider adding a dedicated principal meeting to garner uniform support for the program. Additionally, consider adding a dedicated parent meeting for Spanish-speaking volunteers and stakeholders.	High	Medium Term ($$)
ENC - 13	Task Force Participation	At the end of the school year, confirm whether task force members will be continuing into the next year , and update contact information.	High	Short Term ($)
ENC - 14	Task Force Participation	Consider how to work with local public works partners to increase participation to at least two staff involved with the SR2S task force, where capacity exists. This duplication will help at least one staff member attend each task force meeting and reduce program knowledge-loss from any staff departures.	Medium	Short Term ($)

Encouragement Recommendations (Continued)

Number	Topic	Recommendation	Priority	Timeline
ENC - 15	Task Force Participation	Review task force membership annually and identify gaps (e.g., lack of public works officials, law enforcement, family liaisons) and confirm/update contact lists at the end of each school year.	Medium	Short Term ($)
ENC - 16	Task Force Participation	Consider conducting additional outreach to school district superintendents to facilitate/prioritize school participation. Emphasis on the need for school principals to "own" SR2S programs and work to identify one staff member (and/or support with warm introductions) of each school who can support the Safe Routes team in identifying the 'Safe Routes Champion'.	Medium	Medium Term ($)
ENC - 17	Volunteer Resources	Support Walking School Buses and Bike Trains by making it easier to share resources, examples, and volunteer connections through existing meetings, the SR2S website, and other countywide communication channels. Developing and distributing step-by-step guides for common routes from local parks or transit stops could help families and volunteers feel more confident participating.	High	Short Term ($$)

Encouragement Recommendations (Continued)

Number	Topic	Recommendation	Priority	Timeline
ENC - 18	Volunteer Resources	Revamp the parent volunteer handbook to include: a. Sample text to request a meeting with the school principal b. Reminder to recruit and train a successor in your last year at the school c. Step-by-step guides for walking and biking to school or parks including the need to address safe crossings, timing, meeting points, and supervision strategies. d. Additional recommendations for organization, activities, incentives, etc.	Medium	Short Term ($)
ENC - 19	Volunteer Resources	Continue to work with parent volunteers each year to determine a succession plan. Volunteers would be responsible for recruiting their replacement as their child advances in school. Update the "job description" that describes the time commitment and include it on the refreshed SR2S website.	Medium	Short Term ($)

Figure 40: Encouragement Recommendations

Engagement & Safety

The TAM-sponsored SR2S program has recently evolved the Enforcement category to Engagement and Safety to place greater emphasis on listening to and connecting with the entire community. This will provide an opportunity to formalize both new and existing collaborations with communities across Marin County, while continuing to maintain partnerships with local law enforcement. Engagement is already a notable strength of the SR2S program, particularly in TAM's ability to bring together schools, cities, and community members through task forces and related coordination efforts. By further aligning the program's E's with national best practices and peer programs, TAM will continue to strengthen the role of community partnerships in overall program success.

Law enforcement stakeholders participated in the interview process and shared key insights into existing practices and new and developing challenges. Engagement efforts, particularly as related to safe driving behavior around schools and emerging transportation trends like e-bikes, remain an important part of the overall SR2S program. Engagement and Safety recommendations are provided in **Figure 41**.

Engagement and Safety Recommendations

Number	Topic	Recommendation	Priority	Timeline
ENGS - 1	Coordination	Increase coordination among TAM, the school districts, and the Marin County Office of Education.	High	Short Term ($)
ENGS - 2	Coordination	Continue partnering with law enforcement agencies to support SR2S programs, including education and overall traffic safety near schools.	High	Short Term ($)
ENGS - 3	Program Funding & Resources	Evaluate opportunities to shift Street Smarts away from printing and installing banners towards the following: a. Retain cost effective bus back ads b. Make Street Smarts graphics available to local agencies in case they want to fund locally. c. Coordinate with Vision Zero messaging where appropriate d. Social media and digital promotion	High	Medium Term (cost savings)

Figure 41: Engagement and Safety Recommendations

Equity

Equity recommendations aim to improve access to bikes in low-income communities, fill gaps in schools where caretaker volunteer capacity is low and expand on the success of existing equity-focused efforts, such as the YLAC program. Equity-focused activities are an important part of the SR2S program, with stakeholders expressing strong support for translation provided, outreach to diverse communities, and support for Title I schools. Recommendations for equity focus on improving volunteer capacity at lower-resource schools, incremental improvements to the YLAC program through strategic resource reallocation, and bike access evaluation at schools. Equity recommendations are provided in **Figure 42**.

Equity Recommendations

Number	Topic	Recommendation	Priority	Timeline
EQ - 1	Access	Continue to work with community partners to evaluate bike access in low-income schools and encourage bike donation and/or distribution programs, building on past pilot efforts and partnerships (see, for example, Portland's youth-focused bikeshare and ambassador programs).	Medium	Medium Term ($$-$$$)
EQ - 2	Volunteer Resources	Continue to engage middle and high school students seeking volunteer hours to support SR2S activities at nearby schools.	High	Medium Term ($)
EQ - 3	Volunteer Resources	Consider partnering with local seniors or senior centers to support SR2S volunteer needs.	High	Medium Term ($)
EQ - 4	Volunteer Resources	Continue developing teen clubs and student leadership programs to help with SR2S events and encouragement activities, particularly at schools with limited parent volunteer capacity.	Medium	Medium Term ($)

Equity Recommendations (Continued)

Number	Topic	Recommendation	Priority	Timeline
EQ – 5	YLAC	Continue to monitor and refine the YLAC program to support equity and increased active transportation (metrics are trending positively) with an aim towards stabilization, where support will no longer be needed. Consider annual in-depth reports and incorporation of the YLAC category on the SR2S dashboard.	High	Long Term ($$$)
EQ - 6	YLAC	Monitor and refine the YLAC program to ensure it effectively supports higher need schools. Incorporate the YLAC category in the online dashboard. Evaluate roles, responsibilities, and the impact of YLAC versus existing encouragement programs delivered by MCBC.	High	Long Term ($$$)

Figure 42: Equity Recommendations

Funding

Funding recommendations aim to maximize the use of existing funding by strategically reallocating funds from low-performing programs to areas of higher need, as well as identifying new funding sources in a targeted manner. Funding remains a major constraint of the TAM SR2S program, with all funding from Measure AA programmed and little opportunity to raise additional resources. The funding recommendations investigate the potential to reallocate some Street Smarts funding and develop local sources of funding for small items. Funding recommendations are provided in **Figure 43**.

Funding Recommendations

Number	Topic	Recommendation	Priority	Timeline
F - 1	Mode Shift	Implement a Bike Bus Wayfinding Program modeled after Portland's initiative to support group biking to school. By installing low-cost improvements, providing clear, student-friendly route signage and pavement markings along commonly used corridors could strengthen existing Bike Bus efforts. This approach can improve route visibility and increase student confidence and participation in biking to school.	High	Medium-Term ($)
F – 2	Program Funding & Resources	Continue to identify and pursue outside grant opportunities for SR2S program improvements, as needed. Clarify the guidelines for schools, non-profit organizations, and subcontractors to conduct independent fundraising.	High	Medium Term ($)
F – 3	Program Funding & Resources	Coordinate with non-profits and schools to support targeted SR2S education and encouragement activities (e.g., equipment or small-scale funding)	High	Long Term ($$)
F – 4	Program Funding & Resources	Establish a Safe Routes to School (SRTS) Mini-Grant Program to provide flexible, low-cost funding directly to the community. A rolling grant structure with awards of up to $1,500 could allow recipients to quickly implement small-scale projects that support active transportation. Examples include intersection murals, school traffic circulation improvements, educational materials, and outdoor gear.	Medium	Medium Term ($)

Figure 43: Funding Recommendations

SUMMARY: REVIEW AND RECOMMENDATIONS

Overall, the TAM Safe Routes to School program is a mature, well-established, and highly respected program with a strong foundation of partnerships, visibility, and successful implementation across Marin County. Stakeholder feedback consistently pointed to the program's strong name recognition, effective education and encouragement activities, meaningful collaboration with schools and local jurisdictions, and ability to support both near-term and long-term safety improvements. Peer research and national best practice review further reinforced that Having pioneered many practices now considered national best practice, TAM's program structure already aligns with many of the core elements associated with successful Safe Routes to School programs, including a multi-agency approach, use of the six E's framework, an emphasis on safety and equity, and a data-informed planning foundation. In this respect, the findings did not suggest a need for major program redirection, but rather highlighted that TAM is operating from a position of strength and has an opportunity to build strategically on that foundation.

Based on the program's overall success, through the stakeholder interview process and peer research, the project team identified several program enhancements to improve consistency, expand reach, and better position TAM for long-term success. Current challenges facing the program include funding constraints, volunteer capacity, uneven participation across schools and grade levels, limitations in current data collection methods, and the need for clearer performance tracking and goal setting. High school participation emerged as a particularly important issue, with many stakeholders noting that traditional Safe Routes to School strategies are often less effective for older students unless they are specifically tailored to high school travel behavior, school culture, and safety concerns. Continued prioritization of equity also remained a central theme, with strong support for existing efforts such as bilingual staffing, tailored programs for Title One schools and YLAC, paired with recognition that lower-resource schools and communities may require more targeted support, expanded outreach, and different implementation approaches to achieve a more even distribution of the program's benefits.

Peer case studies helped place these findings in a broader context. Bay Area comparisons showed that Marin County performs favorably relative to peer counties, particularly in participation and green trip outcomes. Case studies from Seattle and Portland highlighted program innovations (several of which have been previously developed or piloted in Marin) that may be useful to TAM, including more centralized data collection, stronger volunteer resources, youth leadership development, school-specific mapping tools, and expanded public-facing resources. These examples helped identify practices that could be refined and/or reconsidered to support TAM's goals and address needs identified through the engagement process.

Taken together, the recommendations are intended to strengthen TAM's program in targeted and practical ways while remaining grounded in current institutional and funding realities. Across the recommendations, several common themes emerged: strengthening evaluation and goal setting, expanding support for volunteer and school-level capacity, tailoring strategies for different school contexts, and continuing to build on TAM's existing strengths in education,

engineering coordination, encouragement, and equity-focused efforts.

Overall, the recommendations provide a realistic path forward for improving program consistency, effectiveness, and long-term impact while preserving the collaborative and community-centered qualities that stakeholders already view as core strengths.

Safe Routes to Schools Summary Report/Program Evaluation School Years 2022/23 – 2024/25

Transportation Authority of Marin

Funding, Programs & Legislation Executive Committee

May 11, 2026

Safe Routes to Schools Summary Report & Evaluation

Historically:

- Safe Routes Program has been self-evaluated by the consultant team
- Evaluation Report normally covers three school years

Revised Process:

- Current contract with Parametrix eliminated Evaluation Report within contract scope, but still provides program summary report
- Procured services of TYLin through TAM's on-call contract to independently evaluate program
- Evaluation supplements the program summary report

Program Summary Report & Evaluation Process

- Parametrix produced a program summary report covering 2022-23 through 2024-25 school years
- TYLin reviewed the program along with peer programs, interviewing stakeholders, and established recommendations to advance the program
- Summary Report and Evaluation were discussed with the TAM Safe Routes to Schools Ad Hoc Committee
- Presentations to TAM FP&L Executive Committee and TAM Board in May 2026
- Current program contract can be extended through June 2028
  - Evaluation will inform near-term activities within the existing scope of services
  - Longer term changes will be considered in the next procurement

Evaluation Focus Areas

- How to enhance green trips/strategies at locations with lower rates
- How to enhance safety and equity
- How to apply best practices to engage parents, schools, and the broader community
- Review of program perceptions based on stakeholder feedback
- Consider additional or adjusted activities based on other SR2S programs
- Consider funding levels needed to support program recommendations

Safe Routes to Schools Program Goals:

- Safety
- Green trips
- Sustainable travel behavior
- Congestion relief
- Enhance community
- Equity

Safe Routes to Schools Cash Flow

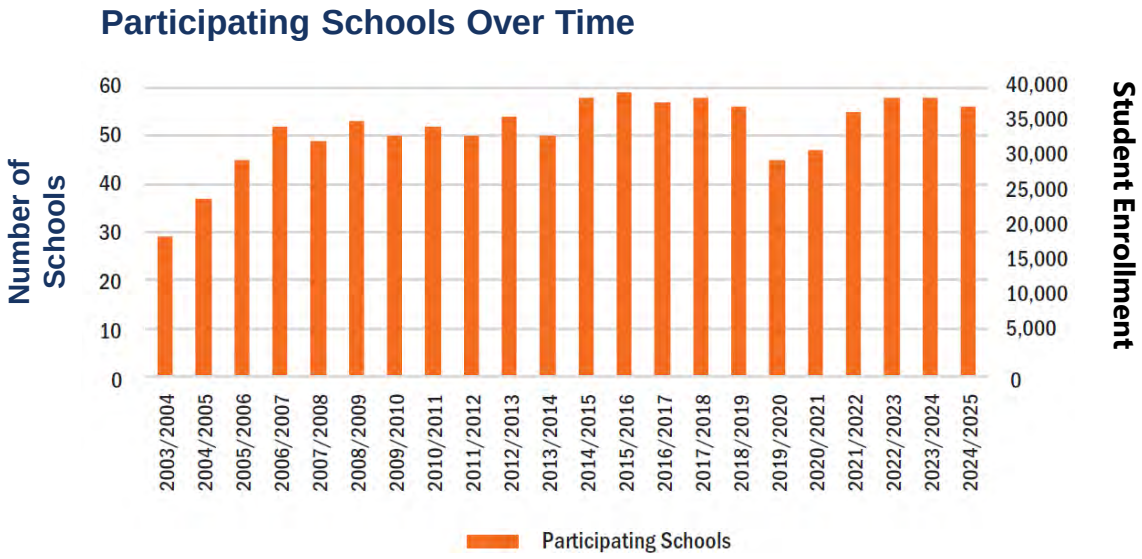
Safe Routes to Schools Program Overview (Measure AA)							
	FY 23/24	**FY 24/25**	**FY 25/26**	**FY 26/27**	**FY 27/28**	**FY 28/29**	**FY 29/30**
Expected Revenue (actual 23/24, 24/25)	$1.01 M	$1.04 M	$1.02 M	$1.03 M	$1.04 M	$1.05 M	$1.08 M
Expected Program Cost (actual 23/24, 24/25)	$1.01 M	$1.26 M	$1.5 M	$1.3 M	$1.3 M	$1.3 M	$1.3 M
Available Carryover (at start of year)	$1.50 M	$1.38 M	$0.90 M	$0.63 M	$0.37 M	$0.13 M	- $0.09 M

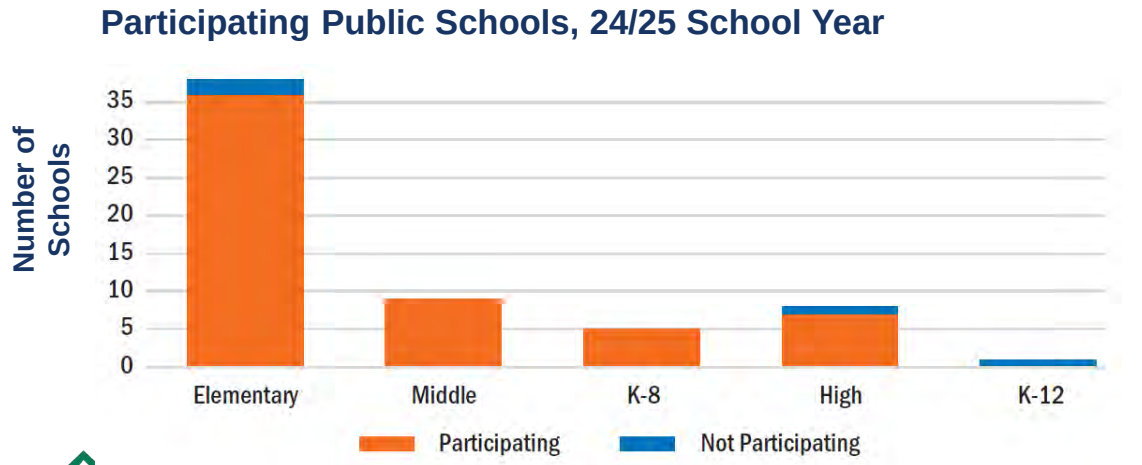
Program Purpose

- Relieve traffic congestion around schools by promoting alternatives to commuting to school, such as walking, biking, taking the bus and carpooling

- Improve safety, promote a healthy lifestyle for youth and enhance the sense of community in neighborhoods

Participating Schools





- **60 schools** participated during the evaluation period, with participation levels varying by year
- Participation included **95% of public elementary schools, 100% of public middle schools**, and **88% of public high schools**
- **Six private schools** took part in Safe Routes programming
- Program reached **more than 29,000 students annually**

Non-Participating Schools

Schools that typically do not participate in Safe Routes to Schools include:

- Private schools
- Schools with geographically dispersed student populations
- Schools where most students rely on busing
- Schools with very small enrollments
- Schools without strong administrative support for the program

*Public Schools **Not** Participating in Safe Routes*:*

Laguna
Nicasio
Novato Charter
San Geronimo Valley Elementary
San Pedro Elementary
Tomales High

**Excludes public continuation and alternative schools*

Participating Schools

PARTICIPATING SCHOOLS BY DISTRICT TASK FORCE - 2022/2023–2024/2025

KENTFIELD
- Anthony G. Bacich Elementary
- A.E. Kent Middle

LARKSPUR-CORTE MADERA
- The Cove School
- Henry Hall Middle
- Marin Primary & Middle
- Neil Cummins
- Redwood High
- Saint Patrick School

MILLER CREEK
- Lucas Valley Elementary
- Mary E. Silveira Elementary
- Miller Creek Middle
- Vallecito Elementary

MILL VALLEY
- Edna Maguire Elementary
- Mill Valley Middle
- Old Mill
- Park Elementary
- Strawberry Point
- Tamalpais High
- Tamalpais Valley Elementary

NOVATO
- Hamilton School
- Loma Verde Elementary
- Lu Sutton Elementary
- Lynwood Elementary
- Novato High
- Olive Elementary
- Pleasant Valley Elementary
- Rancho Elementary
- San Jose Middle
- San Marin High
- San Ramon Elementary
- Sinaloa Middle

REED
- Bel Aire Elementary
- Del Mar Middle
- Reed Elementary

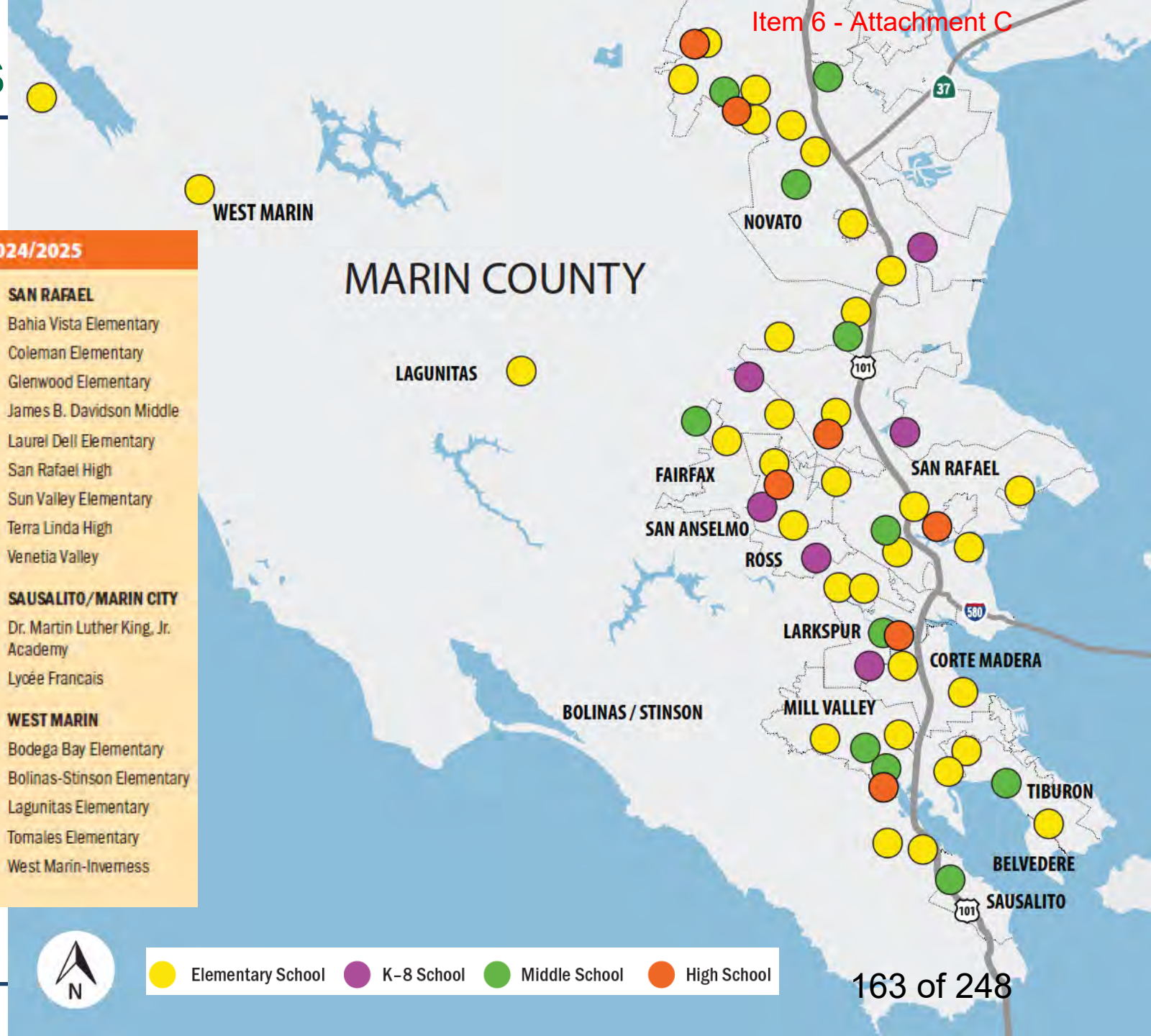
ROSS VALLEY
- Archie Williams High
- Brookside Elementary
- Hidden Valley Elementary
- Manor Elementary
- Ross Valley Charter
- Saint Anselm
- San Domenico
- Wade Thomas Elementary
- White Hill Middle

