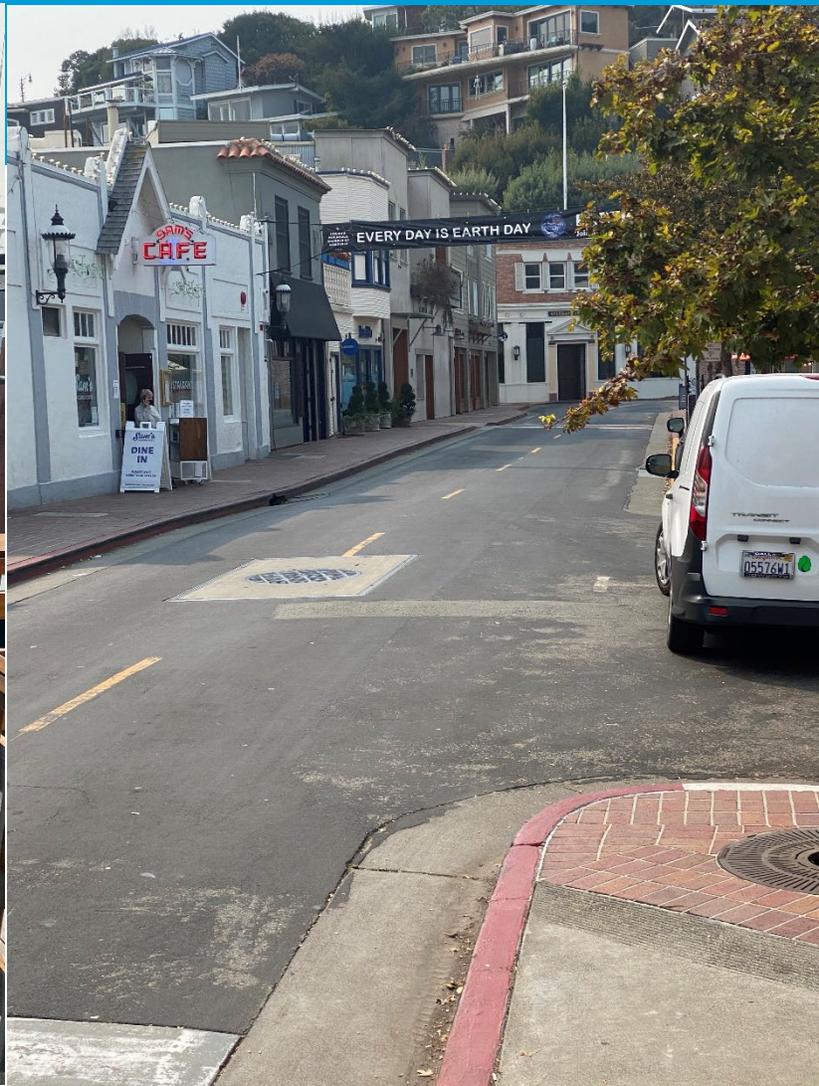


# TRANSPORTATION



This chapter of the existing conditions report describes existing transportation conditions in Tiburon, including multimodal accessibility, connectivity, safety, and provision of complete streets. This includes descriptions of the regulatory, physical, and operational characteristics affecting Tiburon's transportation system. An overview of the regulatory framework is presented first, followed by an assessment of the circulation network's setting, multimodal accessibility, and connectivity.

## Topics:

- 1 Background and Regulatory Framework
- 2 Existing Setting

## TABLE OF CONTENTS

1	BACKGROUND & REGULATORY FRAMEWORK .....	5
	Background .....	5
	Regulatory Framework.....	5
	Federal .....	6
	State .....	6
	Regional .....	8
	Local .....	9
2	EXISTING SETTING.....	19
	Regional Context .....	19
	Local Context.....	19
	Tiburon Travel Characteristics .....	19
	Street Network.....	26
	Traffic Volumes .....	27
	Motor Vehicle Traffic Operations .....	27
	Public Transportation System.....	30
	Active Transportation .....	31
	Transportation Safety.....	34
	Alternative Fuel Vehicles.....	37
	References .....	48

## LIST OF TABLES

TABLE 1: WORK COMMUTE CHARACTERISTICS .....	20
TABLE 2: PLACE OF WORK .....	21
TABLE 3: MEAN TRAVEL TIME TO WORK .....	22
TABLE 4: VEHICLE MILES TRAVELED (VMT) ESTIMATE FOR TIBURON .....	23
TABLE 5: ROADWAY CLASSIFICATIONS & STREET DESIGN CHARACTERISTICS.....	26
TABLE 6: STREET NETWORK MILES BY CLASSIFICATION .....	26
TABLE 7: STREET OWNERSHIP INFORMATION .....	26
TABLE 8: DAILY TRAFFIC VOLUMES, NUMBER OF LANES & POSTED SPEED LIMIT COMPARISON .....	27
TABLE 9: MOTOR VEHICLE LEVEL OF SERVICE DEFINITIONS.....	27
TABLE 10: MOTOR VEHICLE TRAFFIC LEVEL OF SERVICE AT KEY INTERSECTIONS .....	29
TABLE 11: PUBLIC TRANSPORTATION SERVICES IN TIBURON (AS OF WINTER 2021).....	31
TABLE 12: BIKEWAY NETWORK MILES.....	33
TABLE 13: REPORTED COLLISIONS BY CRASH SEVERITY (2015-19).....	34
TABLE 14 FATAL AND INJURY COLLISIONS BY MODE OF TRAVEL (2015-19).....	35

## LIST OF FIGURES

FIGURE 1 REGIONAL TRANSPORTATION SETTING.....	38
FIGURE 2 STREET NETWORK.....	39
FIGURE 3 TRANSIT ROUTES.....	40
FIGURE 4 BIKEWAY NETWORK.....	41
FIGURE 5 SIDEWALKS AND PATHS.....	42
FIGURE 6 MOTOR VEHICLE COLLISION LOCATIONS (2015-19).....	43
FIGURE 7 TYPES OF REPORTED COLLISIONS.....	44
FIGURE 8 BICYCLE AND PEDESTRIAN COLLISIONS LOCATIONS (2015-19).....	45
FIGURE 9 DAILY TRAFFIC VOLUME.....	46
FIGURE 10 ALTERNATIVE FUEL LOCATIONS.....	47

## LIST OF CHARTS

CHART 1: MODE OF TRANSPORTATION.....	20
CHART 2: INFLOW & OUTFLOW OF TRAVEL TO WORK.....	21
CHART 3: TRAVEL TIME TO WORK.....	22
CHART 4: MOTOR VEHICLE OWNERSHIP.....	23
CHART 5: TAZ LEVEL AUTO VMT PER RESIDENT FOR HOME BASED TRIP 2015 AND 2040.....	24
CHART 6: TAZ LEVEL AUTO VMT PER EMPLOYEE FOR WORK RELATED TRIPS 2015 AND 2040.....	24
CHART 7: MAZ LEVEL AUTO VMT PER RESIDENT FOR HOME BASED TRIP 2015 AND 2040.....	25
CHART 8: MAZ LEVEL AUTO VMT PER EMPLOYEE FOR WORK RELATED TRIPS 2015 AND 2040.....	25
CHART 9: COLLISION TYPE (2015-19).....	35
CHART 10: VIOLATION CATEGORIES BY CRASH SEVERITY (2015-19).....	36

# 1 BACKGROUND & REGULATORY FRAMEWORK

## BACKGROUND

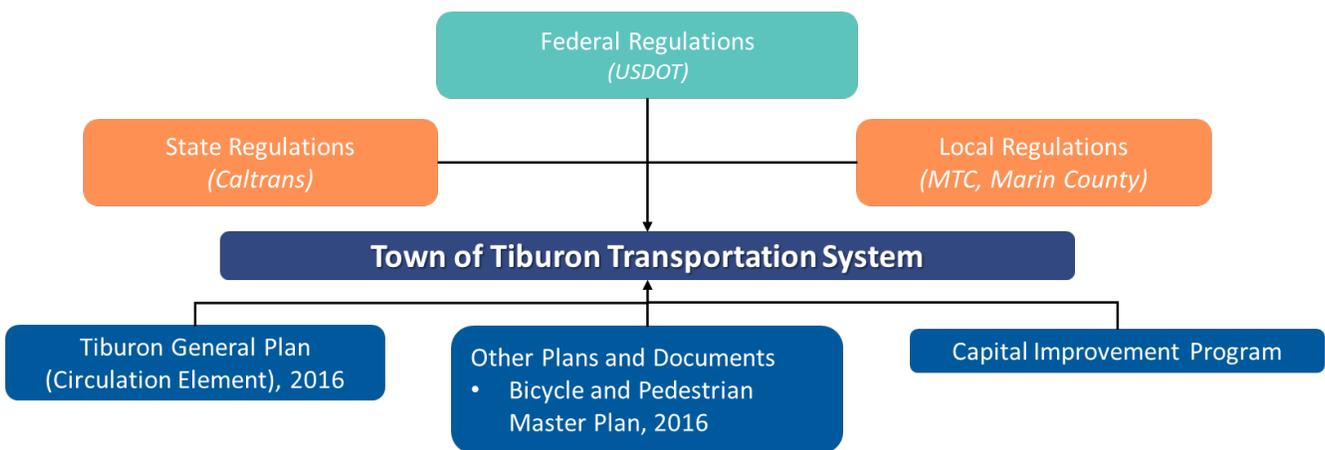
The Circulation Element of the General Plan describes the existing and future transportation network. This Element describes and illustrates the town’s mobility network and provides guidelines that will support and complement existing and planned development. The Circulation Element includes goals ensuring that transportation and land use decisions are coordinated, promoting safe and efficient transport of goods, making efficient use of existing facilities, and protecting environmental quality.

The transportation system’s purpose is to move people and goods from one place to another, and, in doing so, it affects the community’s character, natural and built environment, and economic development patterns. Figure 1 shows the regional transportation setting.



## REGULATORY FRAMEWORK

The Town of Tiburon General Plan, along with a variety of federal, state, and regional plans, legislation, and policy directives, provide guidelines for the safe operation of streets and transportation facilities in Tiburon. The Department of Public Works is responsible for the maintenance and improvement of all public infrastructure owned and managed by the Town including public streets, traffic signs, markings, and streetlights. The Planning Division oversees the maintenance of a General Plan and is further responsible for producing long-range planning documents.