ROSS
- Ross School

SAN RAFAEL
- Bahia Vista Elementary
- Coleman Elementary
- Glenwood Elementary
- James B. Davidson Middle
- Laurel Dell Elementary
- San Rafael High
- Sun Valley Elementary
- Terra Linda High
- Venetia Valley

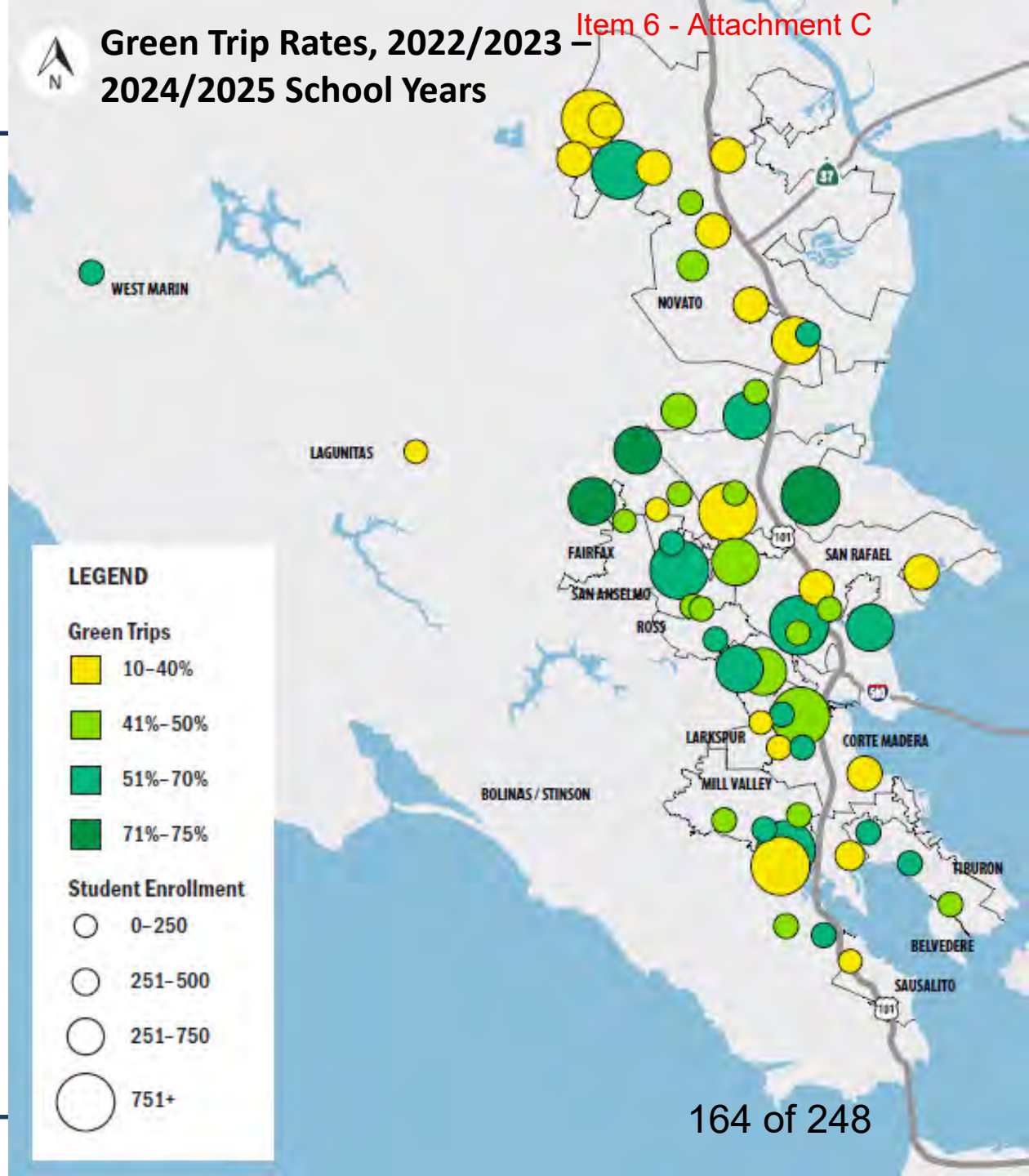
SAUSALITO/MARIN CITY
- Dr. Martin Luther King, Jr. Academy
- Lycée Francais

WEST MARIN
- Bodega Bay Elementary
- Bolinas-Stinson Elementary
- Lagunitas Elementary
- Tomales Elementary
- West Marin-Inverness



Travel Mode Summary

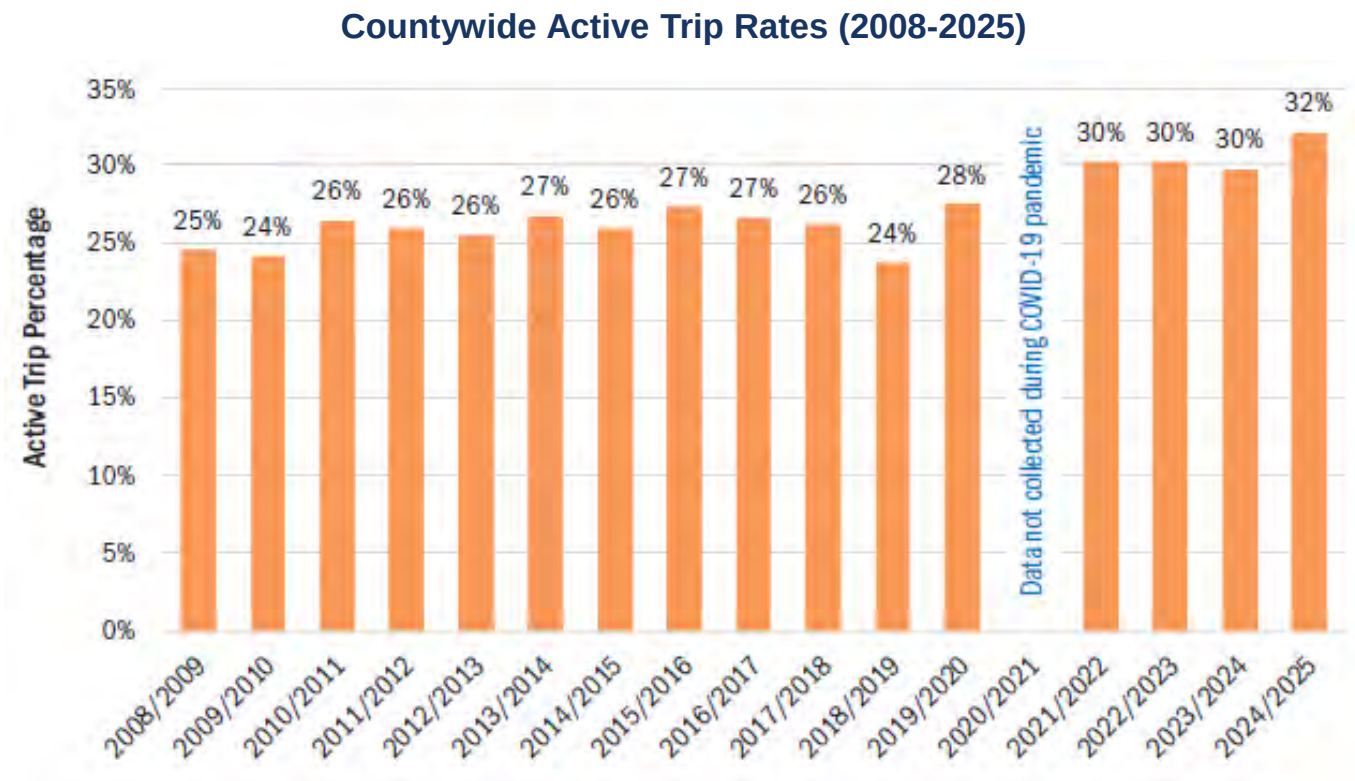
- **51% of all trips** were green trips during the 2024–2025 school year
- **23 participating schools** achieved green trip rates above **50%**
- **10 schools** achieved green trip rates above **60%**



TAM
Transportation Authority of Marin

Travel Mode Summary (cont.)

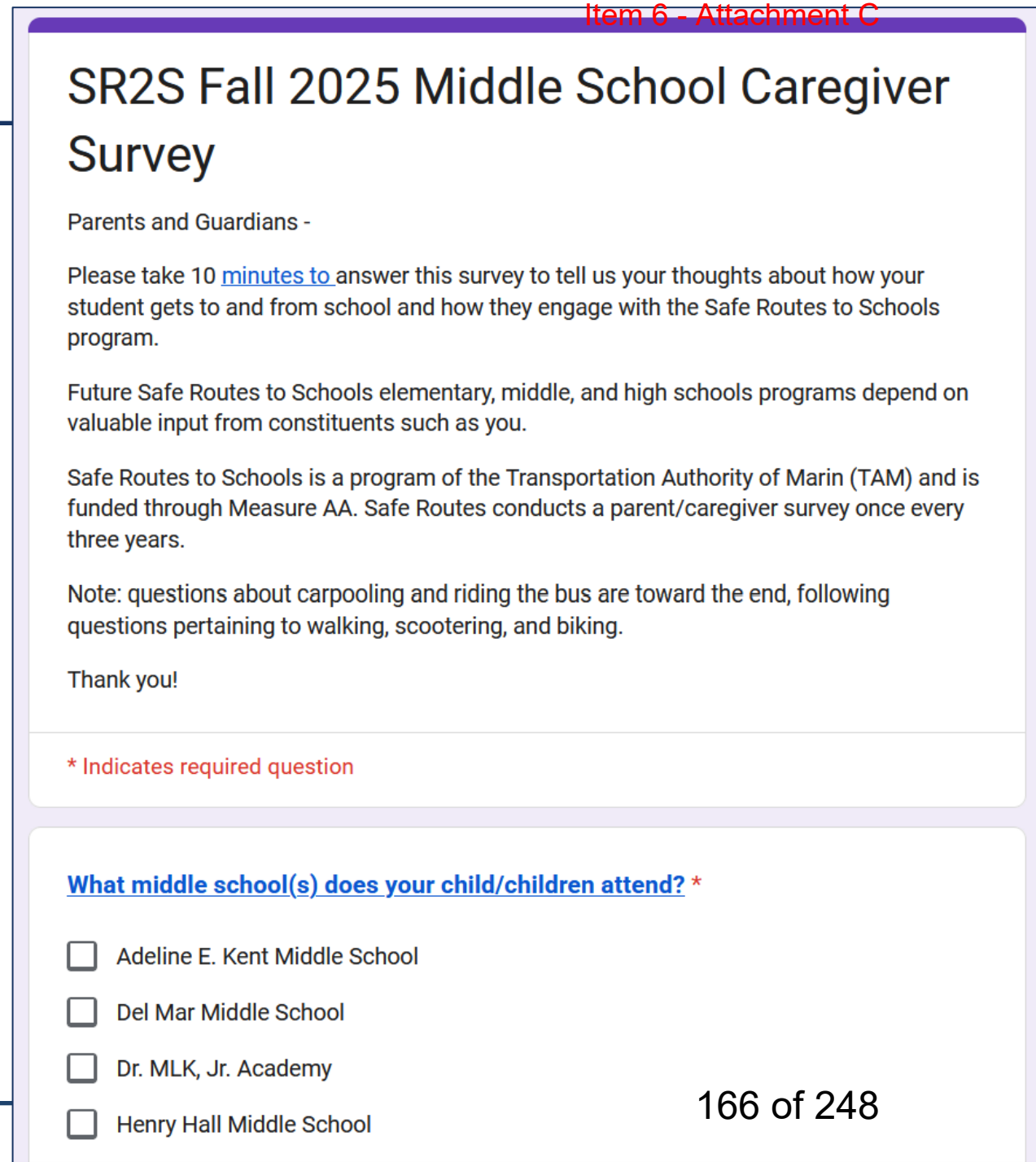
- **32% of all trips** were active trips, compared with 11% nationally for the 2024–2025 school year
- **8 schools** achieved active trip rates above 50%
- Highest active trip rates were at **Park Elementary (59%)**, **Hall Middle (57%)**, and **Mill Valley Middle (57%)**



Caregiver Survey

2,587 caregiver surveys were collected countywide:

- Responses represented caregivers across school levels: **57% elementary, 25% middle**, and **18% high school**
- **10% of responses** were submitted in Spanish
- Survey findings highlight key **motivations and barriers** influencing school travel choices



SR2S Fall 2025 Middle School Caregiver Survey

Parents and Guardians -

Please take 10 minutes to answer this survey to tell us your thoughts about how your student gets to and from school and how they engage with the Safe Routes to Schools program.

Future Safe Routes to Schools elementary, middle, and high schools programs depend on valuable input from constituents such as you.

Safe Routes to Schools is a program of the Transportation Authority of Marin (TAM) and is funded through Measure AA. Safe Routes conducts a parent/caregiver survey once every three years.

Note: questions about carpooling and riding the bus are toward the end, following questions pertaining to walking, scootering, and biking.

Thank you!

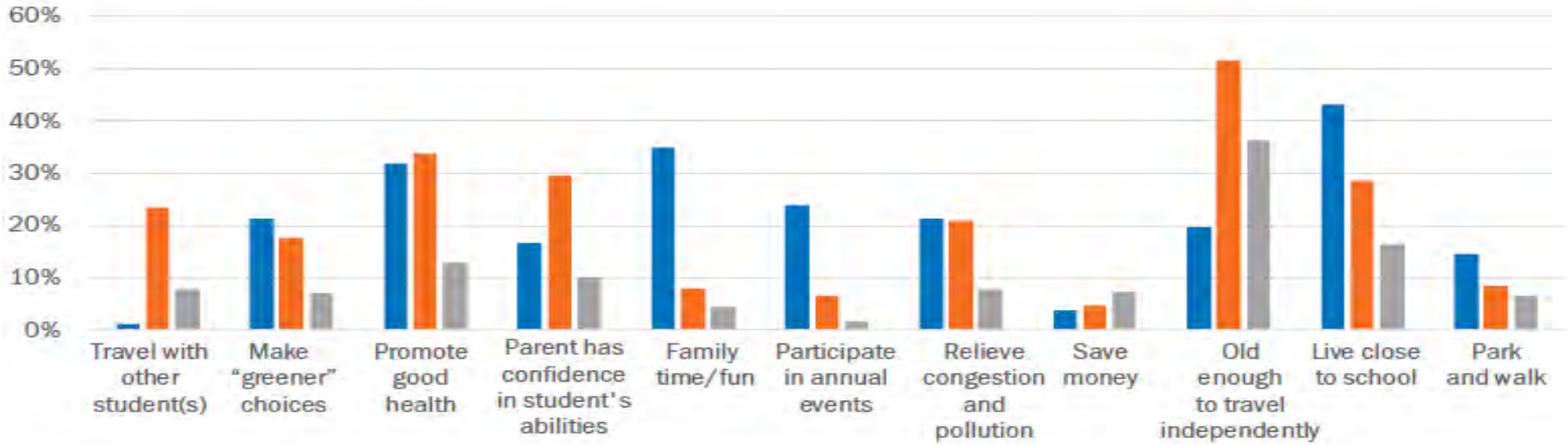
* Indicates required question

What middle school(s) does your child/children attend? *

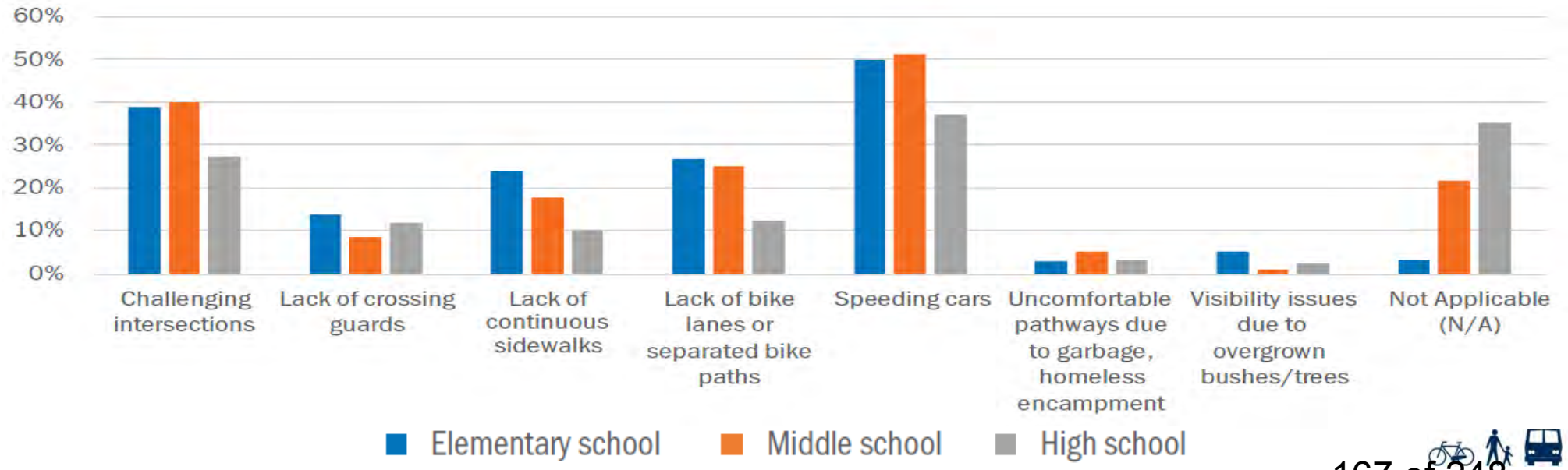
- [ ] Adeline E. Kent Middle School
- [ ] Del Mar Middle School
- [ ] Dr. MLK, Jr. Academy
- [ ] Henry Hall Middle School