*Relation with other plans and Agencies*

## FEDERAL

The U.S. Department of Transportation (DOT) is the umbrella agency for all federal transportation policies and regulations. The DOT's stated goals are to keep the traveling public safe, increase national mobility, and support the national economy through the transportation system. The DOT oversees several agencies that administer federal statutes for various branches of transportation, including:

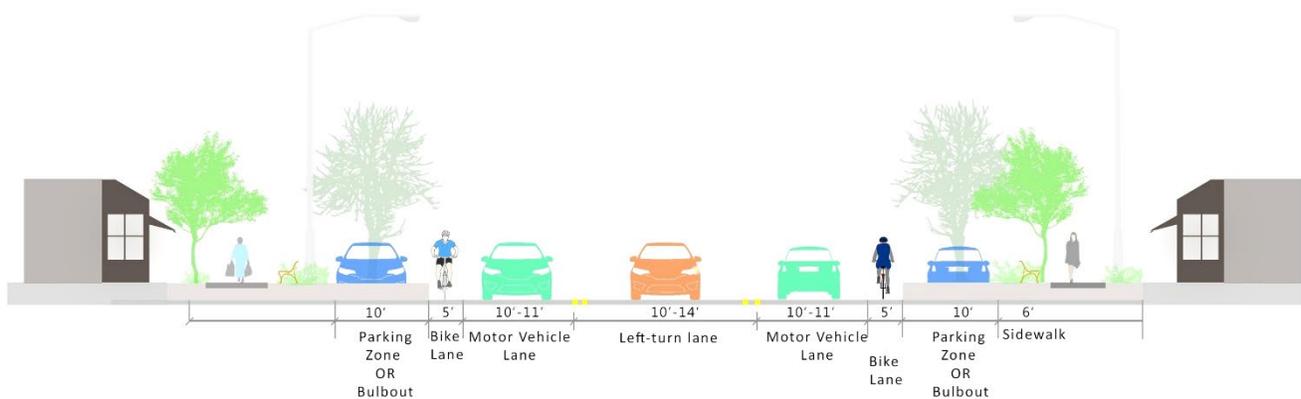
- The National Highway Traffic Safety Administration, which is responsible for motor vehicle and highway transportation safety standards and regulations
- The Federal Highway Administration, which is responsible for laws pertaining to commercial freight and the maintenance and preservation of interstate highways, tunnels, and bridges
- The Federal Motor Carrier Safety Administration, which is responsible for safety regulation laws for large commercial vehicles
- The Federal Railroad Administration, which is responsible for regulating the safety and development of the U.S. railroad system
- The Federal Transit Administration, which provides financial and technical assistance to local public transportation systems

These agencies support state and local governments in the design, construction, and maintenance of transportation systems through various programs and projects<sup>1</sup> (Transportation Law).

## STATE

### California Complete Streets Act

The term “Complete Streets” refers to a balanced, multimodal transportation network that meets the needs of all users of streets -- including bicyclists, children, and persons with disabilities, motorists, movers of commercial goods, pedestrians, public transportation, and seniors. A “Complete Street” is one that provides safe and convenient travel in a manner that is suitable to the local context.



*Example of a “Complete Street”*

The California Complete Streets Act mandates any substantive revision of the circulation element of a city/town or county's general plan to identify how they will safely accommodate the circulation of all users of the roadway including transit riders, pedestrians, bicyclists, individuals with disabilities, and seniors as well as motorists (California Complete Streets Act of 2008, 2008). The Tiburon General Plan Circulation Element was updated to incorporate complete streets components in 2016.

<sup>1</sup> For more information: <https://www.fhwa.dot.gov/federalaid/projects.cfm>

Provision of safe mobility for all users, including motorists, bicyclists, pedestrians and transit riders, contributes to the Caltrans's vision: *"improving mobility across California"*. The successful long-term implementation of this vision is intended to result in more options for people to go from one place to another, less traffic congestion and greenhouse gas emissions, more walkable communities (with healthier, more active people), and fewer barriers for older adults, children, and people with disabilities.

Economically, complete streets can help revitalize communities, and they can give families the option to lower transportation costs by using transit, walking or bicycling rather than driving to reach their destinations. Caltrans is actively engaged in implementing its complete streets policy in all planning, programming, design, construction, operations, and maintenance activities and products on the State Highway System<sup>2</sup> (Caltrans, 2014).

### Senate Bill 743 and Transportation Performance Metrics

The California legislature passed Senate Bill (SB) 743 in 2013 that required changes to the California Environmental Quality Act (CEQA) regarding the analysis of transportation impacts that took effect statewide on July 1, 2020. Traffic impact criteria and transportation performance standards in California have typically focused on motor vehicle level of service (LOS) as the primary criterion. LOS is an analysis methodology that assesses the performance of roadways based on average motor vehicle delay at intersections. The use of motor vehicle delay to analyze traffic impacts for CEQA purposes was originally based on the assumption that reducing delay to automobiles would thus reduce the pollution caused by idling gasoline intersections. However, the longtime emphasis on reducing automobile delay when evaluating environmental impacts under CEQA had the effect of often resulting in wide intersections with high levels of traffic capacity that ultimately serve as barriers to walking and bicycling, conflicting with quality of life and urban design goals. That emphasis on traffic capacity ultimately came to be viewed as contributing to increased rates of motor vehicle travel throughout the state, which ultimately produces higher levels of air pollution due to the total volume of motor vehicle travel, when expressed on a "vehicle miles traveled" (VMT) basis.

SB 743 required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide a revised method to LOS for evaluating transportation impacts. The revised CEQA Guidelines now specify that VMT is the primary transportation performance metric for evaluating environmental impacts. The most recent Guidelines and Technical Advisory documents were issued by OPR in December 2018 (Office of Planning and Research, 2018). Key recommendations described in the OPR guidelines include:

- Land use development near transit or in VMT-efficient areas should be presumed to cause a less than significant transportation impact.
- Transit, active transportation, and rehabilitation projects that do not add motor vehicle capacity should also be presumed to cause a less than significant impact.
- Consistent with CEQA requirements that grants discretion to cities to identify locally applicable impact thresholds: OPR's guidelines do not require a specific methodology for measuring VMT and identifying impact thresholds, but instead defer to local jurisdictions to identify methodologies and thresholds applicable to each local setting.
- The OPR guidelines describe recommended methodologies for local agencies to consider when updating their transportation impact thresholds.
- OPR recommends that VMT be quantified on a "per capita" (per resident) basis for residential projects, and on a "per employee" for office development. OPR recommends that VMT impact thresholds for residential and employment uses be based on comparing "projects" under CEQA with area-wide averages, with project impacts evaluated under a "per capita" or "per employee" methodology considered potentially significant if project VMT exceeds the selected threshold. Establishing VMT impact thresholds that are 15 percent below existing rates has been suggested, but not required, in order to help meet statewide greenhouse gas (GHG) reduction goals. Cities

<sup>2</sup> For information about various State Transportation Grants: <https://dot.ca.gov/programs/budgets/state-transportation-grants>

and towns can choose whether to base their VMT impacts thresholds on regional, countywide, or sub-regional averages (while citywide or town-wide averages can also be utilized for residential VMT thresholds).

- For retail projects, OPR recommends that VMT be evaluated based on the “net change’ in VMT (not a rate) since retail projects typically redistribute traffic within a market area rather than resulting in net new VMT (thus a net increase in VMT could be considered potentially significant).
- OPR provides several recommendations for mixed-use projects, including evaluating each use separately or evaluating mixed-use projects based on the appropriate methodology for the predominant land use.

### **Caltrans - Context Sensitive Street Design**

Caltrans promotes “*Context Sensitive Solutions*” as an approach to plan, design, construct, maintain, and operate its transportation system. These solutions use innovative and inclusive approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary approach involving all stakeholders. Context sensitive solutions meet transportation goals in harmony with community goals and natural environments. They require careful, imaginative, and early planning, and continuous community involvement (Caltrans, 2001).

## **REGIONAL**

### **Plan Bay Area**

The Regional Transportation Plan and Sustainable Community Strategy (RTP/SCS) for the San Francisco Bay Area, named *Plan Bay Area 2050* was jointly produced and adopted by the Metropolitan Transportation Commission (MTC) and Association of Bay Area Governments (ABAG) on October 21, 2021. Plan Bay Area 2050 is the strategic update to Plan Bay Area 2040, and it connects the elements of housing, the economy, transportation and the environment through 35 strategies that will make the Bay Area more equitable for all residents and more resilient in the face of unexpected challenges. It is a roadmap to help Bay Area cities and counties preserve the character of our diverse communities while adapting to the challenges of future population growth (Plan Bay Area 2050, 2021).

Local agencies seeking funding through MTC’s One Bay Area Grant (OBAG) Program are expected to show compliance with Complete Streets policies. MTC via OBAG is a potentially major source for transportation funding. MTC will embark on a third OBAG cycle beginning in 2022 in order to advance Plan Bay Area 2050. Meeting eligibility requirements would allow the Town to apply for Local Street and roads preservation, safe routes to schools, pedestrians and bicycle improvements, and transportation for livable community funds (Metropolitan Transportation Commission, 2019).

### **Marin County Congestion Management**

The Transportation Authority of Marin (TAM) is the Congestion Management Agency (CMA) for Marin County and funds transportation projects that improve mobility, reduce congestion, and provide a transportation system with more options countywide. TAM is responsible for developing expenditure plans for voter-approved local sales tax measures, such as Measure AA and Measure B. The agency coordinates a variety of projects among the County’s local agencies (including Tiburon) as well as regional and state partners, including highways, sidewalks, Safe Routes to School, bicycle lanes, transit, and alternative commute options.

TAM, as the county’s CMA, also maintains a Congestion Management Program (CMP) as required by the California Government Code 65089. TAM is also required to monitor the implementation of all elements of the CMP and prepare a monitoring report every other year. This report fulfills the biennial monitoring task as required by the State. The CMP includes LOS monitoring of freeways and major arterials, the performance of multi-modal transportation options, such as transit and bicycle/pedestrian, discussion of Transportation Demand Management, Land Use Analysis program, the role of the Travel Demand Model, and a 7-year Capital Improvement Program.

As part of the CMP monitoring requirements, TAM bi-annually monitors LOS on 10 freeway segments and 17 arterial segments in Marin County. Should a segment fall below the established LOS standard for that segment, the jurisdiction in which the segment is located is required to participate in the preparation, adoption, and implementation of a deficiency plan to improve the LOS. Each Marin County jurisdiction, including Tiburon, is additionally required by the CMP to participate in the Land Use Analysis program, under which the impacts of land use decisions on the regional transportation system are analyzed and if necessary, mitigated.

There are no CMP segments within Town limits; however, one segment borders it and is a major connector into Tiburon: SR-131 (Tiburon Blvd) from US-101 to Strawberry Dr. In the most recent monitoring cycle to date (2018), Tiburon Blvd operated at LOS A in both the AM and PM peak period. TAM also monitors bicycle/pedestrian activity at two locations within Town limits each bi-annual monitoring cycle: Tiburon Blvd at Main St, and Tiburon Bike Path at Blackie's Pasture.