Caregiver Survey Findings

Factors Influencing Active Travel to School

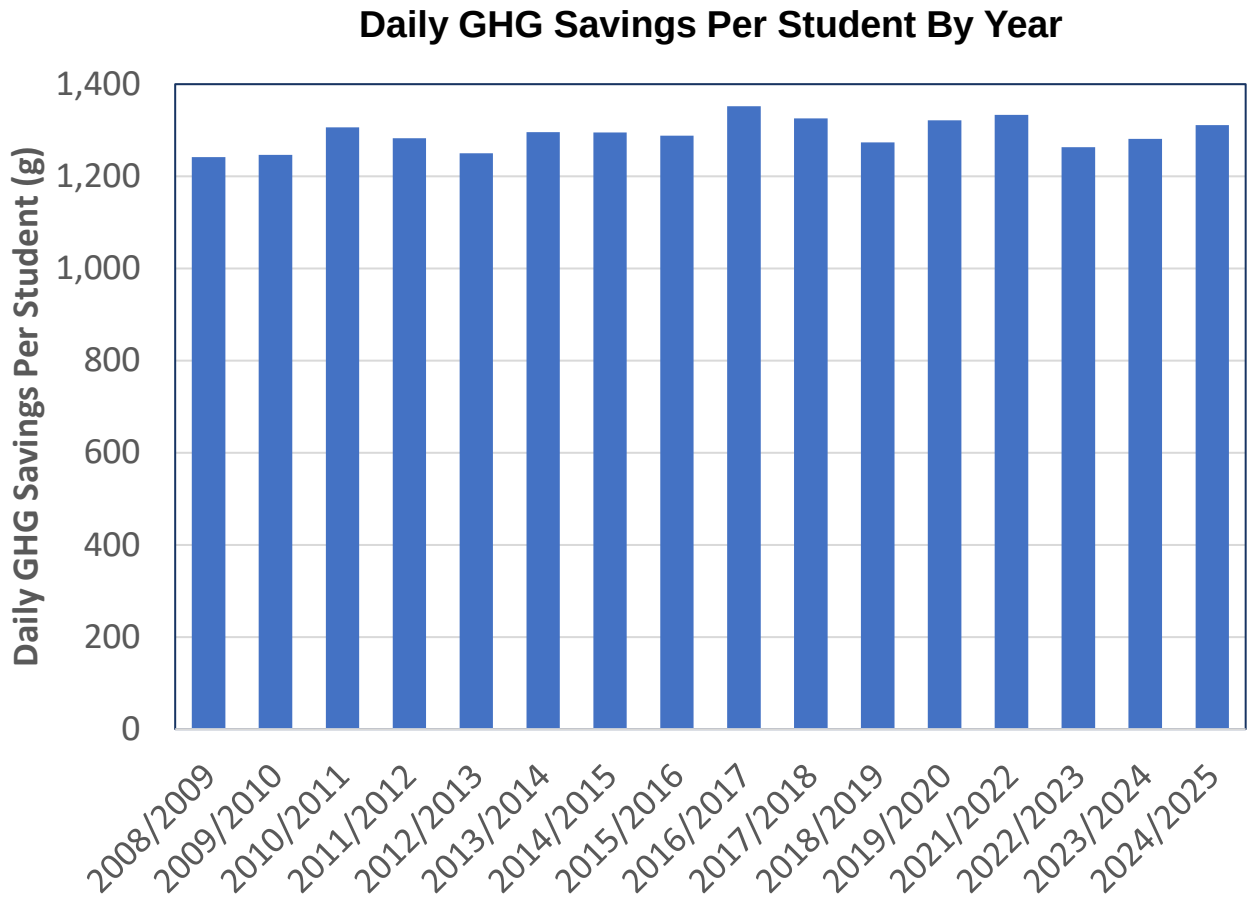


Infrastructure Barriers



Greenhouse Gas (GHG) & Vehicle Miles Traveled (VMT) Savings

- **Daily VMT savings per student reached an all-time high in 2024/25**
- **Daily VMT per student fell to 4.3**, the lowest level recorded
- Compared with 2015/16, the program saved **36 additional annual VMT per student** and **4,100+ grams of GHG per student annually**
- Despite improved fuel economy, reduced VMT continues to generate meaningful GHG savings



Education

- **409 classes** reached nearly **11,300 students annually** on average
- **50 schools** participate in education programming, including **9 added since 2021/22**
- Efficiency strategies include **prep videos before on-site instruction** and a focus on **larger public schools** to reach more students

CLASS	GRADE(S)
Classroom Presentations	
Stop Look Listen (Part I)	2
Pedestrian and Bike Safety	3
Traffic Safety Bike Education (Part I)	4
Drive Your Bike (Part I)	6
Share the Road	High
E-Bike Safety Classes	Middle and High
Experiential, Hands-On Classes	
Walk Around the Block (Part II)	2
Bike Rodeo (Part II)	4
Drive Your Bike (Part II)	6
On-Road Bicycle Field Trips	Middle and High
Family Biking *	arents and Elementary
E-Bike Safety Classes* *	Middle d High
Additional Presentations	
Sustainable Transportation	Middle and High
How to Ride the Bus or SMART Train	High
Other	
Poster Art	Elementary
Route Mapping	Elementary, Middle and High

Encouragement

- **351 school events** held annually on average
- **53 schools** participate in encouragement programming
- Supported by **60 parent volunteers** and **10 bilingual family liaisons**
- New event added:
  Rainbow Walk and Roll Challenge

Program Name	Participating Grade(s)
Events	
International Walk & Roll to School Day	All grades
National Bike to School Day	All grades
Teens Go Green Days	Middle/High
Walk and Roll Wednesdays	Elementary
Contests	
Rainbow Walk and Roll Challenge	Elementary
Pump It Up - Classroom Contest	Elementary/Middle
Other	
Bike Blender event	All Grades
Bike Hero Award	Elementary/Middle
Buddy Up Contest	Elementary/Middle
Park and Walk Campaigns	Elementary/Middle
Poster Art	Elementary

Engineering

- **17 walk audits** completed, resulting in **23 concept plans**
- **27 suggested route maps** created or updated
- **40 overlay maps** developed, with **300 issues prioritized**
- Work is coordinated with local task forces to identify projects ready for jurisdiction-led implementation

Equity

Bilingual Program

- 12 schools participating
- Cultural and language differences considered for Safe Routes messaging
- Bilingual coordinator builds trust in schools and ensures volunteer retention

Youth Leading Active Communities (YLAC)

- 8 schools participating
- Additional services for schools with low participation in Safe Routes

Factors for Success & YLAC School Improvement

- Schools with the highest rate of active trips generally have active leadership and participation plus supportive infrastructure
- YLAC schools reduced the number of “low” scores from 12 to 4 while increasing the “high” scores from 9 to 21
- All YLAC schools increased their green trip rates

GREEN TRIP FACTOR
School Involvement
Administration
Team Leader
Education Programming
Encouragement Activities
Geographic/Infrastructure-Based
Supportive Infrastructure
Busing
Neighborhood Schools
Crossing Guards
Student Distance from School

Engagement & Safety Programs

- Strengthened law enforcement & community relationships through SR2S
- Supported 104 crossing guard locations in 2024–2025
- Improved intersections to reduce future crossing guard needs
- Continued Street Smarts outreach: 180+ banners and 1,100+ yard signs

Key Takeaways & Program Impact

Broad Reach & Participation

- 60 schools engaged; ~29,000+ students reached
- ~90% of public schools implementing programming

Record Travel Behavior Shifts

- 51% of trips are “green” (program high)
- 32% active trips vs. 11% national average

Measurable Environmental Benefits

- Record-low VMT per student (4.3 daily)
- Significant GHG reductions per student

Key Takeaways & Program Impact

Strong Program Delivery

- ~11,300 students reached annually through education
- ~350+ encouragement events per year

Equity & Targeted Support Showing Results

- YLAC schools improving participation and outcomes
- Expanded bilingual programming

SR2S is achieving measurable behavioral change, environmental impact, and equitable program growth.

Safe Routes to Schools Program Evaluation

Background

Why evaluate the program?

- Countywide transportation Plan 2050 strategy:
  - **Easy and Safe School Travel**

    Collaborate with schools to establish an ongoing process to coordinate provision of safe school travel programs and projects that fit the needs of each school location and student population.
- Need to review a mature program
- Funding challenges

How was the program evaluated?

- National best practices and peer case studies
- Stakeholder interviews
- Recommendations

Photo credit: Transportation Authority of Marin

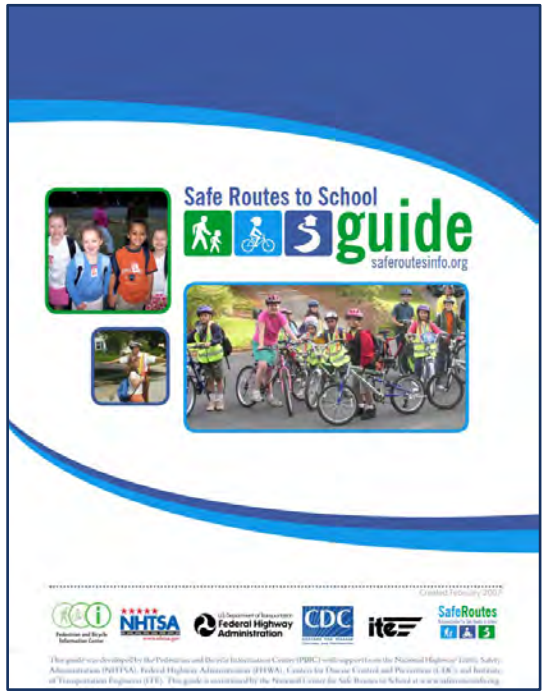
National Best Practices & Peer Studies

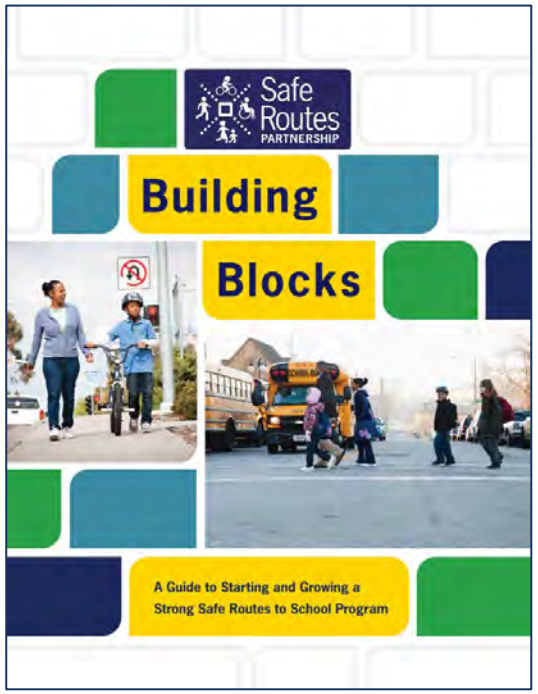
Guiding Frameworks

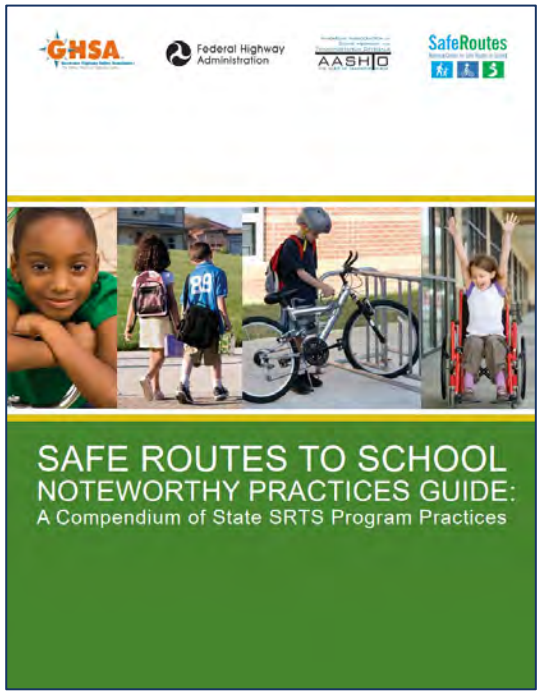
(1) National Center for Safe Routes to Schools *Safe Routes to School Guide*

(2) Safe Routes Partnership's *Building Blocks Toolkit*

(3) American Association of State Highway and Transportation Officials (AASHTO) *Safe Routes to School Noteworthy Practices Guide*







National Best Practices & Peer Studies (cont.)

Local Case Studies

- Alameda County
- San Mateo County
- Contra Costa County

Additional Case Studies

- Seattle, Washington
- Portland, Oregon

Metrics Analyzed

Active Trip Rate
(walk, bike, roll)

Green Trip Rate
(active + shared modes)

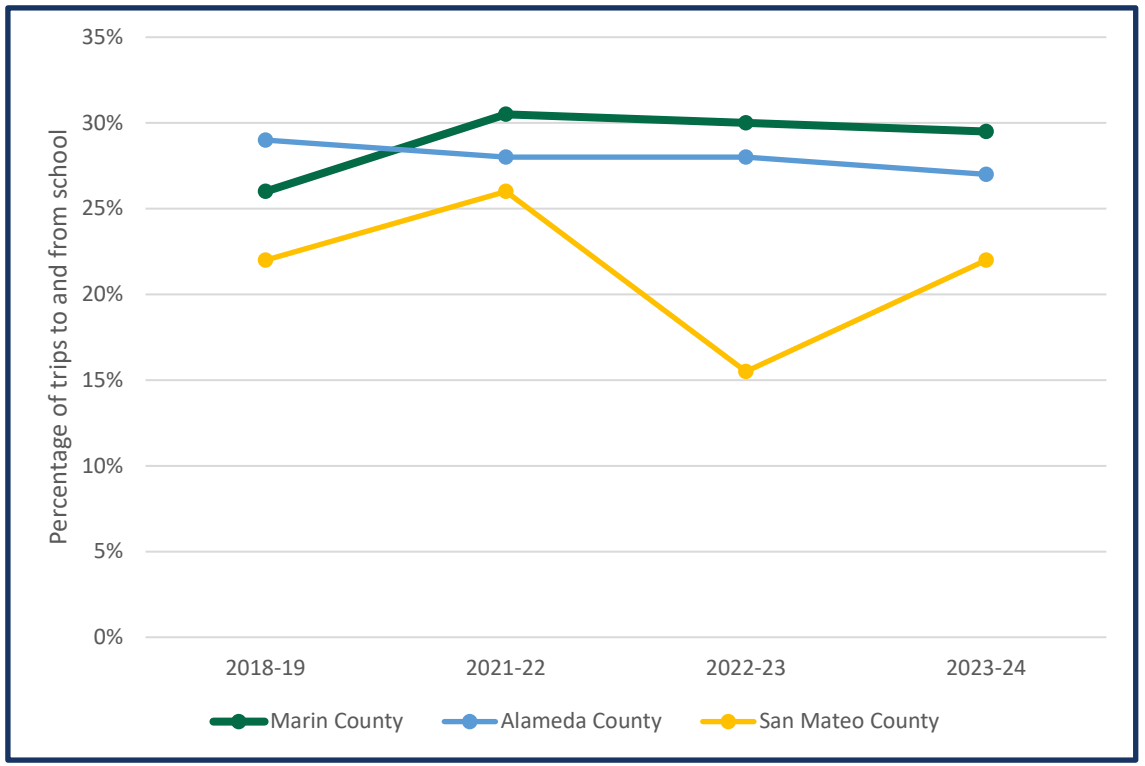
School Participation Rate
(% of schools enrolled)

Peers gave insight into how other SR2S programs operate, perform, and innovate.

- Contain frameworks prioritizing the six E's
- Emphasis on data collection to track trends and assess program effectiveness
- Outreach strategies expand from students to families to promote safe and attentive travel to, from, and around schools

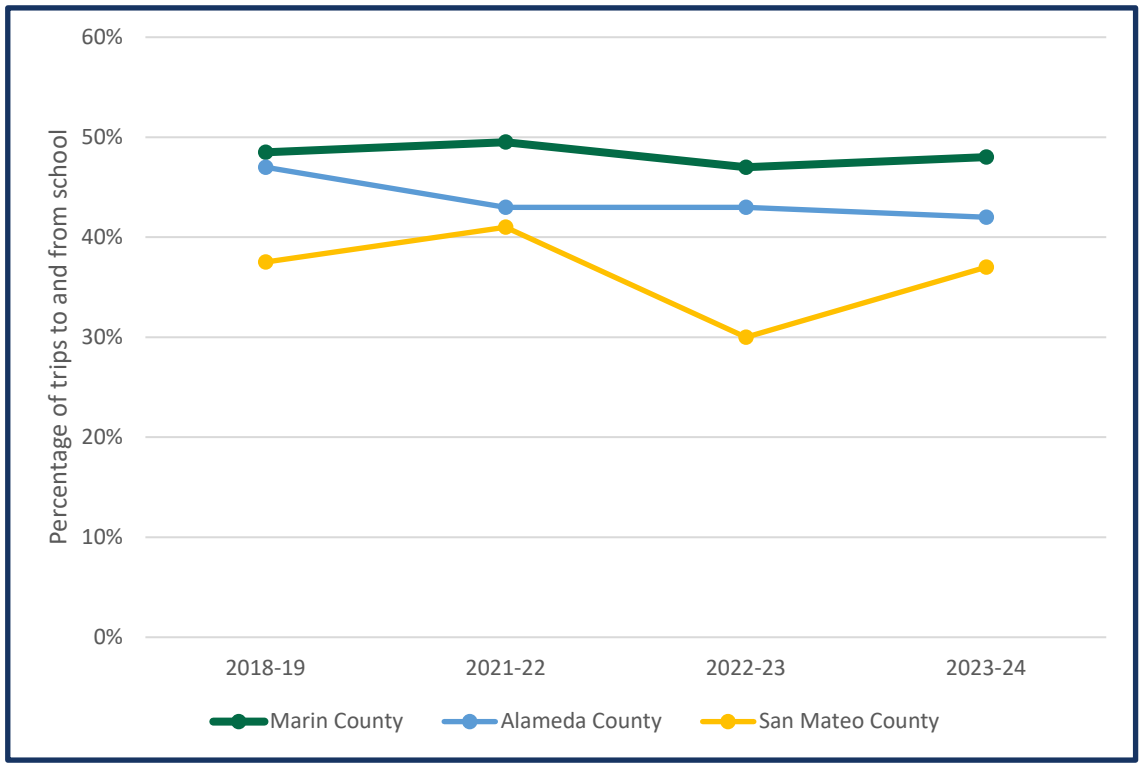
National Best Practices & Peer Studies (cont.)

Comparative Active and Green Trip Rates



Active Trip Rates by SR2S Program

(walk, bike, roll)



Green Trip Rates by SR2S Program

(active + shared modes)

Stakeholder Interviews & Engagement

From **leadership → implementation → community members**, the team identified an array of organizations and individuals across Marin County, including:

- TAM Board & Community Oversight Committee
- SR2S contractors & TAM staff
- Law enforcement & public works/city officials
- School staff & teachers
- Parent and caregiver volunteers
- Bilingual family liaisons

Interviewees represented cities including **Novato**, **Mill Valley**, **Larkspur**, and **San Anselmo**, as well as the **San Rafael**, **Novato**, **Kentfield**, and **Ross Valley** school districts.

The team completed a total of **17 interviews** (virtual) with **22 participants**.

Stakeholder Feedback Overview

Education

Widely implemented and well-received

Student engagement is effective within elementary schools but **high school participation remains a challenge**

Need to address safe pick up and drop off behavior

Engineering

School-area safety improvements are key but greater transparency and outreach needed re: prioritization

Enhanced collaborations with public works departments and community mapping efforts is one of its key strengths

Evaluation

TAM SR2S pioneered annual tallies as a national model

Need for more data, more rigorous analysis, innovative data collection

Mapping tools support planning and funding

Encouragement

This is a core strength of program

Program increases awareness of active transportation but there are challenges sustaining interest beyond periodic events

Challenges finding and keeping volunteers (especially in less advantaged neighborhoods)

Engagement & Safety

Safety remains an important supporting function of SR2S

Ongoing safety challenges include examples such as driver behavior and e-bikes

Crossing guards are a critical companion program

Equity

Support for established equity efforts (e.g., YLAC, translation)

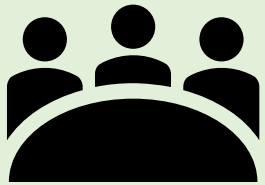
YLAC seen as effective in supporting resource challenged schools

Communicate equity considerations in prioritization process

Recommendations Development Overview

Assess Current Program

- Reviewed current TAM structure & performance
- Gained insight from current contractors
- Identified strengths, gaps, opportunities



Gather Stakeholder Input

- Coordinated with TAM staff and SR2S partners to identify stakeholders
- Ensured diverse representation across roles and geographies
- Conducted stakeholder interviews

Develop Recommendations

- Forty-two individual recommendations categorized by program area, timeframe, priority, and cost
- Additional recommendations re: funding
- Reviewed with TAM staff and contractors

Recommendations – Overview & Summary

Education: Refine e-bike content in 6th grade program to incorporate more peer-peer strategies. Refresh content in high school Share the Road classes and evaluate opportunities to expand to more schools.