### Marin County Unincorporated Bicycle and Pedestrian Master Plan

The Marin County Unincorporated Area Bicycle and Pedestrian Master Plan, 2018 is an update to the 2008 plan conducted an in-depth needs analysis identifying areas of concerns in the unincorporated region of the County. The plan proposes various projects such as Class II bikeway on Tiburon Boulevard connecting US Highway 101 with Tiburon Town Limits and Class I between Strawberry Drive and Greenwood Cove Drive. Furthermore, it recommends the addition of bike lanes on US Highway 101 and Tiburon Blvd Interchange based on the results of the study conducted by TAM.

## LOCAL

### Tiburon General Plan

The Circulation Element is provided in Chapter 5 of the current General Plan (Tiburon 2020) most recently updated on February 3, 2016. This element places a greater emphasis on walkability, transit access, and "complete streets": The goals and policies are summarized below and will be re-visited during the General Plan recommendations.

Goals	Policies
<b>Circulation System</b>	
<b>C-A Comprehensive Transportation System:</b> Provide a multimodal transportation system that supports the vision, goals, and objectives of the Town and is effectively planned, funded, operated, and maintained.	<i>C-1 Right-of-Ways:</i> The Town shall preserve and manage rights-of-way consistent with the goal to provide Complete Streets, and the Town's goals for preserving residential quality of life and aesthetics.
	<i>C-2 Emergency Services:</i> The Town shall prioritize emergency service needs when developing transportation plans and making transportation network changes.
	<i>C-3 Facilities and Infrastructure:</i> The Town shall prioritize the maintenance and operation of the existing transportation network over major expansions to the transportation network when investing discretionary revenue.
<b>C-B Multimodal System.</b> Increase multimodal accessibility throughout the Tiburon Planning Area with an emphasis on improved walking, bicycling, and transit modes.	<i>C-4 Multimodal Choices.</i> The Town shall strive to achieve an integrated, multimodal transportation system that improves the attractiveness of walking, bicycling, and riding transit. This would increase travel choices and aid in achieving a more balanced transportation system, thereby reducing air pollution and greenhouse gas emissions.
	<i>C-5 Multimodal Access.</i> The Town shall facilitate multimodal access along appropriate corridors, to major facilities destinations such as Blackie's Pasture, schools, and Downtown Tiburon.
<b>C-C Barrier Removal.</b> Improve accessibility and system	<i>C-6 Eliminate Gaps.</i> The Town shall eliminate "gaps" in bikeways and pedestrian networks where feasible and appropriate.

<p>connectivity by removing physical and operational barriers to safe travel.</p>	<p><i>C-7 Improve Transit Access.</i> The Town shall support Marin Transit and the Golden Gate Bridge, Highway and Transportation District in addressing identified gaps in public transit networks by working together to appropriately locate passenger facilities and stations, providing and maintaining pedestrian walkways and bicycle access to transit stations and stops, and dedicating public rights of way as necessary for transit stops.</p>
	<p><i>C-8 Barrier Removal for Accessibility.</i> The Town shall remove barriers, where feasible, to allow people of all abilities to move freely and efficiently throughout the Planning Area, with the highest priority given to areas that are near Downtown or in other flat areas.</p>
	<p><i>C-9 Connections to Transit Stations.</i> The Town shall work to ensure adequate connections to transit stations by identifying, prioritizing, and seeking funding to plan and construct roadway, bikeway, and pedestrian improvements within 1/2 mile of existing and planned transit stations. Such improvements shall emphasize the development of complete streets.</p>
<p><b>Streets and Roadways</b></p>	
<p><b>C-D Context-Sensitive Roadways.</b> Create a context-sensitive street and roadway system that provides safe access to all users between activity centers within the Planning Area and to destinations across the San Francisco Bay Area, including places of employment, shopping and recreation. As such, the Town shall strive to balance the needs for congestion relief, personal travel, goods movement, parking, social activities, business activities, and revenue generation, when planning, operating, maintaining, and expanding the roadway network.</p>	<p><i>C-10 Balancing Community, Social, Environmental, and Economic Goals.</i> The Town shall evaluate and strive to address community, environmental, and town-wide economic development goals when adding or modifying public rights-of-way.</p>
	<p><i>C-11 Transportation Impacts of Land Use.</i> Land use decisions shall take into consideration potential multimodal access and automobile traffic impacts.</p>
	<p><i>C-12 Transportation Mitigation Fee.</i> All new projects shall be required to pay a pro rata share of needed multimodal access improvements (a transportation mitigation fee) in accordance with the burden created by such new projects.</p>
	<p><i>C-13 Updating the Transportation Mitigation Fee.</i> The transportation mitigation fee program shall be periodically reviewed and updated to ensure that it continues to provide funds for addressing multimodal transportation impacts generated by new projects.</p>
	<p><i>C-14 Level of Service.</i> For signalized intersections in the Tiburon Planning Area, the Town shall strive to achieve and maintain the average peak hour level of service (LOS) at LOS C, with the exception of:</p> <ol style="list-style-type: none"> <li>1. Intersections from U.S. Highway 101 interchange to E. Strawberry Drive/Bay Vista Drive (inclusive), which the Town shall strive to achieve and maintain at LOS D.</li> <li>2. Locations where Complete Streets roadway engineering improvements are necessary to ensure safe access for pedestrians and bicyclists, which shall be evaluated on a case-by-case basis, weighing safety with traffic delay considerations.</li> </ol> <p>The Town acknowledges that actual conditions may not meet the above LOS levels during certain peak periods.</p>
	<p><i>C-15 Traffic signals.</i> At such time as any unsignalized intersection along Tiburon Boulevard meets signal warrants, the Town shall approach Caltrans to approve and/or provide signalization or other appropriate improvements.</p>
	<p><i>C-16 Congestion Management Plan.</i> The Town shall comply with the Transportation Authority of Marin's Congestion Management Plan (CMP), including adopting and monitoring the level of service (LOS) of the CMP network. As of 2015, the CMP LOS standards are LOSE for U.S. Highway 101 during the P.M. peak hour and LOS D for Tiburon Boulevard during the P.M. peak hour.</p>

	<p><i>C-17 Overhead Utility Lines.</i> In conjunction with Land Use Element policies, the Town shall encourage overhead utility lines to be placed underground along Tiburon Boulevard, Paradise Drive, and Trestle Glen Boulevard, working with the County of Marin where applicable.</p>
	<p><i>C-18 Roundabouts.</i> Where feasible, the Town shall consider roundabouts as an intersection traffic control option with demonstrated air quality, safety, and mobility benefits. In particular, the Town shall further study installing a roundabout at the intersection of Tiburon Boulevard and Mar West Street, due to the importance of this location as a gateway to Downtown, and potential traffic flow and safety benefits.</p>
	<p><i>C-19 Tiburon Ridge and Significant Ridgelines.</i> In connection with the ridgeline policies of the Open Space &amp; Conservation Element, the Town shall ensure that no new streets, driveways, or utilities are installed along or over the Tiburon Ridge or Significant Ridgelines except for the use of emergency services, or where no other access is viable.</p>
<p><b>C-E Residential Streets.</b> To maintain all existing, as well as to design all future, residential streets with consideration of a combination of residents' safety, cost of maintenance, and protection of residential quality of life.</p>	<p><i>C-20 Traffic Calming Measures.</i> The Town should consider traffic calming measures, where safe, warranted, and appropriate given topographical and other physical conditions, to increase safety in residential areas by reducing vehicle speeds and volumes and encouraging walking and bicycling. Specific measures may include, but are not limited to, marked crosswalks, curb extensions, raised crosswalks, raised intersections, median islands, tight corner radii, roundabouts, traffic circles, on-street parking, planter strips with street trees, chicanes, and other geometric design features.</p>
	<p><i>C-21 Gated Streets and Subdivisions.</i> The Town strongly discourages gated streets, roadways and subdivisions. This policy is not intended to prevent single family homeowners from installing gates on private driveways serving their individual residence.</p>
	<p><i>C-22 Street Lights.</i> Street lights shall be installed only at intersections or where required for safety purposes. Light sources shall be of a warm, subdued nature and should be down-lights and/or properly shielded.</p>
<p><b>C-F Complete Streets.</b> The Town and other agencies with jurisdiction over roadways within Town limits shall plan, design, operate and maintain all streets and roadways to accommodate and promote safe and convenient travel for all users - pedestrians, bicyclists, transit riders, and persons of all abilities, as well as freight and motor vehicle drivers.</p>	<p><i>C-23 Accommodate All Users.</i> The Town shall ensure that, where feasible and appropriate, all new roadway projects and any reconstruction projects designate sufficient travel space for all users including bicyclists, pedestrians, transit riders, and motorists except where pedestrians and bicyclists are prohibited by law from using a given facility.</p>
	<p><i>C-24 Pedestrian and Bicycle-Friendly Streets.</i> The Town shall ensure that all street construction projects support pedestrian travel. Improvements may include sidewalks, roundabouts, traffic circles, narrow lanes and other traffic calming devices, target speeds less than 35 miles per hour, street trees, high-visibility pedestrian crossings, and bikeways.</p>
	<p><i>C-25 Identify and Fill Gaps in Complete Streets.</i> The Town shall identify streets that can be made more "complete" through a reduction in the width of travel lanes, with consideration for emergency vehicle operations. The Town shall consider including new bikeways, sidewalks, and on-street parking on these streets by re-arranging and/or re-allocating how the available space within the public right of way is utilized. All new street configurations shall provide for adequate emergency vehicle operation. The Town shall explore the addition or enhancement of crosswalks on Tiburon Boulevard at key locations in conjunction with safety improvements to ensure that vehicular collisions with pedestrians are reduced.</p>