Engineering: Continue to develop corridor plans for each school based on the recently adopted prioritization process within each task force. Incorporate recommendations from the Marin County School Access Safety Action Plan.

Evaluation: Select small number of schools each year for focused attention. Calculate custom targets, active trip rates, and other benchmarks for each school. Test/pilot alternative data collection methods and technologies. Differentiate high schools when reporting performance statistics.

Recommendations – Overview & Summary (cont.)

Encouragement:

- Update high school club toolkit with input from teen stakeholders.
- Review low-participation schools and target appropriate interventions.
- Work with schools and districts to implement Park and Walk programs and supporting policies.
- Establish campaign encouraging 2nd regular weekday for active modes.
- Work more closely with principals and superintendents to strengthen commitment to SR2S.
- Strengthen communications and expand channels (e.g., countywide calendar subscription, increased social media). Add online GIS maps to website.
- Expand countywide annual meetings to include events for principals and bilingual participants.

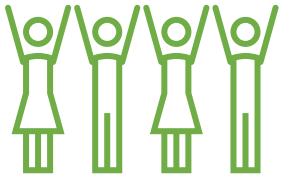
Recommendations – Overview & Summary (cont.)

Encouragement (continued):

- Continue to support volunteer succession planning. Provide additional channels where parent volunteers can connect and share resources. Refresh/expand parent volunteer handbook.
- Where possible, identify two municipal representatives for each task force. Review task force membership annual to identify gaps.

Engagement and Safety: Continue to develop corridor plans for each school based on the recently adopted prioritization process within each task force. Incorporate recommendations from the Marin County School Access Safety Action Plan.

Recommendations – Overview & Summary (cont.)



Equity: Continue working with community partners to support bike access. Explore new or continued resources for supplementing volunteer hours (middle/high schoolers, seniors). Continue developing teen clubs and student leadership programs to lead SR2S events.

Monitor and refine the YLAC program to ensure it effectively supports higher-need schools. Include YLAC category in online dashboard. Evaluate roles, responsibilities, and impact of YLAC versus existing MCBC encouragement programs.

Funding: Shift Street Smarts banner funding to other opportunities. Identify appropriate outside funding options that SR2S contractors can pursue as non-profits. Clarify guidelines for schools and non-profits to conduct independent fund raising.

Recommendations – Broad Themes

- Refine program elements and regularly refresh program content
- Increase communications and try new channels
- Dive deeper into the data to better understand performance at each site
- Seek more support and coordination from principals and superintendents
- Continually examine effectiveness of program elements – funding is an ongoing challenge
- Growth in program aims to achieve multiple goals, safety, mode shift & equity

Recommendations – Near Term Implementation

Several **lower cost near-term recommendations** may be implemented within the next two years, including:

- Continue coordination with Spare the Air and other county stakeholders to share data and best practices
- Test alternative in-school data collection approaches
- Promote the inclusion of SR2S family welcome materials in back-to-school information packets
- Enhance structure of task force agendas, including a brief review of previous action items and a running table of issues or action items
- Confirm task force membership for next year and update contact information.
- Increase coordination with school district and public works staff
- Revamp the parent volunteer handbook with step-by-step guide to working with local schools and enhance volunteer recruitment
- Continue partnering with law enforcement agencies to support SR2S programs

Next Steps & Ad Hoc Committee Discussion

- Near-term recommendations are lower cost to be implemented within the next 2 years under the existing scope of services
- Medium-term recommendations (2-5 years) to be considered within the next scope of services
- Longer term recommendations will need to be further examined based on budget and future program evaluation
- Additional steps:
  - Set aside OBAG 4 funding ~$600-800k for program
  - Pause Street Smarts banner program after 2026, consider other communication channels and redirect that funding to core program

Questions?

Thank you!

Transportation Authority of Marin

DATE: May 11, 2026

TO: Transportation Authority of Marin
Funding, Programs, and Legislation Executive Committee

FROM: Anne Richman, Executive Director
Mikaela Hiatt Isono, Senior Transportation Planner

SUBJECT: Receive an Update on the TAM Sea Level Rise Climate Resilient Transportation Design Principles (Discussion), Agenda Item No. 7

RECOMMENDATION

The Funding, Programs, and Legislation (FP&L) Executive Committee receives an update on the TAM Sea Level Rise Climate Resilient Transportation Design Principles and provides feedback.

BACKGROUND

TAM has been coordinating with partner agencies and stakeholders in Marin County and the region to advance adaptation planning for sea level rise as it relates to Marin's Transportation system. With the passage of the voter approved Measure AA ½-Cent Transportation Sales Tax Expenditure Plan, 1% of the transportation sales tax is dedicated 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."

In order to advance adaptation planning, TAM developed a Sea Level Rise Adaptation Planning Study for Marin County's Transportation System. This Study included Vulnerable Locations in Marin County, Adaptation Summaries for the Focus Areas, and an Implementation Strategy to guide future projects and programs. The Study was accepted by the TAM Board at its June 26, 2025 meeting. One of the Implementation Strategies identified in the Study was for TAM to develop Climate Resilient Transportation Design Principles to help bolster the definition of the "Complete, Green, and Elevated Streets" Adaptation Strategy and further guide implementation of the Sea Level Rise Program.

DISCUSSION/ANALYSIS

Following the acceptance of the Sea Level Rise Study at the June 26, 2025 Board meeting, TAM staff and the consultant team began development of the Climate Resilient Transportation Design Principles. The goals of the Design Principles are to:

- Develop a set of actionable principles on which Marin's jurisdictions and departments can align and implement.
- Advance the integration of resilience measures into Marin County's transportation system.
- Integrate and build on key recommendations from the TAM Sea Level Rise Study.
    - Align the Design Principles with the Voluntary Adaptation Policy for guidance on implementation.

Using input from the Technical Advisory Committee (TAC) (originally created for the TAM Sea Level Rise Study and revived for the development of the Design Principles), the project team began work in the fall of 2025 on a Best Practices White Paper on Transportation Resilience Design Guidelines. The approach of the White Paper is to aggregate existing guidance and guardrails for resilient design that exist within Marin County, as well as to account for how regional, national, and international guidance can inform the TAM Design Principles. The project team reviewed existing literature and guidance and conducted informational interviews with key partners including the San Mateo County OneShoreline and City/County Association of Governments (C/CAG), the National Association of City Transportation Officials (NACTO), and the Port Authority of New York/New Jersey.

From the information gathered, the team identified five key challenge themes often encountered in developing Design Principles around Scale & Scope, Governance, Uncertainty & Flexibility, Buy-in & Adoption, and Funding & Operations and Maintenance.

The project team presented the findings of the White Paper to the TAM SLR Resilient Transportation Design Principles TAC on March 25th and to the Marin Public Works Association (MPWA) on April 16th and incorporated the following recommendations:

- The TAC emphasized the need for resilient design principles that are flexible, implementation-oriented, and grounded in real-world cost and delivery constraints.
- Focus on incremental, cost-effective actions supported by clear objectives rather than prescriptive standards, alongside tools that help prioritize assets based on criticality, feasibility, and flood risk (e.g., build on Resilient Roads effort).
- Early and ongoing engagement with implementing agencies (particularly public works departments), coupled with alignment to existing County efforts and datasets, was identified as critical to building buy-in and ensuring the principles can be applied in practice.

TAM staff will present the key takeaways from the White Paper and outline the next steps in integrating the findings into the TAM Resilient Transportation Design Principles. Staff will request feedback from the FP&L Executive Committee on the White Paper, seek guidance on the development of the Design Principles, and engage with Committee members in a discussion around how the Principles tie into the TAM Sea Level Rise Program and funding. TAM staff will bring an update to the full Board at the May Board meeting, integrating the feedback received from the FP&L Executive Committee.

RELATIONSHIP TO COUNTYWIDE TRANSPORTATION PLAN (CTP)

The TAM Sea Level Rise Adaptation Planning for the Marin County Transportation System Study is included as an implementation action and in the "adaptation to climate change" Strategy from the adopted CTP. The CTP goal of sustainable transportation is at the core of this effort, particularly in the "Strategies" sections where "Adaptation to Climate Change" is identified under the System Management Strategies. The SLR study also incorporates equity by containing MTC Equity Priority Communities data in the focus area analysis.

FISCAL CONSIDERATION

The TAM SLR Study and Principles outline recommendations for the use of Measure AA funding for Category 2.3 Sea Level Rise. Recommendations for use of the funds will be discussed, however recommended actions for the use of these funds will be brought to the TAM Committees and Board at a future date.

NEXT STEPS

Staff will bring an update including feedback received from the FP&L Executive Committee to the May TAM Board meeting. Following the Board meeting, staff will begin drafting the Design Principles and continue coordination with partners on ongoing sea level rise planning efforts.

ATTACHMENTS

Attachment A – Staff Presentation
Attachment B – TAM Climate Resilient Design Principles White Paper

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Resilient Transportation Design Principles

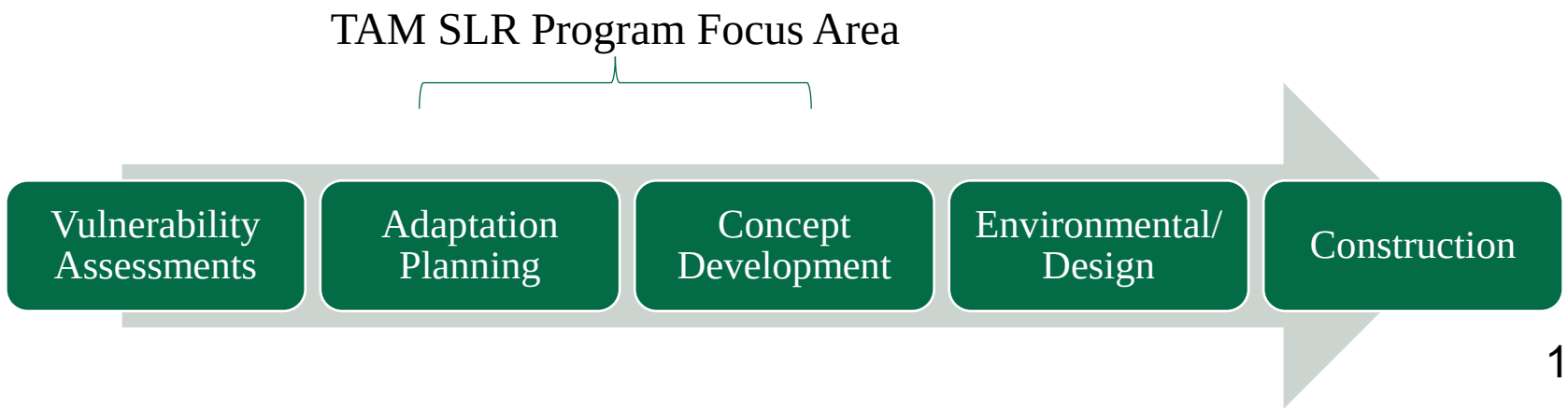
Transportation Authority of Marin

Arup

May 11th, 2026

TAM Sea Level Rise Program

- Measure AA Category 2.3
  - 1% set aside to develop projects to address transportation impacts from sea level rise (SLR)
  - Support protecting and adapting Marin's roadways and related infrastructure to the effects of SLR and flooding
- Efforts underway in Marin County include:
  - BayWAVE and C-SMART
  - Local Jurisdiction Plans
  - Bay Conservation and Development Commission (BCDC), San Francisco Estuary Institute (SFEI), other regional efforts
- Board Direction
  - Move from planning into initial conceptual design and identify potential projects for project development



Project Context

Where we've been and where we're going

Planning

Sea Level Rise Planning study formally adopted 2025, identified key adaptation areas and project priorities.

Design

Design principles moves us towards implementation of projects by making concepts actionable and usable

Implementation

TAM Sea Level Rise Program and Funding

- Call for projects
- Feasibility
- Measure AA Funds
- Implementation

Timeline

TAC engagement

Fall 2025
Ask and listen

What are the needs of partner agencies and local jurisdictions in designing resilient transportation infrastructure?

Spring 2026
White paper findings

Given the state of best practice, what stands out as being relevant and useful for application with Marin County?

Summer 2026
Feedback on draft principles

What works well and what is missing?

Fall 2026
Training on the final principles

Recorded meeting to communicate design principle elements and how to incorporate them into ongoing work plans.

Technical

Develop Best Practices White Paper on Transportation Resilience Design Guidelines → Draft Design Principles → Final Design Principles and Partner Training

Design Principles Goals

Develop

- Develop an actionable set of design principles on which Marin's jurisdictions and departments can align and implement.

Advance

- Advance the integration of resilience measures into Marin County’s transportation system.

Integrate

- Integrate and build on key recommendation from TAM SLR Study.

Begins with understanding current best practices and approaches in terms of *climate-resilient design guidance*.

Best Practices in Resilient Transportation Design Guidelines

White Paper Goals and Methodology

Goals of the Paper

- Capture tools, strategies, and opportunities applicable to Marin
- Bridge the gap between planning and implementation
- Identify ways in which TAM can play a supportive role in advancing implementation

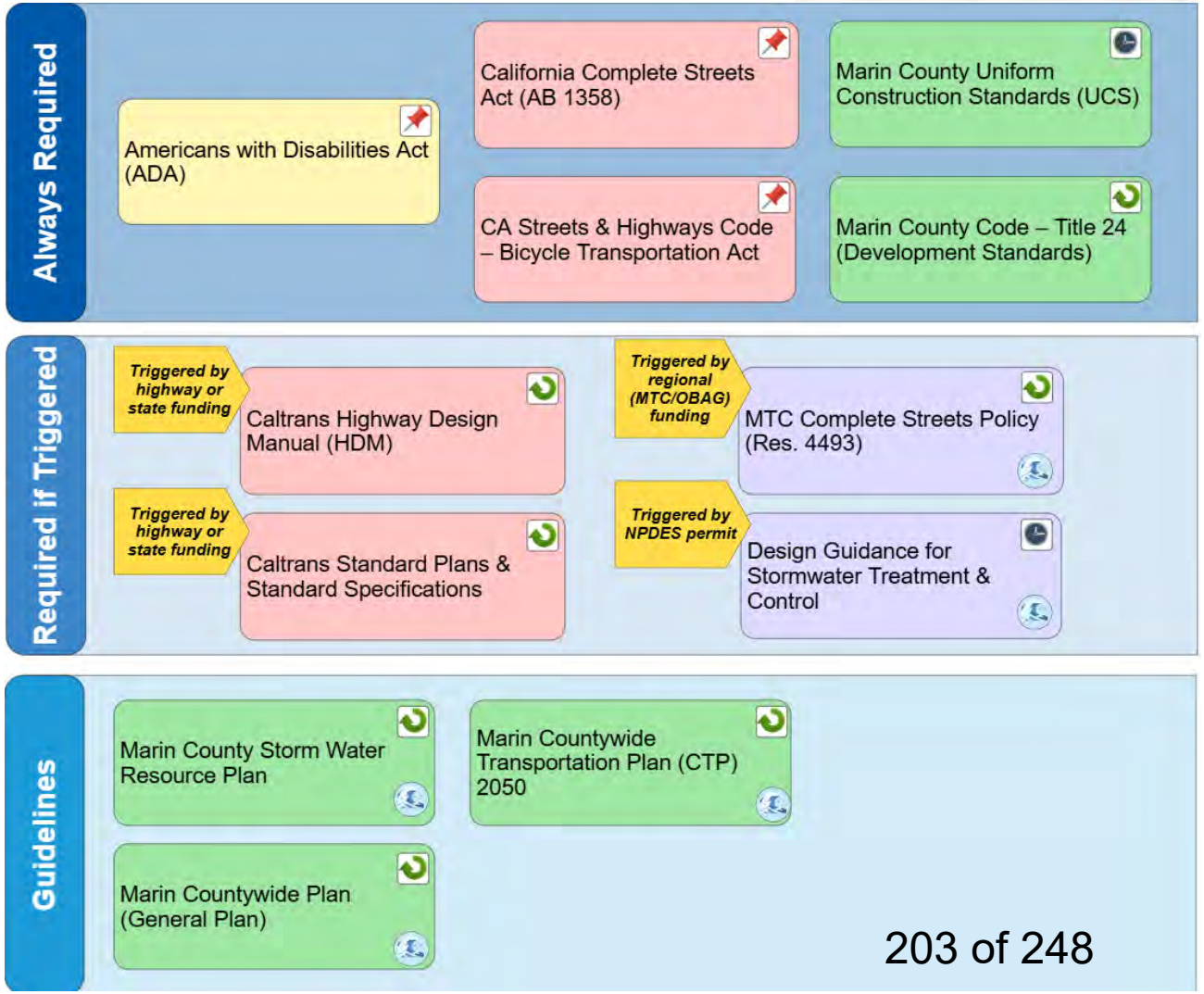
Methodology

- Review of current standards and guidelines in Marin County
- Review of regional, national, and global comparable guidelines and principles
- Interviews with key stakeholders and subject matter experts

Current Standards

How the Principles Fit In

- **Existing landscape:** Layered standards with varying enforceability & update cycles
- **Future landscape:** TAM SLR Principles as non-mandatory or required?



Documents Reviewed

Gathered comparable guidelines from around the world

International Examples

National Examples

State Examples

Local Examples

Interviews

Conducted Three Expert Interviews

C/CAG
City/County Association of Governments of San Mateo County

OneShoreline
Building Solutions for a Changing Climate

PORT AUTHORITY NY NJ

NACTO

Five Key Challenges

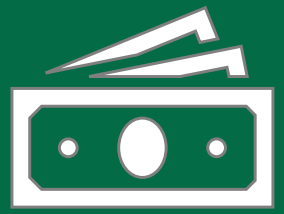
Challenge 1
Scale & Scope

Challenge 2
Governance

Challenge 3
Uncertainty & Flexibility

Challenge 4
Buy-in & Adoption

Challenge 5
Funding & Operations and Maintenance



Key Takeaways

Focus on frameworks, not fixed solutions.

Pair guidance with clear governance.

Design for uncertainty and change.

Make usability a priority.

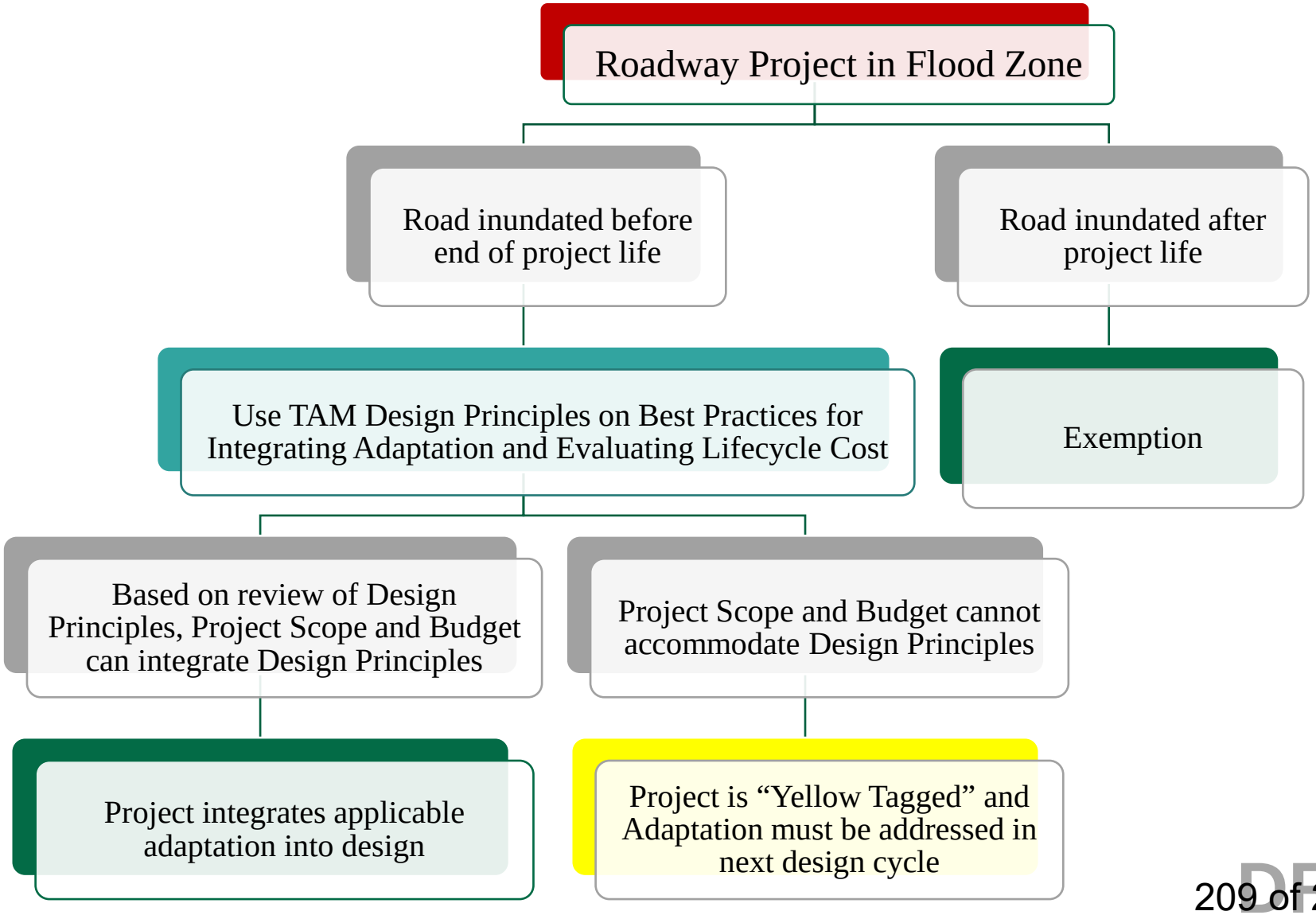
Account for full lifecycle costs.