<b>Tiburon Boulevard</b>	
<p><b>C-G Tiburon Boulevard.</b> To cooperatively plan for the maintenance and improvement of Tiburon Boulevard.</p>	<p><i>C-26 Roadway Classification.</i> Tiburon Boulevard has three distinction segments, and future design treatments should reflect the character of each segment. Between Highway 101 and Trestle Glen Boulevard, Tiburon Boulevard is classified as a major arterial with priority for vehicle movement. Between Trestle Glen Boulevard and Mar West Street, Tiburon Boulevard is classified as a minor arterial with consideration for both vehicle traffic and the need for residential access as well as biking and walking. From Mar West Street to Ferry Plaza, Tiburon Boulevard is classified as a downtown thoroughfare (a type of local street), with priority given to pedestrians and bicyclists.</p>
	<p><i>C-27 Additional curb cuts</i> should be discouraged on Tiburon Boulevard except where other access points are not feasible or if necessary for emergency vehicle access. Unnecessary curb cuts should be eliminated.</p>
	<p><i>C-28 Parking Lot Frontages.</i> The Town should discourage parking lots that have substantial frontage on Tiburon Boulevard. Consistent with Downtown Element policies, such parking lots should be located in the rear of buildings to the extent possible. Parking lots should also be screened by buffers or berms where feasible.</p>
	<p><i>C-29 Parking</i> Tiburon Boulevard between Rock Hill Road and San Rafael Avenue should remain free from parking on the water side to enhance and preserve views and the experience of a landscaped waterfront drive.</p>
	<p><i>C-30 Water Views.</i> Water views for pedestrians and drivers shall not be obscured. Overgrown planting shall be trimmed to frame, rather than block, views for pedestrians and drivers to the maximum extent feasible. The Town shall consider approving selective removal or thinning of undesirable trees that block water views.</p>
<b>Paradise Drive</b>	
<p><b>C-H Paradise Drive.</b> To cooperatively plan for the maintenance and improvement of Paradise Drive.</p>	<p><i>C-31 Access.</i> The Town shall attempt to work with the County of Marin to secure safe and reliable access for all users to and from the northeastern side of the Tiburon Peninsula along Paradise Drive. Due to the very high maintenance costs associated with Paradise Drive, the Town will avoid taking on the burden of maintaining additional portions of Paradise Drive unless a suitable and stable ongoing source of funding is established.</p>
	<p><i>C-32 Views.</i> Scenic views from Paradise Drive shall be preserved wherever possible.</p>
	<p><i>C-33 Overlooks.</i> Where appropriate, scenic overlooks should be established along Paradise Drive.</p>
	<p><i>C- 34 Driveways and Roadways.</i> New driveways and roadways intersecting Paradise Drive shall be kept to the minimum number possible and be situated in safe locations. To meet this objective, to the extent feasible, multiple residences shall be served by a single access from Paradise Drive.</p>
	<p><i>C- 35 Turn-Outs and Widened Shoulders.</i> Turn-outs and widened shoulders on Paradise Drive should be created where possible to protect the health and safety of its users.</p>
<b>Bicycles and Pedestrians</b>	
<p><b>C-I Bicycle and Pedestrian System.</b> To design, construct, and maintain a universally accessible, safe, convenient,</p>	<p><i>C-37 Bicycle Safety for Children.</i> School-related congestion increased noticeably on Tiburon Boulevard in recent years, reflecting a large jump in school enrollment at the Reed Union School District. To reduce single-child automobile trips to schools, the Town shall support infrastructure improvements and programs that encourage children</p>

<p>integrated and well-connected bicycle and pedestrian system that promotes biking and walking. Provide bicycle facilities, programs, and services, and implement other transportation and land use policies as necessary to achieve increased bicycle and walking use.</p>	<p>to bike and/or walk safely to school, or ride a bus. This includes installation of sidewalks in critical areas where feasible.</p>
	<p><i>C-38 Countdown Pedestrian Signals.</i> The Town supports, where warranted, the replacement by Caltrans of pedestrian traffic signals with “countdown-style” pedestrian signals, which inform pedestrians of the number of seconds remaining to cross safely.</p>
	<p><i>C-39 Trail Connections.</i> The pedestrian paths, trails and bicycle lanes in Tiburon should connect with other paths and trails where practical.</p>
	<p><i>C-40 Bike Facilities.</i> Bicycle facilities, including bike racks, shall be included as part of new public and commercial projects, particularly in Downtown Tiburon.</p>
	<p><i>C-41 Pedestrian Streets.</i> Pedestrian routes, particularly for school children, shall be established for all neighborhoods where feasible and appropriate. The Town shall require that pedestrian-oriented streets be designed to provide a pleasant environment for walking and other desirable uses of public space, including such elements as shade trees; plantings; and wayfinding signage where appropriate. Pedestrian routes shall include safe crossings at major intersections.</p>
	<p><i>C-42 Speed Management Policies.</i> The Town shall develop and implement speed management policies that support driving speeds that are safe for pedestrians and bicyclists, including consideration of bicycle riding speed limits on Old Rail Trail.</p>
	<p><i>C-43 Bicycle and Pedestrian Master Plan.</i> In developing capital improvement budgets, the Town shall use the Bicycle and Pedestrian Master Plan as a guide for prioritizing bicycle and pedestrian improvements. New development shall be consistent with applicable provisions of the Bicycle and Pedestrian Master Plan.</p>
	<p><i>C-44 Bay Trail.</i> The Town supports the completion and maintenance of the Bay Trail.</p>
	<p><i>C-45 Old Rail Trail Multi-Use Path.</i> The Town shall monitor Old Rail Trail and consider periodic improvements that would enhance the safety of its users. The Town shall continue to encourage low to moderate bike speeds along Old Rail Trail to ensure pedestrian safety.</p>
<p><i>C-46 School Route Maps.</i> The Town shall work with local schools to develop maps detailing the safest routes for children to walk and bicycle to school, including trails and other shortcuts.</p>	
<p><b>Public Transit</b></p>	
<p><b>C-J Integrated Transportation System.</b> To promote an integrated transportation system, including the preservation and enhancement of transit as an essential component of a multimodal transportation system, in order that residents and visitors may efficiently, conveniently, and safely connect to, and transfer between, different transportation modes.</p>	<p><i>C-47 Bus Service.</i> The Town shall work with Golden Gate Transit and Marin Transit to increase service levels for buses in the Planning Area when feasible and ensure that bus service provides accessibility and mobility for all Tiburon residents, workers and visitors. Implementing evening bus service shall be a priority for the Town. The Town shall ensure high-quality bicycle and pedestrian access to bus stops. The introduction of parking meters, a measure currently being considered by the Town, may provide a potential source of revenue to finance transit passes for employees, who are a target group for increasing transit ridership. The Town shall continue to identify additional strategies to encourage residents, workers, and visitors to ride buses for trips to, from, and within the Planning Area.</p>
	<p><i>C-48 Utilizing Dead-Heading Buses.</i> The Town shall encourage Marin Transit and Golden Gate Transit to service commutes on Tiburon Boulevard in the morning and evening with buses that would otherwise deadhead (return to their yard empty).</p>