Principles can be a bridge to implementation.

Design Principles Development

- From the Challenges identified in the White Paper, identify what fits best for TAM's program and benefits for jurisdictions
- Focus scope of Principles into categories and identify limitations
  - County Stormwater developing Design Plan and Guidance for Stormwater and Green Infrastructure
  - Integrate County effort and work on elevation elements
  - Identify needs for additional data and guidance
  - Begin development of lifecycle cost assessments for local project development
- Design Principles intended to be tied to TAM SLR Program and Voluntary Adaptation Policy
  - Funding to address Sea Level Rise impacts available to those who adopt the policy

Design Principles in Practice



TAM Sea Level Rise Program and Funding

- Resilient Transportation Design Principles designed to tie into Voluntary Adaptation Policy
  - Local jurisdictions elect to adopt a policy stating the intent to align with the TAM SLR Study and commit to adapting transportation system
- Jurisdictions using the Policy/Principles can access Measure AA SLR Program funding (~$350,000 / year)
  - Funding focused on design and implementation (technical assistance and project development through feasibility studies)
  - Delivered through a Call for Projects Bi-Annual Process

Discussion and Next Steps

- Present to the TAM Board May 28
- Staff begin to draft Design Principles with local Public Works and TAC
- Further discussion around TAM SLR Program and Funding
  - Finalize the draft of the Voluntary Adaptation Policy
- Return to the Committees and Board for next steps

Thank you!!

Transportation Authority of Marin

ARUP

Transportation Authority of Marin

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

White Paper: Best Practices in Resilient Transportation Design Guidelines

Reference: V3

April 29, 2026

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1. Introduction

Background and Context

Marin County is increasingly vulnerable to the impacts of sea level rise and related flooding hazards, including coastal flooding, riverine and stormwater flooding, groundwater rise, and shoreline erosion. The cost of adapting to 2050 sea level rise has been estimated at $17B for the county, according to the 2023 Sea Level Rise Adaptation Funding and Implementation Final Report by MTC/ABAG and BCDC.[1] Much of the county's transportation network is located in low-lying coastal and bay-adjacent areas, often constrained by natural topography, developed land uses, and existing infrastructure. As sea levels rise and coastal flooding events become more frequent, these conditions heighten the risk of transportation system damage and disruptions that can affect daily travel, emergency response, economic activity, and community connectivity. Addressing these risks is particularly critical in Marin County, where transportation corridors often serve as lifelines with limited redundancy.

Over the past several years, Marin County agencies, including the Transportation Authority of Marin (TAM), and regional partners have made substantial progress in identifying and understanding vulnerabilities to sea level rise and related flooding. Numerous studies, plans, and assessments have documented exposure, vulnerability, and potential impacts to transportation and other critical assets. This growing body of work has been essential in building awareness, improving technical understanding, and establishing a shared foundation for adaptation action, which are already under development.

Because transportation projects are regularly planned, designed, funded, and constructed, they present recurring opportunities to integrate sea level rise and flood resilience considerations into planning, capital investments, and maintenance activities. Barriers to more widespread integration may include funding constraints, regulatory, permitting, and governance complexities, uncertainty about appropriate design approaches, and incentive structures that do not always reward long-term resilience. Addressing these challenges requires practical tools and guidance that support decision-making at the project level.

This TAM Sea Level Rise (SLR) Resilience Design Principles study ("TAM SLR Principles") is intended to support TAM's efforts to address the risks posed by sea level rise to the transportation system and advance adaptation efforts so that the transportation system functions safely and reliably into the future. These principles will be used by local agencies as they move toward project implementation, and other partners can look to them as a guide or reference as well. A central goal is to develop a set of resilient design principles or guidelines that local jurisdictions across the county can use when planning and designing transportation projects. These principles are intended to reduce the risk of disruption due to flooding and sea level rise, while remaining flexible enough to be applied across different contexts, project types, and funding sources. As part of a broader Sea Level Rise Program, TAM plans to use the TAM SLR Principles to help guide future Measure AA investments, with funding available to support projects that incorporate these principles into transportation planning and design.

The county's agencies, including TAM, have a strong track record of advancing similar transitions from planning to practice. Previous efforts, such as the development of stormwater design guidelines, resilient roads initiatives, and other climate- and sustainability-focused programs, have demonstrated TAM's ability to translate policy goals and technical research into actionable guidance for local jurisdictions. These efforts provide an important precedent for the current work and highlight the value of clear, practical design principles that can be applied consistently across projects. Specific examples and challenges of putting principles into practice are discussed throughout this white paper.

[1] Metropolitan Transportation Commission (MTC) / Association of Bay Area Governments (ABAG) and the San Francisco Bay Conservation and Development Commission (BCDC). 2023. Sea Level Rise Adaptation Funding and Investment Framework Final Report Draft. Obtained from: Sea Level Rise Adaptation Funding and Investment Framework Final Report (mtc.ca.gov).

White Paper Goals

This white paper is a first step in the process of creating TAM's SLR Principles. The goals of the paper are as follows:

Capture tools, strategies, and opportunities that are applicable to the Marin County context, drawing from a global review of best practices in resilient transportation design.

Bridge the gap between planning and implementation by highlighting approaches that can be realistically adopted by local agencies.

Identify ways in which TAM can play a supportive role in advancing implementation (i.e., through guidance, coordination, or integration into existing programs and processes).

To inform this work, the project team conducted a literature review of current transportation design standards in Marin County alongside global best practices in resilient transportation design. A summary of this review is provided in Appendix A.3. The team also conducted focused interviews with practitioners from San Mateo County, OneShoreline, the Port Authority of New York and New Jersey (PANYNJ), and the National Association of City Transportation Officials (NACTO). The interview guide and a summary of key insights are included in Appendix A.2. Findings from the literature review and interviews were then synthesized to identify strategies and approaches to design guidance that directly inform the development of the TAM Sea Level Rise (SLR) Design Principles.

The remainder of this paper is organized into three sections. **Section 0 Current Standards and Principles** describes the existing standards and guidelines that shape transportation design in Marin County, including their regulatory status, update cycles, and treatment of climate change and sea level rise. Next, **Section 3 Best Practices in Resilient Transportation Principles** synthesizes insights from the literature review and interviews, highlighting five common challenges associated with developing and implementing design guidelines, along with best practices for addressing them. Finally, **Section 4 Conclusions and Recommendations** closes out the paper with recommendations to support TAM as it advances into the guideline development phase.

2. Current Standards and Guidelines

The Transportation Authority of Marin (TAM) is the countywide transportation agency responsible for planning, funding, and coordinating transportation investments across Marin County. Working in partnership with the County and Marin's eleven cities and towns, TAM administers voter-approved local transportation funding and allocates resources to projects and programs spanning highways and local roads, transit, bicycle and pedestrian infrastructure, and transportation demand management. Through these roles, TAM is uniquely positioned to advance transportation resilience by integrating sea level rise and climate risk considerations into planning, funding priorities, and project delivery across jurisdictions.

A range of existing plans, policies, standards, and regulatory frameworks already shape how transportation and infrastructure projects are planned, designed, and delivered in Marin County. These documents operate at different scales (from federal and state requirements to regional and local guidance) and vary in their level of enforceability, update cycles, and treatment of climate risks. Developing new resilience design guidelines without a clear understanding of this existing landscape risks duplication, misalignment, or limited implementation. As such, a first step in this project is establishing a baseline understanding of where current standards already address, partially address, or omit considerations related to sea level rise and flooding. The following figure summarizes key documents, their scope, and their relationship to climate resilience (Figure 1). Additional details on each source is provided in Appendix A.1.

TAM's Sea Level Rise Resilience Design Principles (TAM SLR Principles) will be a valuable addition to this existing set of standards and policies, and there are several ways in which they could be positioned within this broader system. One option is for the Principles to function similarly to other guidance or checklist documents, such as the Metropolitan Transportation Commission (MTC) Complete Streets Policy and accompanying checklist[2] serving as a resource that informs design decisions and implementation without being explicitly required. As discussed in Section 3, there are multiple strategies for increasing awareness, uptake, and consistent use of guidance documents without making them formally mandatory.

Alternatively, as has been done by other regions such as New York City and San Francisco and others, use of these Principles could be required based on a certain trigger. For example, projects above a certain cost threshold or located within a defined distance of the shoreline could be required to follow the principles and submit accompanying documentation. While this approach may increase the number of projects that engage with the guidance, it also introduces potential challenges, including resistance from users, increased administrative burden for implementing agencies, and reduced flexibility for projects that may struggle to fully comply. Section 3 outlines best practices for mitigating these challenges and balancing accountability with usability. Ultimately, determining where these principles sit within the existing framework will require careful consideration of both their intended influence and the practical realities of implementation.

[2] MTC. 2022. Complete Streets policy (Resolution No. 4493). Obtained from: Resolution-4493_approved.pdf (mtc.ca.gov).

How Transportation Standards Apply in Marin County, CA

The diagram shows which documents apply universally, which are triggered by funding or jurisdiction, and which provide policy direction or guidance. Alignment reflects governing hierarchy and enforceability. Climate and update icons highlight documents that address sea level rise and those that change over time.

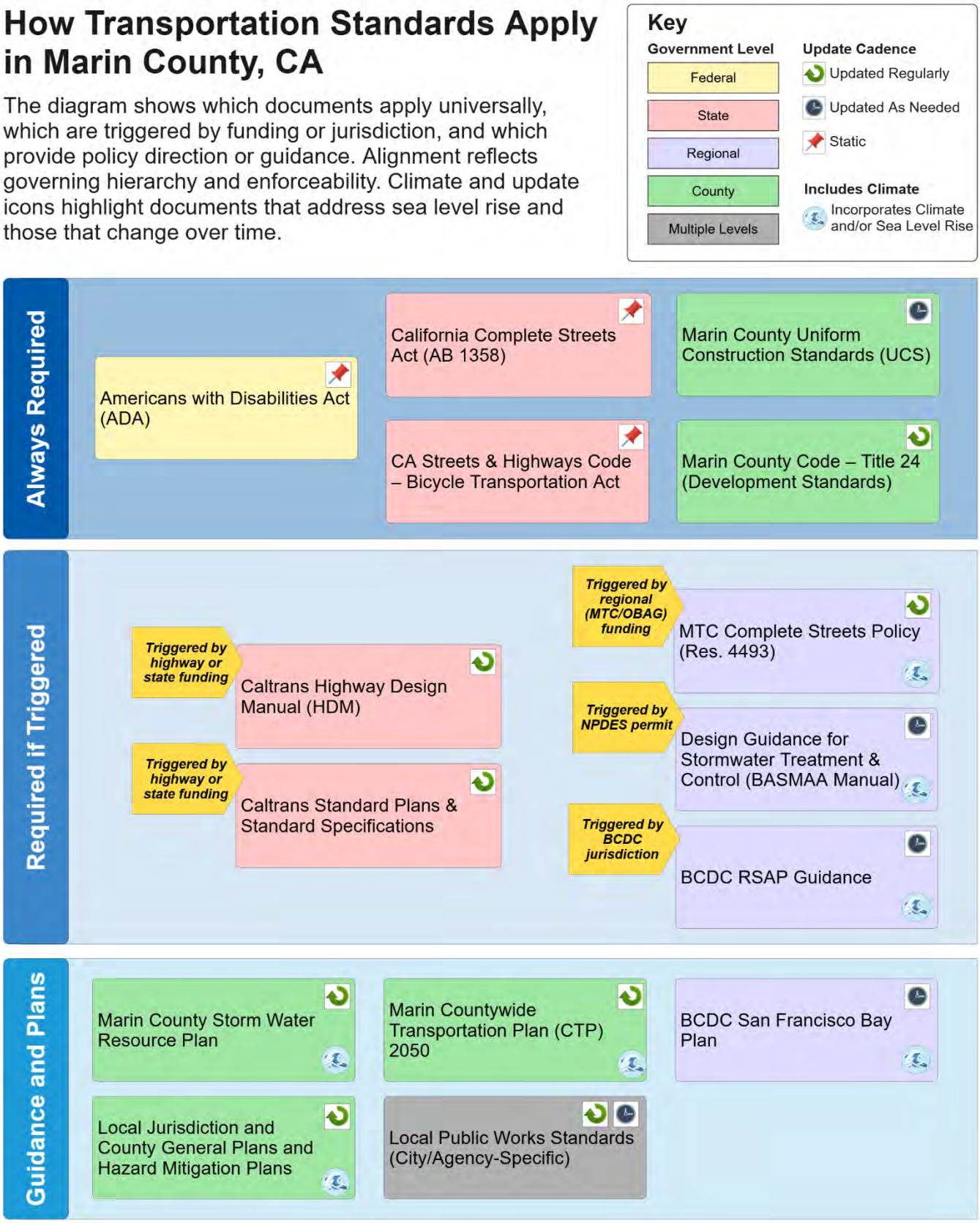

Figure 1: Diagram displaying current standards and guidelines that shape Marin County transportation infrastructure.

3. Best Practices in Resilient Transportation Principles

Developing and implementing effective resilience design guidelines is inherently complex. This is evident in prior iterations of similar efforts in Marin County, in the findings from the literature review and practitioner interviews conducted for this study, and through discussions with the Technical Advisory Committee supporting this work. Challenges emerge at every stage of the process from defining the appropriate scale and scope of the guidelines, to securing buy-in and ensuring consistent implementation, to update cycles, and ultimately to funding, operating, and maintaining resilient infrastructure over time.

To support TAM in navigating these challenges, this section is structured around five key problem statements commonly faced by agencies developing new resilience design guidelines. For each problem statement, the section highlights observed best practices and illustrative examples drawn from peer agencies describing approaches used to mitigate challenges and support successful implementation. No single agency or governing body has fully resolved all these issues, and it is likely that TAM will encounter similar obstacles. However, learning from how others have addressed these challenges positions TAM to move forward more deliberately and to develop guidance that not only reflects current best practice, but also advances the state of practice in resilient transportation design.

Challenge #1: Scale and Scope

There are many different types of infrastructure that face many types of climate hazards.

Transportation agencies developing resilience design guidelines and principles are first confronted with questions of scale and scope. Roadways, trails, transit facilities, and supporting infrastructure each experience climate hazards differently, and these hazards, ranging from sea level rise to extreme precipitation to wildfire and heat, often interact in complex ways. As a result, agencies must determine not only which assets and hazards their principles should address, but also how prescriptive or flexible those principles should be across diverse contexts.

Regional and subregional agencies have generally approached this challenge by focusing on consistency of approach, rather than one set of solutions applied to all assets. Instead of prescribing a single design response for all infrastructure types, successful principles establish a shared analytical framework (common climate scenarios, risk assessment methods, and decision-making processes) that can be applied by different asset owners across jurisdictions. This allows agencies to respect local conditions while still ensuring regionally consistent outcomes.

One example of this framework-oriented approach at the regional scale is the San Francisco Bay Conservation and Development Commission's (BCDC) Regional Shoreline Adaptation Plan (RSAP), which is intended to coordinate protection of the Bay shoreline from sea level rise. The RSAP establishes a shared regional analytical framework and guiding principles, while relying on locally led Subregional Shoreline Adaptation Plans to tailor adaptation strategies to different geographies, asset types, and exposure pathways. This tiered structure is a strong example of addressing the reality that different infrastructure systems face different climate hazards, and that adaptation responses must account for this variation. At the same time, the RSAP's primary focus on shoreline and coastal systems illustrates the challenges of applying region-wide guidance to infrastructure, such as transportation networks, that extends across multiple hazard types and physical contexts.

The Bay Trail Design Guidelines illustrate this approach on a regional scale in the Bay Area. Developed to guide planning and design for a continuous, multi-jurisdictional trail network, these guidelines emphasize consistency in baseline assumptions while allowing site-specific responses. Rather than treating resilience as a separate requirement, the Bay Trail guidelines embed it into core design decisions, recognizing that different shoreline contexts will require different combinations of elevation, nature-based solutions, or phased adaptation over time. The guidelines offer a consistent set of sea level rise scenarios for users to integrate, as well as a clear framework for how to perform calculations and assessments.

Figure 2: Cover for the Bay Trail Design Guidelines

A similar subregional model is reflected in the San Diego Association of Governments (SANDAG) Regional Transportation Sea Level Rise Assessment and Adaptation Guidance. SANDAG's guidance is explicitly designed for transportation assets that cross jurisdictional lines, including roads, rail corridors, bike paths, and trails. Rather than issuing detailed design standards, the guidance defines regionally consistent sea level rise scenarios, vulnerability assessment methods, and prioritization criteria, and then provides a clear workflow that local agencies can apply to their own projects. This approach reinforces the idea that subregional agencies are well positioned to set protocols for climate analysis, while leaving detailed design decisions to project sponsors who best understand local constraints.

Another common best practice is to clearly articulate which infrastructure typologies and hazards a set of guidelines is intended to address, and where flexibility is expected. Agencies that attempt to cover all hazards and all asset types at a high level often risk producing guidance that is either too abstract to be actionable or too burdensome to implement. In contrast, many countywide efforts focus on specific systems, such as streets and rights-of-way, while acknowledging how those systems interact with broader watershed or shoreline processes.

Figure 3: Cover of the San Mateo County Green Infrastructure Design Guide

San Mateo County's Green Infrastructure Design Guide provides a useful example of this more targeted scoping. The guide focuses on streets and rights-of-way as a primary intervention point, outlining specific green infrastructure typologies such as bioretention, permeable pavement, vegetated swales, and flow-through planters. While the guide is rooted in stormwater management and water quality objectives, it explicitly connects these interventions to broader resilience and sustainable streets outcomes, including flood mitigation, urban cooling, and long-term adaptability under changing precipitation patterns. The City of San Mateo integrated the county's guidance to adopt their own Sustainable Streets and Parking Lots Policy[3], highlighting the effectiveness of the guidelines for engaged local agencies.

Interviews with practitioners reinforced the importance of this kind of scoped clarity. Several interviewees noted that guidelines are most effective when they help users understand where resilience considerations apply and how deeply they are expected to engage, rather than attempting to solve every problem in a single document. In

[3] City/County Association of Governments of San Mateo County (C/CAG). 2021. San Mateo Countywide Sustainable Streets Master Plan Appendix F. Obtained from: Appendix-F-SSMP-Policy-Overview-and-Model-Language_final.pdf (ccag.ca.gov)

practice, this often means prioritizing the most relevant hazards for a given infrastructure system, such as flooding and sea level rise for low-lying transportation corridors, while referencing complementary guidance for other risks such as evacuation planning for wildfire.

TAM has already taken meaningful steps toward addressing this challenge through the way these Principles have been framed. By defining this effort as *Sea Level Rise* Resilience Design Principles, TAM has intentionally narrowed the scope to a specific set of climate hazards including coastal flooding, storm surge, and groundwater rise. Similarly, the Principles are explicitly focused on transportation infrastructure, reinforcing TAM's core role and influence while providing a clear organizing framework for resilience considerations. While additional work remains to clearly define which components of the transportation system are in scope, this represents a strong foundation. Building on this clarity will allow TAM to further refine the applicability of the Principles while maintaining consistency across jurisdictions and projects.

Key Takeaways – Scope and Scale

Do not prescribe one solution for all assets.
Effective resilience guidelines prioritize a consistent analytical framework rather than uniform design responses across diverse infrastructure types.

Set countywide consistent thresholds, not site-specific outcomes.
Countywide and subregional agencies are well positioned to define shared climate scenarios, risk assessment methods, and workflows, while leaving detailed design decisions to project sponsors.

Be explicit about what is in scope and what is not.
Clearly defining applicable asset types and priority hazards improves usability and avoids overly abstract or burdensome guidance.

Focus guidance where TAM has the most influence.
Streets, rights-of-way, and transportation corridors are effective intervention points, even as they interact with broader shoreline and watershed processes.

Challenge #2: Governance

Responsibilities and authority for the implementation, administration, and long-term maintenance of design guidelines are not always clearly defined.

Even when the scale and scope of resilience design principles are well defined, implementation can be challenging if the governance structure (roles, responsibilities, and authority) is unclear. Sea level rise adaptation often cuts across agency roles, disciplines, and funding streams, creating uncertainty around who is responsible for applying guidelines, who has decision-making authority, and how compliance is ensured. As a result, many agencies have focused their guidance not only on what should be done, but on who is accountable for acting and how that accountability is operationalized.

The NYC Climate Resiliency Design Guidelines provide a clear example of this approach. NYC requires all city agencies to use the guidelines for applicable public capital projects and mandates that each agency appoints designated points of contact responsible for implementation. Projects must submit a Resilient Design Submittal Checklist documenting how climate risks and adaptation measures have been addressed. Other cities such as San Francisco have similar checklist structures (Figure 4). This creates a clear chain of responsibility, defining who reports what, to whom, and at what point in the project lifecycle while allowing individual agencies to retain control over design decisions within their portfolios. Other guidelines also apply to private development, such as OneShoreline and The City and County of Honolulu's development guidelines.

Marin County Public Works' previous effort to integrate a Sea Level Rise Checklist as a part of the Resilient Roads program is another example of utilizing checklists. However, checklists (such as the County's Sea Level Rise Checklist) on their own are insufficient to drive meaningful changes in design practice, unless paired with a structured governance system for broad integration into existing processes. To influence outcomes, checklists must be paired with measures (such as clear performance standards), staff training, early project requirements, and alignment with funding, permitting, or capital programming processes. This way climate resilience considerations are integrated into core project delivery.

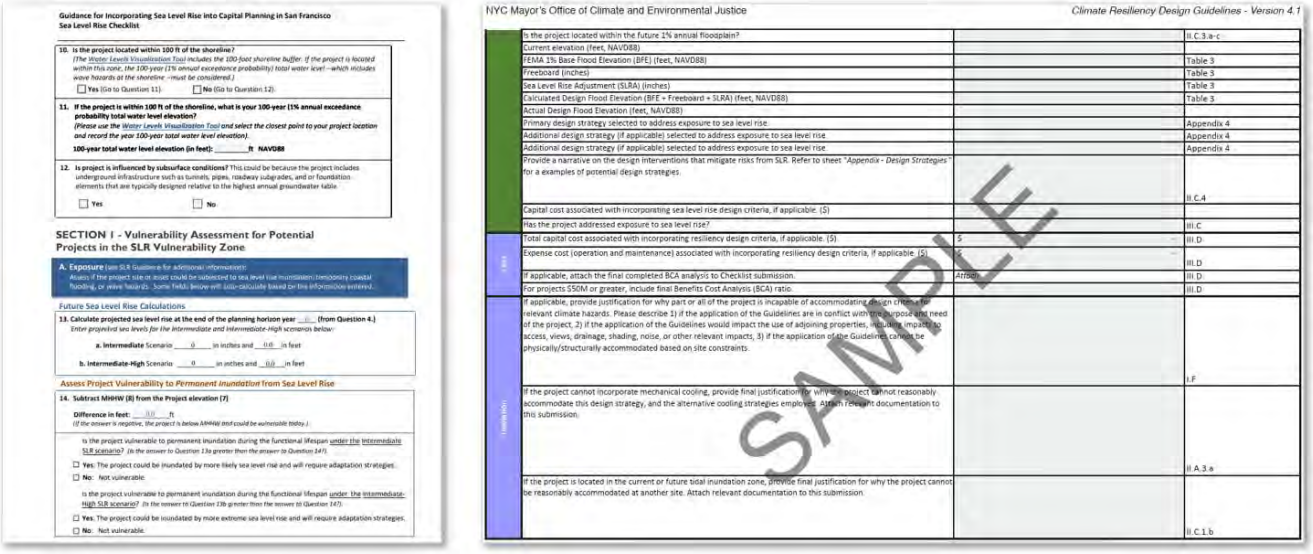

Figure 4: Snapshots of design guideline checklists San Francisco (right) and NYC (left).

At the Port Authority of New York and New Jersey (PANYNJ), use of their Sustainable Infrastructure Guidelines is required unless a formal exception is approved by a central authority. Importantly, interviewees emphasized that the exception pathway to this approval process is intentionally structured to avoid being "too easy," reinforcing the authority of the guidelines while acknowledging that unique circumstances may arise. This balance helps maintain consistency without undermining credibility or buy-in.

Another common best practice is to establish a centralized accountability and procedural structure, even when implementation is distributed across multiple agencies or departments. One approach to this is creating a centralized agency or department tasked with overseeing policy and guidance related to sea level rise or other related climate hazards. Two examples are New York City (NYC)'s new Bureau of Coastal Resilience and San Mateo County's Flood and Sea Leave Rise Resiliency District known as OneShoreline. This provides clear definition of governance within existing structures.

In addition to defining authority at the organizational level, some agencies have focused on clarifying responsibility within complex institutions. PANYNJ employs a "hub-and-spoke" model, in which a central resilience team develops core guidance, while discipline-specific liaisons are responsible for integrating that guidance into their respective technical standards and workflows. This approach makes clear who owns what by embedding responsibility within existing professional roles, rather than relying on a single central team to enforce compliance across all projects. It also supports long-term institutionalization of resilience practices as staff turnover.

Another effective mechanism for clarifying roles and responsibilities is to tie guideline compliance directly to capital planning and funding decisions. San Francisco's Guidance for Incorporating Sea Level Rise into Capital Planning demonstrates this approach. City departments must complete a Sea Level Rise Checklist for projects in vulnerable areas, and projects that do not adequately address sea level rise risk are not advanced through the capital planning process. In this model, enforcement does not rely on design review alone; instead, compliance is

embedded within funding and approval workflows, clearly signaling where authority lies and ensuring that resilience considerations are addressed early.

Another mechanism for defining authority is to refer to vetted and trusted standards to boost legitimacy. The Boston Climate Resilient Design Standards direct designers to U.S. Army Corps of Engineers levee guidance when roadways or embankments are intended to serve as flood barriers. By doing so, Boston clarifies which standards apply when responsibilities overlap transportation and flood control and also boost technical legitimacy to design decisions and reduce uncertainty about acceptable practices.

These examples suggest that clearly defining roles and responsibilities is as much about process design as it is about organizational structure. Effective guidelines articulate who is responsible for applying the guidance, how compliance is demonstrated, and where authority ultimately resides, whether through centralized oversight, distributed liaisons, capital planning controls, or reference to established external standards. For TAM, this highlights the importance of pairing technical guidance with clear implementation pathways, ensuring that expectations for coordination, accountability, and enforcement are understood across agencies and project sponsors.

Key Takeaways – Governance

Clear governance is as important as technical guidance.
Resilience guidelines are most effective when they clearly define roles, responsibilities, and decision-making authority across agencies and project sponsors.

Checklists help clarify accountability but are not sufficient on their own.
To influence outcomes, checklists must be embedded within broader workflows such as capital planning, permitting, funding decisions, and early project scoping.

Mandates with structured flexibility build credibility.
Requiring guideline compliance, while allowing limited and well-controlled exceptions, helps maintain consistency without undermining usability or buy-in.

Centralized oversight can coexist with distributed implementation.
Models such as centralized resilience offices or hub-and-spoke governance structures clarify accountability while allowing discipline-specific integration.

Linking guidance to funding and approvals drives early action.
Tying resilience requirements to capital planning and funding decisions ensures climate risks are addressed before key design choices are locked in.

Challenge #3: Uncertainty and Building in Flexibility

Resilience design guidelines risk becoming out of date or inflexible given uncertainty around future climate change and evolving science.

A core challenge in developing resilience design principles is the need to make decisions today in the face of uncertain and changing future conditions. Climate science continues to evolve, projections span wide ranges, and the timing and magnitude of impacts such as sea level rise come with uncertainty. This means guidelines must be specific enough to inform near-term design decisions, while remaining flexible enough to accommodate future scientific updates and changing risks.

Many agencies have addressed this challenge by shifting away from fixed, one-time design thresholds toward risk-based and phased adaptation frameworks. The California Coastal Commission's Critical Infrastructure at Risk: Sea Level Rise Planning Guidance exemplifies this approach. Rather than prescribing a single sea level

rise value, the guidance uses adaptation pathways that include defined triggers for future action based on sea level rise scenarios and flood events. This structure explicitly acknowledges uncertainty and encourages agencies to plan for a range of futures while avoiding over- or under-investment in the near term.

A similar philosophy is in San Francisco's Guidance for Incorporating Sea Level Rise into Capital Planning. San Francisco's framework requires projects to assess sea level rise risk over an asset's functional lifespan, rather than a fixed design horizon, and to follow a structured process from science review through vulnerability and risk assessment to adaptation planning. The guidance is explicitly designed to be updated as science evolves, reinforcing the idea that resilience planning is iterative rather than static.

Box 3.1: Elevating Roadways for Coastal Flooding

Bay Area agencies increasingly recognize that designing roadways today for full 2100 sea level rise is impractical given uncertainty in future conditions. Rather than relying on fixed, one-time elevation standards, guidance documents emphasize phased adaptation pathways with clear trigger points for future action.

Common elements across Bay Area guidance include:

- **Near-term design for mid-century condition.** Facilities are often designed to accommodate projected sea level rise through approximately 2050.
- **Documented pathways for future elevation.** Projects are expected to show how additional elevation could occur over time, preserving flexibility as conditions change. Near-term design targets are intended as an initial phase and should not preclude additional adaptation as future conditions and risk thresholds are reached.
- **Defined triggers for action.** Future upgrades are tied to measurable thresholds, such as:
    - Sea level or flood elevation thresholds
    - Flood frequency or event severity
    - Time-based milestones linked to an asset's functional lifespan

Local project example: Corte Madera active road project

An active roadway project in Corte Madera provides a **practical example of phased elevation in action**. The roadway experienced recurring flooding and required repaving as part of routine maintenance. Rather than repaving at the existing elevation, the **project added approximately one foot of elevation as an incremental adaptation step**. This approach **addressed near-term flooding** while preserving the ability to **elevate the roadway further in the future**, aligning capital maintenance with longer-term sea level rise adaptation.

Additional regional precedents:

- **Bay Trail Design Guidelines:** Require vulnerable segments to include a phased approach, such as:
    - Designing initially for ~2050 sea level rise
    - Reserving right-of-way for future levee raises
    - Using modular or liftable elements
    - Identifying planned inland detour routes
- **San Mateo County Planning Policy Guidance to Protect Bay Shoreline Areas:** Allows projects that cannot meet the long-term Bay Protection Standard at the outset to proceed with phased elevation tied to defined triggers.
- **San Francisco Sea Level Rise Checklist**: Requires documentation of an asset's functional lifespan and a sequence of adaptation actions, such as incrementally elevating roadways as sea level thresholds are exceeded.

Nature-based and hybrid solutions incorporated within the roadway right-of-way can provide flexibility that complements more traditional, fixed infrastructure interventions. Guidance such as the NYC Climate Resiliency

Design Guidelines, the City and County of Honolulu Climate Adaptation Design Principles, and Caltrans' Adaptation Strategies emphasize the use of green infrastructure elements, such as bioswales, vegetated medians, and permeable surfaces integrated into streets, to manage flooding and adapt over time. When applied within transportation corridors, these features can accommodate uncertainty by evolving incrementally, supporting near-term performance while preserving flexibility for future modifications without locking projects into rigid designs.

Interviewees emphasized that flexibility is also supported by how guidance evolves internally. At the Port Authority of New York and New Jersey, resilience guidance has been developed as an ecosystem rather than a single static document. Initial versions relied on simple, engineer-friendly methods, such as basic design flood elevation calculations, and were later refined to include more nuanced tools like benefit-cost analysis for larger or higher-risk projects. This "start simple, then add nuance" approach allows agencies to maintain usability while progressively incorporating more sophisticated analysis as institutional capacity and understanding grow.

Effective resilience guidelines incorporate uncertainty explicitly, promote phased and adaptable solutions, and steer agencies toward strategies that preserve future options. For TAM, this underscores the value of framing sea level rise resilience as an ongoing process – one that balances near-term decision-making with long-term adaptability, and that can evolve alongside climate science and regional understanding of risk.

Key Takeaways – Uncertainty and Building in Flexibility

Resilience guidance must balance precision and flexibility.
Principles should inform near-term design decisions while remaining adaptable to evolving climate science and changing risk conditions.

Move away from fixed design thresholds.
Risk-based, phased adaptation frameworks with defined trigger points are more effective than single, end-state design values in addressing uncertainty over time.

Plan over an asset's functional lifespan, not a fixed horizon.
Evaluating risk across how long infrastructure is expected to function supports more appropriate and durable adaptation strategies.

Address near-term risk while preserving long-term adaptation pathways.
Adaptation strategies should manage current flooding impacts without constraining future actions as conditions evolve.

Use ROW-integrated green infrastructure to support adaptive performance.
Bioswales, permeable surfaces, and other street-scale features can be incrementally adjusted or expanded over time, providing flexibility in how roadway projects respond to changing climate conditions.

Allow guidance to evolve over time.
Starting with simple, usable methods and adding analytical nuance as capacity grows helps maintain adoption while improving decision-making.

Challenge #4: Generating Buy-In and Adoption

New guidelines and additional workflows can be difficult to adopt and build buy-in for, particularly among already-burdened partner agencies.

Even well-designed resilience guidelines can struggle to gain traction if they are perceived as adding complexity, workload, or uncertainty to existing project delivery processes. Many practitioners may see guidelines as an additional burden on top of existing compliance requirements. For agencies and practitioners operating under tight timelines and resource constraints, buy-in is often driven by whether guidance is practical, efficient, and clearly integrated into their workflows. As a result, many successful guidelines focus as much on how they are used as on what they require.

A recurring theme across peer efforts is the importance of reducing friction by providing clear starting points and standardized tools. The San Mateo County Green Infrastructure Design Guide illustrates this approach by offering typical details, sizing guidance, and example applications that practitioners can adapt and use. Interviewees emphasized that borrowing and adapting details from other agencies, combined with local feedback, helped lower the barrier to entry by giving users a concrete place to begin rather than asking them to invent new solutions from scratch. Similarly, the California Coastal Commission's Critical Infrastructure SLR Guidance offers model policies including language to support easier adoption and implementation. This approach makes guidance documents a support tool rather than an additional burden, increasing the likelihood of consistent adoption.

Beyond tools and templates, buy-in is also strengthened when responsibility for implementation is embedded within existing networks and delivery processes. At the Port Authority of New York and New Jersey, the use of designated discipline-specific liaisons creates a sense of ownership by making guideline implementation part of established roles and responsibilities. Having the liaison be associated with a role rather than an individual is important to account for turnover. This model supports adoption over time, as updates to the guidance are integrated into existing technical standards and workflows rather than remaining the responsibility of a central team alone.

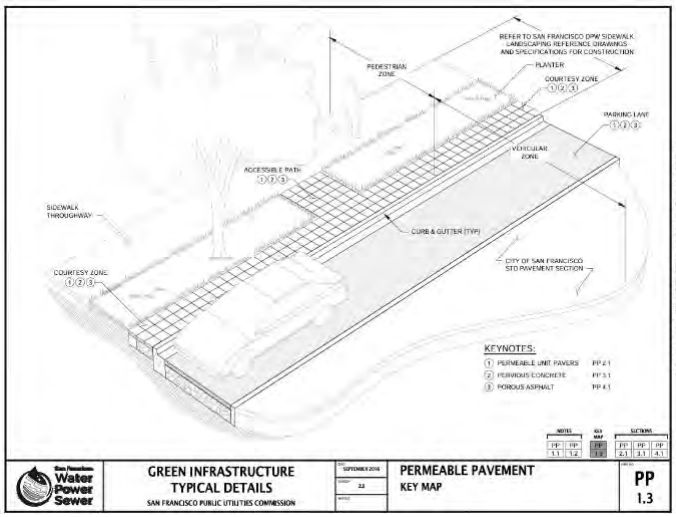

Figure 5: Typical design detail for sustainable streets from the San Mateo Green Infrastructure Design Guidelines

Peer-based development models reinforce this sense of ownership. NACTO's approach to guidance development relies heavily on member working groups and practitioner networks, drawing on collective expertise to shape content that reflects real-world constraints. Interviewees described this "hive mind" approach as critical to building credibility and relevance, as practitioners are more likely to adopt guidance they recognize as informed by their own experiences. This model offers a useful parallel for TAM's engagement with an advisory committee, regional stakeholders, and partner agencies, suggesting that sustained involvement can meaningfully support buy-in.

Several guidelines also address adoption challenges by pre-processing and organizing climate data. Rather than requiring project teams to independently interpret climate science, agencies such as NYC, Boston, OneShoreline, SANDAG, San Francisco, and others provide pre-processed climate scenarios, maps, and reference datasets that establish a common analytical baseline. By ensuring that all projects use consistent

assumptions, these tools reduce debate, streamline review, and allow practitioners to focus on design and implementation rather than data interpretation.

Guidelines that provide templates, standard workflows, peer-informed content, and ready-to-use data are more likely to be embraced by busy partners and consistently applied across projects. In the Bay Area, documents reference pre-processed sea level rise data from BCDC's Adapting to Rising Tides (ART) visualization tools[4]. In Marin, the County has developed a Resilient Roads dataset that also contains this information. For TAM, this underscores the importance of designing resilience guidance that minimizes friction, aligns with existing practices, and reflects the realities of partner agencies' capacity. This means the guidelines can be an enabling resource rather than an additional hurdle.

Key Takeaways – Generating Buy-In and Adoption

Buy-in depends on minimizing friction.
Guidance gains traction when it fits seamlessly into existing workflows and does not add perceived burden or complexity.

Standard tools enable faster adoption.
Templates, typical details, and model language give practitioners clear starting points and reduce the need to create new solutions from scratch.

Embedded ownership drives sustained use.
Integrating implementation into existing roles and peer networks builds credibility, relevance, and long-term adoption.

Ready-to-use data streamlines decisions.

Pre-processed climate data and visual tools reduce debate, speed review, and allow teams to focus on design and delivery.

Challenge #5: Funding, Operations, and Maintenance

Resilience projects, particularly for transportation infrastructure, are often costly and can exceed available funding, especially when long-term operations and maintenance are considered.

Transportation resilience projects frequently require significant upfront investment, and their costs do not end at construction. Operations and maintenance (O&M) represent substantial long-term commitments, particularly for assets exposed to recurring climate stressors such as flooding or sea level rise. As a result, agencies developing resilience design guidelines frame funding not as a one-time challenge, but as a lifecycle issue that must be addressed through planning, prioritization, and coordination across funding sources.

State-level guidance is increasingly reinforcing this lifecycle perspective. Guidance developed by the Governor's Office of Planning and Research[5] emphasizes the importance of full life-cycle cost accounting in a changing climate, including accounting for future climate projections in design and performance criteria, ongoing maintenance and operations, and investments required across an asset's full functional lifespan. This framing

[4] Available at: https://www.adaptingtorisingtides.org/
[5] Governor's Office of Planning and Research. 2018. Planning and Investing for a Resilient California: A Guidebook for State Agencies. Obtained from: 20180313-Building_a_Resilient_CA.pdf (lci.ca.gov)

cautions against relying solely on short-term funding horizons or discounted cost assumptions that can remove long-term climate risks and costs.

Several guidance documents emphasize that long-term performance depends on explicitly accounting for O&M from the outset. San Mateo County's Green Infrastructure Design Guide makes this principle explicit by noting that green infrastructure is not "set and forget." Projects are required to include maintenance plans and commitments, ensuring that agencies budget not only for construction, but also for ongoing upkeep to maintain function and regulatory compliance over time. This framing directly impacts funding decisions by highlighting that under-resourced maintenance can undermine the long-term effectiveness of resilience investments.

Similarly, the Boston Climate Resilient Design Standards explicitly compare capital and operational costs across different flood protection strategies. For example, deployable flood barriers may have lower upfront costs but require recurring staffing, training, and deployment readiness, while permanent berms or raised roadways involve higher initial capital investment but lower long-term O&M demands. By encouraging designers and decision-makers to consider and plan for these tradeoffs, Boston's guidance helps align funding strategies with lifecycle cost realities rather than short-term budget constraints.

Interviewees also emphasized the importance of stacking funding sources and aligning resilience benefits with existing transportation funding programs. In San Mateo County, practitioners described combining multiple funding streams, incorporating green infrastructure into transportation project scoring criteria, and using pilot projects that achieve multiple objectives to demonstrate value and build momentum. These approaches reflect the reality that resilience projects are rarely funded through a single source and must often be assembled from a combination of grants, local funds, and matching requirements.

At the Port Authority of New York and New Jersey, benefit-cost analysis is applied to projects above certain thresholds or when requested, allowing more detailed evaluation where investment decisions are most consequential. Importantly, O&M considerations are included in this analysis, reinforcing the idea that cost should be assessed over the full life of an asset rather than at construction alone.

For Caltrans, integrating sea level rise considerations early, through Project Initiation Documents, environmental review, and project definition, is increasingly necessary to advance projects through permitting and position them for eligibility across state and federal funding programs, including climate resilience investments. By embedding climate risk into these early project development phases, Caltrans and other transportation agencies can better align projects with funding requirements and reduce the chance of costly redesigns later in delivery.

In some contexts, resilience investments are also influenced by private development, with public agencies responding by upgrading adjacent infrastructure to account for future climate conditions. Examples from Honolulu, San Mateo County, Miami, and Singapore reflect models where development requirements incorporate climate risk, triggering coordinated public infrastructure investments. However, this approach may be less applicable in areas with limited development pressure or constrained land use opportunities, such as Marin County.

Funding is inseparable from decisions about operations, maintenance, and long-term stewardship. Effective guidelines acknowledge lifecycle costs, encourage strategic prioritization, and support the assembly of diverse funding sources. For TAM, this suggests that resilience design guidance can play an important role in shaping projects that are not only technically robust, but also financially sustainable over time. While examples that tie resilience design guidance to existing and predictable funding sources (such as Measure AA's Sea Level Rise Program) are limited, incorporating these cost and lifecycle considerations into TAM's programs is key.

Key Takeaways – Funding, Operations, and Maintenance

Resilience funding is a lifecycle challenge, not a one-time cost.
Upfront capital investments must account for long-term operations and maintenance, especially for assets exposed to recurring climate stressors.

Explicitly planning for O&M protects long-term performance.
Guidelines that require maintenance plans and compare capital versus operational tradeoffs help prevent under-resourced investments that fail over time.

Aligning resilience with existing funding programs unlocks resources.
Stacking funding sources, integrating resilience into project scoring, and embedding climate risk early in project development improve funding eligibility and reduce costly redesigns.

Lifecycle cost transparency supports better investment decisions.
Incorporating O&M into benefit-cost analysis and prioritization ensures resilience projects are financially sustainable as well as technically robust.

4. Conclusions and Recommendations

This white paper was developed to achieve the following goals through a review of existing standards, guidance documents, and practitioner interviews.

Capture tools, strategies, and opportunities that are applicable to the Marin County context, drawing from a global review of best practices in resilient transportation design.

Bridge the gap between planning and implementation by highlighting approaches that can be realistically adopted by local agencies.

Identify ways in which TAM can play a supportive role in advancing implementation (i.e., through guidance, coordination, or integration into existing programs and processes).

The paper identifies a clear set of approaches learned from agencies advancing sea level rise resilience through design, and it has summarized Key Takeaways for the five challenges identified and explored, particularly focused on transportation infrastructure. Several consistent themes emerged across jurisdictions, offering important lessons for how TAM can shape an effective and implementable set of Sea Level Rise Resilience Design Principles tailored to Marin County. This review called out how sea level rise and climate resilience are already acknowledged across many documents, including the Countywide Plan, the Countywide Transportation Plan 2050, stormwater guidance, and regional and state standards. However, these considerations are often addressed at a policy or planning level, with limited translation into consistent, project-level design expectations.

This creates a clear opportunity for TAM's Sea Level Rise Resilience Design Principles to function as a bridge between policy intent and implementation and to serve local jurisdictions in Marin County. Rather than replacing existing documents, the principles can complement them by:

- Translating high-level resilience goals into practical design considerations for transportation projects;
- Providing a consistent framework for how sea level rise risk is assessed and addressed across jurisdictions;
- Referencing and aligning with existing standards (e.g., UCS, stormwater guidance, Caltrans manuals) while filling gaps related to future conditions and asset criticality.

- Incorporating principles and frameworks into a practical Sea Level Rise Program designed to be implemented by TAM and its local partners.

There is also an opportunity to better integrate sea level rise considerations into existing decision points, such as capital planning, funding prioritization, and early project scoping. Peer examples demonstrate that resilience considerations are most effective when embedded early, rather than added late in design or review. Aligning the principles with TAM's Measure AA Sea Level Rise programming, funding, and coordination roles will help ensure that resilience is addressed proactively and consistently.

Next Steps

Based on the findings of this White Paper, several actionable steps emerge to guide the next phase of TAM's sea level rise resilience effort:

Further Define Scope and Applicability

Clarify which transportation asset types, project scales, and contexts are expected to apply the principles, and where flexibility is appropriate. This includes identifying priority asset classes and geographies where sea level rise poses the greatest risk.

Pair Technical Guidance with Clear Implementation Pathways

Determine how and when the principles will be applied within existing processes, such as capital planning, funding programs, or project development milestones. Clearly articulate roles, responsibilities, and documentation expectations to support accountability without creating undue burden.

Embed Flexibility and Phased Adaptation

Structure guidance to support phased solutions, adaptation pathways, and future retrofits, rather than single end-state designs. This will help projects remain viable as conditions change over time.

Prioritize Usability and Alignment with Existing Practice

Develop templates, checklists, example workflows, and references to pre-processed data that reduce barriers to adoption. Where possible, align guidance with tools and standards already familiar to partner agencies.

Connect Design Guidance to Funding and Lifecycle Considerations

Encourage consideration of operations, maintenance, and lifecycle costs alongside capital investment decisions. Where feasible, link resilience outcomes to funding eligibility, prioritization criteria, or multi-benefit project objectives.

Align Design Principles to TAM Programs

Outline the specifics of how TAM will integrate the Principles into the Sea Level Rise Program and other TAM programs as applicable.

Taken together, these steps position TAM to play a critical role in advancing sea level rise resilience across Marin County's transportation system. By focusing on implementation-oriented guidance that is clear, flexible, and aligned with existing processes, TAM can move resilience forward, building on the progress across the county in multiple jurisdictions.

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A.1 Summary of Current Standards

Document Name	Brief Description	How SLR / Climate Resilience is Addressed
Marin County Storm Water Resource Plan	Countywide planning document guiding stormwater management, water quality improvement, groundwater recharge, and multi-benefit infrastructure investments.	**Explicitly addresses flood risk reduction** through improved drainage, green infrastructure, and nature-based solutions; supports resilience to increased storm intensity and coastal flooding associated with sea level rise.
Design Guidance for Stormwater Treatment and Control for Projects in Marin, Sonoma, Napa, and Solano Counties	Regional technical guidance for stormwater treatment, low-impact development (LID), and runoff control for new development and redevelopment projects.	**Indirectly supports flood resilience** by promoting infiltration, runoff reduction, and detention practices that reduce peak flows and localized flooding under future climate conditions.
Marin County Uniform Construction Standards (UCS)	Standard specifications and construction details governing public infrastructure projects within Marin County.	Incorporates drainage, grading, and materials standards that support flood-resilient design; **can be applied to accommodate higher water levels and improved stormwater conveyance where required.**
Marin County Code – Title 24 (Development Standards), Roads Chapter	Regulatory standards governing roadway design, construction, and improvements within the county.	Addresses roadway drainage and flood protection requirements; provides a regulatory framework that **can support elevation, drainage, and design adaptations in flood-prone or SLR-affected areas**.
Local Jurisdiction and County General Plans and Hazard Mitigation Plans	Policy and planning documents guiding land use, hazard mitigation strategies, transportation, environmental protection, and public safety throughout Marin County.	**Explicitly recognizes climate change, sea level rise, and flooding hazards**; includes policies to reduce risk to people, infrastructure, and ecosystems through adaptation and resilience planning.
Marin Countywide Transportation Plan (CTP) 2050	Long-range transportation planning document identifying multimodal investments and policies through 2050.	**Identifies climate change, sea level rise, and flooding as risks to transportation assets**; calls for resilient infrastructure planning, adaptation strategies, and protection of critical corridors.
Metropolitan Transportation Commission (MTC) Complete Streets Policy	Regional policy promoting safe, accessible, and multimodal transportation facilities for all users.	**Indirectly supports resilience** by encouraging context-sensitive design, green infrastructure, and street features that can improve drainage, reduce runoff, and enhance climate adaptability.

California Complete Streets Act	State law requiring cities and counties to plan for balanced, multimodal transportation networks.	**Does not explicitly address SLR or flooding**, but supports integrated street designs that can incorporate stormwater management and resilient public-realm improvements.
California Streets and Highways Code – California Bicycle Transportation Act	State legislation promoting bicycle transportation planning and facilities.	**Indirect relationship to flood resilience**; supports active transportation networks that may require adaptive design in flood-prone or SLR-affected corridors.
Caltrans Highway Design Manual (HDM)	Primary design guidance for state highway facilities, including geometrics, drainage, and safety.	Addresses drainage design, flood protection, and hydraulic considerations; **provides standards that can be applied to accommodate future flood conditions and sea level rise** on state facilities.
Caltrans Standard Plans & Standard Specifications	Detailed construction standards and specifications for Caltrans projects.	Includes requirements for drainage systems, erosion control, and materials that **support flood-resilient infrastructure; can be adapted for higher water levels and increased storm intensity**.
Americans with Disabilities Act (ADA)	Federal civil rights law ensuring accessibility for people with disabilities in public facilities and rights-of-way.	**Does not directly address SLR or flooding**, but requires accessible routes to remain functional, which has implications for maintaining access during flood events and post-disaster recovery.
Geospatial and GIS data	There are several local, regional, state, and federal geospatial data sources that can inform the development of these guidelines. Below is a list (not exhaustive) of some of the key data sources available in Marin: • Marin County GIS Open Data Portal • MarinMap Data Viewer • Marin County LAFCo Data Portal • BCDC Open Data Poral • San Francisco Estuary Institute Data Center • Our Coast Our Future Hazard Map • CalAdapt • California State Geoportal • USGS Coastal Storm Modeling System (CoSMoS)	Many of these data sets **do directly address both SLR and climate hazards specifically**, which make them excellent resources to include in guidance documents. Others touch on infrastructure, policy, and other relevant topics.

A.2 Interview Questions and Insights Summary

Interview Participants

Three interviews were conducted with the following practitioners:

- Reid Bogert, Stormwater Program Director at City/County Association of Governments, San Mateo County
- Summer Bundy, Project Director at San Mateo County Flood & Sea Level Rise Resiliency District (OneShoreline)
- Josh DeFlorio, Transporting Planning Leader at Arup; previously Chief, Resilience & Sustainability at the Port Authority of New York and New Jersey (PANYNJ)
- Ryan Russo, Executive Director at National Association of City Transportation Officials (NACTO)

Interview Questions

Introduction & Background

- Please describe ***[organization or individual name]*** and involvement in transportation design specific to climate resilience and adaptation.

Design Guidance

- We'd like to learn more about how the ***[document name]*** was developed.
- Where did the initiative to create the design guide come from? Who contributed to its development?
- What sorts of funding mechanisms do you or others use to implement the recommendations and principles in the guidelines? How were you thinking about funding when writing the guidelines?
- What design elements of the guide have been most useful? What hasn't been effective, and why?

Implementation

- What challenges have you encountered when implementing resilient design strategies? What are some of the greatest success stories you've heard about?
- What was the coordination like with Public Works directors to create buy-in? Are the guidelines mandatory or is implementation voluntary?
- Many resilience strategies are beyond the street ROW. Can you share examples of successful collaboration across agencies, departments, or disciplines to implement them?

Best Practices

- What do you feel would make a set of guidelines, a toolkit, or best-practices collection push the envelope? What has been missing historically that would be helpful?

Closing

- Are there any other initiatives you are working on related to this work?

Supplemental Questions (if time allows):

- The acceptance and adoption of resilient design is still in very early stages, similar to how innovative Complete Streets design was 20 years ago. What advice or lessons learned do you have for moving the

needle on this? For example, are strategies, plans, and/or policies better received when they are simply guidance vs being prescriptive and mandated?

- What do you see as emerging best practices or innovations in resilient transportation design?

Summary of Interview Insights

Theme	Key Insight	Examples from Practitioner Interviews
Embedding Guidelines in Institutional Structures	Resilience guidelines are most effective when integrated into existing project delivery, approval, and funding processes rather than issued as standalone guidance.	• At PANYNJ, climate resilience design guidelines were mandatory unless a formal exception was approved by senior engineering leadership, reinforcing consistent application across projects. • Resilience requirements were embedded into standard design milestones (e.g., Basis of Design, Design Flood Elevation), ensuring early consideration rather than late-stage compliance. • In San Mateo County, green infrastructure and resilience elements were incorporated into transportation funding criteria (e.g., OBAG scoring), creating leverage even where guidelines were not formally adopted.
Simplicity and Usability	Clear, quantitative, and easy-to-apply guidance increases acceptance among engineering and public works staff.	• PANYNJ's early climate resilience standard used a simple calculation (FEMA flood elevation + freeboard + sea level rise projection), which engineers readily adopted because it was "definite" and easy to apply. • Practitioners recommended starting with lightweight requirements to build familiarity, then increasing sophistication over time. • San Mateo County's Green Infrastructure Design Guidelines were valued for providing typical design details (e.g., curb cuts, bioretention geometry) so agencies did not need to start from scratch.
Balancing Flexibility with Accountability	Guidelines must allow flexibility for project-specific conditions while maintaining clear accountability to avoid erosion of standards.	• PANYNJ emphasized the importance of having an exception pathway but cautioned that it must not be "too easy," or it risks undermining compliance. • PANYNJ used a hub-and-spoke model was used, with a central resilience guideline supported by discipline-specific appendices, allowing tailored application while maintaining alignment. • Interviewees consistently noted that purely voluntary guidance is unlikely to be implemented at scale without procedural mandates.
Funding and Operations Constraints	Limited funding, especially for long-term operations and maintenance, remains the most significant barrier to implementation.	• San Mateo County practitioners noted that while capital funding for green infrastructure could sometimes be secured, responsibility and funding for ongoing maintenance were often unclear. • PANYNJ incorporated operations and maintenance costs into benefit-cost analyses for large projects, even when O&M funding came from separate budgets. • Pilot projects funded through small, flexible funding sources were cited as effective tools for demonstrating feasibility and building momentum.

Cross-Agency and Cross-Jurisdictional Coordination	Many resilience strategies extend beyond the transportation right-of-way, requiring coordination that is difficult to sustain through implementation.	• In San Mateo County, coordination often occurred through watershed-scale planning and shared permitting requirements, though implementation responsibilities remained fragmented. • PANYNJ reported challenges advancing resilience measures where risks originated outside assets they owned (e.g., substations or shoreline defenses). • Multijurisdictional coalitions were described as easier to form during planning than to maintain through construction and operations.
Framing Resilience Around Community Needs	Connecting resilience measures to tangible community priorities increases political and institutional support.	• NACTO emphasized framing resilience around everyday needs such as safety, mobility, and neighborhood flooding rather than abstract climate change goals. • Practitioners suggested evacuation reliability and access during flooding as a compelling organizing narrative for Marin County. • Interviewees cautioned that over-reliance on checklists can overwhelm staff capacity and detract from the purpose of resilience guidance.

A.3 Literature Review Summary

Document Name	Author	Document Type	Key Takeaways	Application to TAM Resilience Design Guidelines
NYC Resiliency Design Guidelines	NYC Mayor's Office of Climate & Environmental Justice	Comparable Guidelines	These guidelines outline how best to include future climate data and considerations into design and implementation of infrastructure. Key elements of the document include enhancing stormwater management systems, incorporating SLR and future precipitation projections into design standards (DFE), and examples of flood protection options. All city projects must use and reference the guidelines by completing a checklist along with other documentation that needs city approval.	Designing to future climate is an important aspect of these guidelines, both for stormwater infrastructure and adjusting Design Flood Elevations for new construction. Similarly, extending the official floodplain (outside of what FEMA already includes), as well as other strategies to limit new construction in vulnerable areas can be an effective strategy. The strategies suggested
Boston Climate Resilient Design Standards & Guidelines	Boston Public Works Department	Comparable Guidelines	Developed by the City of Boston Public Works Department to guide flood and coastal resilience for public rights-of-way and infrastructure. The document outlines design flood elevations (DFE) incorporating sea level rise projections for 2030, 2050, and 2070, and includes strategies for raised roadways, flood barriers, and stormwater management. It also provides technical guidance for integrating resilience into transportation corridors and public spaces. These guidelines are required for city-led infrastructure projects: “All projects within the public right-of-way must comply with these standards and demonstrate consistency with the City’s climate resilience goals.”	Building and designing new and retrofitted infrastructure/buildings on the coastline to future sea levels, including increasing the Design Flood Elevation, and the amount of increase in design standards depends on the criticality and lifespan of the infrastructure. Transportation infrastructure is always critical and therefore requires the highest design levels. This same principle also extends to stormwater infrastructure, which should also be designed for future climate scenarios. The guidelines offer several solutions that can be implemented with design considerations and example drawings.

Singapore's Active, Beautiful, Clean Waters Design Guidelines	PUB (Singapore's National Water Agency)	Comparable Guidelines	A national design guide focuses on integrating green infrastructure and water-sensitive urban design into public and private developments. It includes technical specifications for vegetated swales, bioretention basins, rain gardens, and bioengineered waterways, with emphasis on stormwater quality, flood control, and landscape integration. While not focused on sea level rise, the guidelines support resilience to heavy rainfall and urban flooding. Use of the guidelines is mandatory for certain developments: "All new developments and redevelopments of ≥0.2 ha is required to incorporate ABC Waters design features and submit detailed engineering calculations and maintenance plans to PUB for approval."	These guidelines, while also emphasizing designing to future climate and incorporating sea level rise into planning, offer a suite of nature-based and green solutions to assist in flood adaptation. These include real project examples and generic drawings/diagrams.
Bay Trail Design Guidelines	MTC and ABAG	Comparable Guidelines	A regional design guide to support planning, design, and implementation of the San Francisco Bay Trail. The document includes standards for trail width, surfacing, signage, and accessibility, and integrates climate resilience strategies such as elevation planning, shoreline protection, and nature-based solutions to address sea level rise and flooding. It emphasizes multimodal connectivity and environmental stewardship across jurisdictions. There are dedicated "resilience tips" that discuss SLR and flooding, as well as explicit inclusion of planning for climate change as part of the guidelines. Use of the guidelines is strongly encouraged by all Bay Trail segments.	The guidelines offer a phased approach to implementing adaptation solutions to ensure that the trail remains close to the shore and accessible while still meeting regulatory requirements and protecting them from the most imminent threats. In essence, design for the 2050s now, but be ready for 2100. Like other guidelines we've seen, they encourage designers to add a climate factor to drainage and infrastructure designs and elevate according to a SLR-informed DFE. There is a focus on co-benefits of solutions and nature-based solutions. And while permanent, long-term solutions are the focus of the guide, there is some discussion of temporary, deployable flood barriers that can act as an important, interim mitigation measure. However, it is important to have a clear plan of action for those emergency measures.
Caltrans Complete Streets Toolbox	Caltrans	Comparable Guidelines	This toolbox provides a comprehensive catalog of design elements that support Complete Streets implementation on state highways and local roads. It includes technical descriptions and design considerations for pedestrian, bicycle, transit, and vehicle facilities, as well as green infrastructure features like bioswales, permeable pavements, and tree wells to support stormwater management and climate resilience. The toolbox is intended to assist planners and engineers in selecting appropriate treatments based on context and project goals. Use of the toolbox is recommended for Caltrans projects and encouraged by local agencies	The elements of this toolkit could be relevant to TAM as it integrates complete streets aspects into its resilient design guidelines. Especially linking pedestrian, bike, and transit considerations into design recommendations. Additionally, use of this toolkit is recommended for Caltrans ROW projects, so it could be useful to align with these existing recommendations for any projects that intersect with Caltrans assets.

Critical Infrastructure at Risk: Sea Level Rise Planning Guidance for California's Coastal Zone	California Coastal Commission	Comparable Guidelines	A technical guidance document from the CCC developed to support the planning, permitting, and adaptation of critical infrastructure in California's coastal zone. It outlines a step-by-step framework for assessing sea level rise vulnerability, evaluating adaptation pathways, and integrating resilience into infrastructure design, policies, and decision-making. The guidance includes scenario planning, risk tolerance thresholds, and coordination strategies for transportation, energy, water, and emergency services infrastructure. Appendices include model policies for reference and case studies. Use of the guidance is recommended but not mandated for projects subject to Coastal Commission review.	The general framework of this plan is highly applicable to TAM given they are following a similar structure. Model policies and designs can be useful to use as a starting point for creating similar concepts for TAM or borrowing some of the already completed work. Also provides a good example of how much detail could be put into a guide like this.
City & County of Honolulu Climate Adaptation Design Principles for Urban Development	Honolulu City Department of Planning and Permitting Transit-Oriented Development Division and the City Office of Climate Change, Sustainability, and Resiliency	Comparable Guidelines	A statewide guidance document developed by the Hawaii State Climate Commission to support climate-resilient design across public and private development. It outlines key principles for adapting to sea level rise, flooding, extreme heat, and groundwater inundation, with emphasis on nature-based solutions, equity, and long-term sustainability. The document includes recommended tools and best practices for site planning, building design, and infrastructure adaptation, giving three case study examples.	This document provides a framework that could inform TAM's guidance, particularly around integrating equity, nature-based solutions, and long-term planning horizons into transportation design. While less prescriptive than engineering design standards, the emphasis on aligning land use, infrastructure, and climate adaptation objectives could help TAM frame resilience as a cross-disciplinary responsibility rather than a standalone technical requirement.

Regional Transportation Infrastructure Sea Level Rise Assessment and Adaptation Guidance	San Diego Association of Governments	Comparable Guidelines	The guide provides a step-by-step framework for evaluating vulnerability across transportation assets, including roads, rail, bike paths, and transit facilities, using regionally consistent sea level rise scenarios and mapping tools. It outlines methods for identifying critical infrastructure, estimating exposure and risk, and prioritizing adaptation strategies based on cost, feasibility, and equity. Recommended adaptation measures include elevating roadways, improving drainage systems, integrating nature-based shoreline protections, and coordinating land use planning with transportation investments. The document also includes sample workflows, decision trees, and case studies to support implementation. While not regulatory, the guidance is intended to inform local and regional planning efforts.	The process for understanding risk and identifying critical infrastructure is similar to TAM's process but the recommendations for adaptation measures are interesting and could be replicated for our effort. The sample decision trees and workflows help make the guide more operational, which could be something to replicate with TAM.
Green Infrastructure Design Guidelines	CCAG, San Mateo County	Comparable Guidelines	A comprehensive design resource developed by the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) to support the planning, design, and maintenance of green infrastructure (GI) across public and private projects. The guide outlines best practices for integrating GI into streetscapes, parking lots, and development sites, with a focus on water quality treatment, runoff volume reduction, and hydrologic performance. It includes technical criteria for sizing and siting GI features, infiltration feasibility, and maintenance protocols, and aligns with regional stormwater regulations under the Municipal Regional Permit (MRP) Provision C.3. While not regulatory, the guide is intended to assist municipalities, developers, and design professionals in transitioning from gray to green infrastructure systems and advancing climate-resilient, sustainable urban environments.	These guidelines provide useful examples of how to integrate green infrastructure into transportation projects through typical details, siting criteria, and maintenance considerations. The focus on implementation feasibility and coordination with stormwater regulations could inform TAM's approach to linking resilience strategies with existing permitting, funding, and project delivery processes.

Planning Policy Guidance to Protect and Enhance Bay Shoreline Areas of San Mateo County	San Mateo County Flood and Sea Level Rise Resiliency District	Comparable Guidelines	A voluntary, implementation-focused framework developed by the San Mateo County Flood and Sea Level Rise Resiliency District to help cities and the County integrate climate resilience into land use planning and development approvals along the Bay shoreline. The guidance provides model language for general plans, zoning ordinances, and project review processes to address future conditions such as sea level rise, storm surge, and shallow groundwater rise. It introduces the Bay Protection Standard (FEMA's Base Flood Elevation plus six feet) as a consistent elevation benchmark for shoreline infrastructure, and promotes adaptation strategies including protection, accommodation, avoidance, and managed retreat. The guidance emphasizes nature-based solutions, equity-centered planning, and interagency coordination, and includes tools like overlay districts, buffer zones, and a Map of Future Conditions to support decision-making.	This guidance offers a strong example of translating sea level rise science into clear policy benchmarks, such as a consistent elevation standard, that can be applied across jurisdictions. The model policy language and emphasis on future conditions mapping could inform TAM's role in shaping consistent expectations for transportation projects in shoreline areas.
Adaptation Strategies for Transportation Infrastructure	Caltrans	Comparable Guidelines	An educational guidance document developed by Caltrans to help integrate climate resilience into transportation planning and project design. It provides a catalog of adaptation strategies for highways and other assets facing climate hazards such as extreme precipitation, riverine flooding, sea-level rise, coastal erosion, extreme heat, drought, wildfires, and landslides. The guide emphasizes a balanced approach, prioritizing nature-based solutions and asset relocation/elevation where feasible, while also outlining engineered protections and hybrid measures. It encourages planners and engineers to incorporate climate risk assessments, updated design standards, and phased adaptation pathways early in project development, in line with California's Climate Adaptation Strategy and Caltrans' district vulnerability assessments. Strategies are organized by hazard (e.g. floodplain restoration and larger culverts for flooding, dune restoration for coastal roads, heat-reflective pavements and shade trees for extreme heat, defensible space and fire-resistant materials for wildfire-prone areas) with guidance on selecting and combining measures.	The catalog of hazard-specific adaptation strategies provides a useful reference for identifying potential measures applicable to Marin's transportation assets. The emphasis on early integration of climate risk, phased adaptation pathways, and combining nature-based and engineered solutions aligns with TAM's goal of supporting practical, implementable guidance.

Guidance for Incorporating Sea Level Rise Into Capital Planning	City and County of San Francisco	Comparable Guidelines	The guidance outlines a step-by-step process – from using the latest SLR projections (based on IPCC/State scenarios) to conducting asset-specific vulnerability and risk assessments and then developing tailored adaptation plans. It introduces the concept of planning for an asset's "functional lifespan," often evaluating flood risk well beyond the standard design life, and it requires consideration of both a mid-range SLR scenario (~3 feet by 2100) and a higher-end scenario (~5 feet by 2100) in project planning. City departments must complete a Sea Level Rise Checklist for projects in designated flood-risk zones, incorporating strategies like elevation, floodproofing, or future retrofit "pathways" with trigger points for action.	This framework is a great example of integrating these issues directly into existing planning processes, such as capital planning. Additionally, the inclusion of functional lifespans, which we've seen in other guidelines, builds in the idea of flexibility and adaptability to help ensure solutions don't quickly become out of date. They also utilize a checklist to simplify the use of the guidelines and organize the requirements for project managers.
Sea Level Rise Checklist	City and County of San Francisco	Comparable Guidelines	Checklist that accompanies above document. Provides guidance on determining a project's "functional lifespan" and "planning horizon", which determines design and policy choices. When asking for elevation, MHHW, and other inputs into the form, provides clear links to tools for those filling out the form to reference. Also asks about risk and damage estimates. Fairly easy to use and simple for users to fill out.	This checklist demonstrates how structured documentation can help standardize consideration of sea level rise across projects without being overly burdensome. TAM could adapt similar concepts, such as defining functional lifespan and planning horizons, while ensuring checklists are integrated into existing project workflows rather than treated as standalone compliance tool
San Mateo Countywide Sustainable Streets Master Plan	CCAG, Caltrans	Comparable Guidelines	A countywide policy and design framework that integrates Complete Streets, safety, sustainability, and green infrastructure objectives into transportation planning. The plan emphasizes context-sensitive street design, multimodal safety, and the use of transportation projects as opportunities to deliver stormwater management and environmental benefits.	The plan illustrates how resilience and sustainability goals can be embedded within broader transportation policy rather than addressed separately. TAM could draw from this approach to align resilience guidance with Complete Streets, safety, and mobility objectives already familiar to local agencies.
Marin County Storm Water Resource Plan	Marin County	Local Standards	A countywide planning document that identifies stormwater management needs, funding opportunities, and priority projects to improve water quality, flood management, and climate resilience. It	The plan provides local context on stormwater challenges and priorities that could inform where transportation resilience strategies are most impactful. Alignment with this plan could help TAM position

			emphasizes multi-benefit projects and coordination across jurisdictions.	transportation projects as contributors to broader watershed and flood management goals.
Design Guidance for Stormwater treatment and control for projects in Marin, Sanoma, Napa, and Solano Counties	Bay Area Stormwater Management Agencies Association	Local Standards	Regional technical guidance outlining standardized approaches for stormwater treatment, hydromodification control, and low-impact development consistent with Municipal Regional Permit requirements. Widely used by Bay Area agencies to ensure regulatory compliance.	These standards establish a baseline for stormwater design that TAM's resilience guidance should reference and build upon. Aligning with BASMAA guidance can help avoid conflicting requirements and reinforce integration of flood resilience within existing regulatory frameworks.
Paradise Drive Project	Town of Corte Madera	Example Project	(Confidential) project in Corte Madera to elevate a pedestrian bridge and road to be above projected water levels with SLR and king tides. Road would run underneath pedestrian bridge. Drawings show lines including 0-2' of wave run up and 7.2' for king tide height with SLR estimates between 1.1-3.5'. Structure also contains a retaining wall and drainage channel for additional flood protection.	Relevant example project to frame how SLR guidance can be integrated into Marin projects and example of where it is already being done.
Belmont Creek Restoration	OneShoreline	Example Project	Example from Reid and Summer's interview. Project being done by OneShoreline that has examples of multiple jurisdictions working together on a large project.	Strong example of combing both priorities and funding sources.
Grand Avenue	San Mateo County	Example Project	Example from Reid and Summer's interview. Project example of integrating multiple goals into a single effort (i.e., complete streets, safety, climate resilience, etc.). It could be good to reference when thinking about how to address goals across agencies and jurisdictions. Could also indicate how a common design guidelines document could help shape projects like this.	
Marin County Uniform Construction Standards (UCS) (2018)	Marin Public Works Association (Marin County & cities)	Local Standards	Standard construction drawings and specs for roads, sidewalks, drainage, etc., adopted county-wide to ensure consistent infrastructure quality. All Marin jurisdictions use the UCS for roadway improvements (e.g. curb, gutter, pavement structural sections). Updated periodically, based on latest Caltrans standards.	The UCS establishes a consistent baseline for roadway, sidewalk, and drainage design across Marin jurisdictions by standardizing construction details and specifications. While it ensures uniformity and constructability, it primarily reflects historical design assumptions and does not explicitly address future climate conditions such as sea level rise, flooding, or asset criticality.

Marin County Code – Title 24 (Development Standards), Roads Chapter	County of Marin (Board of Supervisors)	Local Standards	Local law setting design standards for new roads and driveways in unincorporated Marin. Defines road classes (arterial, collector, etc.) and specifies minimum design speed (25 mph), max. grades, intersection geometry, sight distance, etc. Requires road designs to follow Caltrans Highway Design Manual procedures for technical elements. All new or reconstructed roads must comply, ensuring safe and consistent road design.	Title 24 codifies minimum roadway design requirements for unincorporated Marin, ensuring consistency, safety, and alignment with Caltrans engineering standards. The code focuses on geometric and operational criteria and does not currently incorporate climate risk, future flood conditions, or resilience-based performance considerations.
Marin Countywide Plan (General Plan) – Circulation Element	County of Marin (Community Dev. Agency)	Local Standards	Marin's comprehensive long-range plan (last updated 2007, amended 2023) guiding land use and transportation. The Circulation Element outlines policies for a "balanced, multimodal" transportation network per the Complete Streets Act. It mandates accommodating all users (cars, transit, bikes, pedestrians) and coordinates transportation with land use. Projects and street designs in unincorporated Marin must align with these policies (e.g. include bike/ped facilities and transit considerations).	The Circulation Element establishes countywide policy direction for a multimodal transportation system and integrates Complete Streets principles into land use and transportation planning. While it acknowledges sustainability and coordination with land use, it provides limited guidance on how to address climate hazards or resilience in project design.
Marin Countywide Transportation Plan (CTP) 2050 (adopted 2024)	Transportation Authority of Marin (TAM)	Local Standards	Marin's 25-year strategic transportation plan, aligning local projects with regional goals. Outlines a vision for safety, mobility, equity, and sustainability in Marin's transportation system. Sets priorities for improvements to roads (e.g. Hwy 101 Narrows completion), transit expansion, bike/ped networks, and adaptation to sea-level rise. CTP is policy-guiding (not regulatory) but steers local decisions and feeds into Plan Bay Area. It helps Marin speak with one voice regionally and positions projects for funding.	The CTP 2050 sets Marin's long-term transportation vision and priorities, including adaptation to sea level rise and climate impacts. Although policy-guiding rather than regulatory, it plays a critical role in shaping investment decisions, regional coordination, and funding eligibility for resilient transportation projects.

Plan Bay Area 2050 (Regional Transportation Plan/SCS)	MTC (Metropolitan Transportation Comm.) & ABAG	Regional Standards	The official 30-year regional plan encompasses transportation, housing, economy, and environment for 9 counties. It allocates funding and sets regional strategies (e.g. transit expansion, Complete Streets, climate resilience) that Marin's projects should align with. Serves as the Bay Area's Regional Transportation Plan, required by federal law – thus, Marin's major projects must be listed in it to receive federal funds. Also is the Sustainable Communities Strategy under SB375, linking transportation and greenhouse gas reduction. Marin County and cities ensure their plans/projects are consistent to access funding and CEQA streamlining.	Plan Bay Area 2050 establishes the regional policy and funding framework that Marin projects must align with to receive state and federal transportation funding. The plan elevates climate resilience and Complete Streets as regional priorities, indirectly influencing Marin's transportation design decisions through funding and regulatory alignment.
MTC Complete Streets Policy (Resolution 4493, 2022)	MTC (Bay Area MPO)	Regional Standards	Regional funding policy requires that all transportation projects funded with MTC-controlled funds be designed as Complete Streets. Marin jurisdictions had to adopt Complete Streets resolutions and update general plans to be eligible. Projects must accommodate bicyclists and pedestrians safely; sponsors must submit a Complete Streets checklist verifying this. Also requires implementation of "All Ages and Abilities" bike facility guidelines on regionally significant bike routes. In practice, Marin cannot get regional grants for a road project unless it includes appropriate bike/ped improvements.	This policy makes Complete Streets a funding requirement for regionally funded transportation projects, reinforcing multimodal safety and accessibility across Marin. While focused on active transportation outcomes, the checklist-based approach offers a relevant model for how resilience considerations could be similarly institutionalized.
California Manual on Uniform Traffic Control Devices (CA MUTCD)	Caltrans (approved by FHWA)	State Standards	The required standards for all traffic signs, road markings, and signals on public roads in California. By law, local Marin agencies must use devices that conform to CA MUTCD specifications. Covers everything from stop sign size/shape to crosswalk striping patterns and bike lane symbols. Ensures uniformity and driver familiarity statewide. Marin's traffic engineering and signage follow this strictly; any non-compliant sign or experimental marking requires Caltrans approval. The CA MUTCD 2014 is current (a 2024 draft update aligning with the new federal MUTCD is underway).	The CA MUTCD provides mandatory, standardized requirements for traffic control devices that ensure safety and consistency across Marin's transportation network. Its prescriptive nature leaves little flexibility to address climate resilience directly, but it establishes non-negotiable constraints within which resilient design solutions must operate.

Caltrans Highway Design Manual (HDM) (7th Ed. & revisions)	Caltrans (Division of Design)	State Standards	Comprehensive design guidelines for streets and highways in CA. Specifies standards for road geometry: lane widths, design speed, curvature, grades, sight distance, intersection design, etc. While intended for state highways, local agencies like Marin County reference the HDM for local road design (and Marin's code requires using it for certain design elements). Embodies AASHTO Green Book criteria adapted to CA. The HDM also includes Chapter 1000 (Bikeway Planning and Design), which Marin follows for bike facilities (path widths, bike lane layout). Using HDM ensures local road projects meet modern safety and engineering practices and is required when using state/federal funds.	The HDM defines core roadway and bikeway design standards used by Marin agencies, especially where state or federal funding is involved. While essential for safety and consistency, the manual largely reflects historical conditions and provides limited direction on adapting roadway geometry or performance criteria for future climate risks.
Caltrans Standard Plans & Standard Specifications (2022)	Caltrans (Division of Engineering Services)	State Standards	The official construction drawings and material specifications for transportation projects in CA. They cover standard details (pavement structural sections, guardrails, traffic signals, signage installation, drainage structures, etc.) and technical specs for materials/workmanship. Marin incorporates these into local project bid documents – e.g. using Caltrans Class 2 aggregate base, or Standard Plan for curb ramp layout – to assure quality and facilitate contractor familiarity. Caltrans requires their use (or equivalent) for projects with state oversight. The Marin UCS draws heavily on the 2018 Caltrans standards. This yields consistency and easier maintenance across jurisdictions.	These standards ensure consistency, quality, and constructability for transportation projects and are widely embedded in Marin's UCS and bid documents. They provide a strong technical foundation but are not climate-responsive by default, highlighting the need for complementary guidance to address resilience objectives.

California Complete Streets Act (AB 1358, 2008; Gov. Code §65302(b)(2))	California State Legislature (OPR guidelines)	State Standards	Requires every city and county to plan for Complete Streets in their general plan circulation element when it's revised. Since 2011, circulation elements must account for all users (bikes, pedestrians, transit, autos) in context-appropriate ways. In Marin, this is implemented via updated General Plans (or addenda) adopting policies to increase pedestrian and bicycle safety, transit access, and reduce auto dependence. It's a planning mandate – it doesn't directly dictate project design, but any long-range transportation plan must include multimodal provisions. Effectively institutionalized Complete Streets in Marin's policy framework, ensuring that, for example, a road-widening plan also considers sidewalks and bike lanes by law.	The Act institutionalizes Complete Streets principles within Marin's planning framework, requiring consideration of all users in transportation planning. While not design-prescriptive, it creates a policy foundation that resilience guidance can build upon by linking climate adaptation with safety, access, and multimodal goals.
Americans with Disabilities Act (ADA) – Title II (1990) & PROWAG	Federal Standards	Federal Standards	Civil rights law requires accessible transportation facilities for people with disabilities. Public agencies must ensure that sidewalks, street crossings, public transit stops, parking, etc., are usable by those with disabilities. In Marin, this means every street project must install ADA-compliant curb ramps, tactile warnings, and ensure sidewalks have proper width/slope. Signalized intersections need audible pedestrian signals and pushbuttons at correct height. Transit stations/stops must be accessible (e.g. raised platforms or lifts for trains/buses). The ADA Title II "program access" rule also means Marin must retrofit barriers over time via a Transition Plan. The Access Board's Public Rights-of-Way Accessibility Guidelines (PROWAG), adopted by USDOT in 2024 for transit stops and likely soon for all public ways, provide the technical standards (e.g. curb ramp specs, crosswalk timing) that Marin follows. Non-compliance can result in lawsuits or loss of federal funds. In sum, ADA mandates "access for all" in Marin's transportation network – from curb cuts to crosswalk signals – and is integrated into state/local codes and everyday engineering practice.	ADA and PROWAG establish mandatory accessibility requirements that shape all transportation projects in Marin. These standards are non-negotiable and must be integrated into any resilience or adaptation strategy, reinforcing the need for climate-responsive designs that maintain accessibility under future flood and hazard conditions.