	<p><i>C-49 Bus Shelters.</i> Bus shelters shall be coordinated with Golden Gate Transit and Marin Transit and should receive design review approval. Covered bus shelters are preferred. Benches and paved loading pads should be provided at all bus stops.</p> <p><i>C-50 Seating at Bus Stops.</i> The Town supports the installation and maintenance of attractive, covered, unobtrusively lighted seating areas at all bus stops along Tiburon Boulevard and will work with Golden Gate Transit, Marin Transit, and the Transportation Authority of Marin (TAM) to provide them. The Town strongly discourages the placement of commercial advertising on public bus shelters.</p> <p><i>C-51 Provisions for Bus Stops.</i> New development along transit routes, particularly in Downtown, shall include appropriate provisions for bus stops, including covered waiting areas.</p> <p><i>C-52 Location of Transit Facilities.</i> The location of new transit facilities shall emphasize safety and accessibility for the rider so as to encourage transit ridership.</p> <p><i>C-53 Ferry Service.</i> The Town shall help ensure that ferry service remains a viable commuter and recreational travel option. This may include helping to coordinate between Golden Gate Transit and Marin Transit bus service and ferry providers. The Town shall encourage the expansion of ferry service to Friday and Saturday evenings. In cooperation with ferry service and transit bus providers, the Town shall seek to identify public revenue sources to allow ferry service to Tiburon to be offered with lower fares and implement other improvements to increase ridership.</p> <p><i>C-54 Water Taxis.</i> The Town shall support the use of water taxi services, which provide on- demand boat trips to destinations across the Bay Area, as an alternative to driving for recreational and commuting trips when ferry service is not available.</p> <p><i>C-55 Paratransit.</i> The Town shall support the provision of paratransit services for those riders that cannot utilize fixed route bus service.</p> <p><i>C-56 Paratransit and Senior Housing.</i> Senior housing projects shall provide for convenient and accessible paratransit loading and unloading.</p>
<b>Private Automobiles</b>	
<p><b>C-K Reducing Reliance on Private Automobiles.</b> To provide facilities and incentives to reduce reliance on the private automobile throughout the Planning Area.</p>	<p><i>C-57 Provide Alternatives to Single-child Autos for School Trips.</i> The Town shall seek to reduce the number of auto trips made by parents who are picking-up and dropping-off children at local schools by supporting programs that provide viable and attractive alternatives to driving children to school.</p>
	<p><i>C-58 Employer Incentives for Alternative Transportation Modes.</i> The Town shall coordinate with the Transportation Authority of Marin to encourage employers to work together to identify programs that provide incentives for employees to use alternative transportation modes, including carpools.</p>
	<p><i>C- 59 Contractors.</i> The Town shall encourage contractors working on building renovations and repairs to arrive and depart outside of peak travel periods to reduce congestion on Tiburon Boulevard. The Town shall consider allowing contractors to use the Blackie's Pasture overflow parking lot as a park-and-ride location.</p>
<b>Parking</b>	
<p><b>C-L Parking Management.</b> To provide and manage parking such that it balances the Town goals of economic</p>	<p><i>C-60 Appropriate Parking.</i> The Town shall manage public parking and regulate the provision and management of private parking to support parking availability and auto access to neighborhoods across the Planning Area, with consideration for access to existing and funded transit service and shared parking opportunities.</p>

development, livable neighborhoods, convenience, sustainability, and public safety throughout the Planning Area.	<i>C-61 Reciprocal Parking.</i> The Town shall continue to encourage and allow reciprocal parking facilities for those businesses located near one another with different peak hour operating demands.
	<i>C-62 Parking for New Uses.</i> Parking and loading should be provided for new uses and expansion of existing uses in Downtown Tiburon in accordance with the provisions of the Zoning Ordinance.
	<i>C-63 Acquisition of Parking Facilities.</i> The Town should consider the acquisition of Town-owned and/or operated downtown parking facilities.
<b>Interagency Coordination</b>	
<b>C-M Interagency Coordination.</b> To improve interagency coordination between the Town and agencies responsible for transportation programming and funding.	<i>C-64 Coordination with TAM.</i> The Town will engage in good faith, participatory planning efforts with the Transportation Authority of Marin and other agencies working toward alleviating congestion in the U.S. Highway 101 Corridor.
	<i>C-65 Coordination with Caltrans.</i> The Town shall maintain a good working relationship with Caltrans to ensure that improvements proposed by Caltrans are sensitive to the Tiburon community and to facilitate expeditious consideration of Town requests for improvements.

Transportation is also discussed in various other elements of the General Plan and is summarized below:

- The Downtown Element Identifies parking as a major challenge to Downtown Tiburon’s growth. It also concludes that perceptions of parking scarcity are primarily attributable to the parking distribution rather than the availability of parking spaces. The circulation and parking policies and programs encourage walking and biking in Downtown Tiburon. Furthermore, it states that the Town will support ferry service providers and encourage the use of ferries to reduce visitor vehicle traffic and parking demand in its Downtown.
- The Parks and Recreation Element identifies walking as a major recreational activity. It identifies that the Town is well-equipped for walking with miles of paved and unpaved trails along both the shore and the Tiburon Ridge. It also lays out policies to increase, enlarge, and enhance its network of public trails within the Tiburon Planning Area.
- Noise Element states that Traffic on U.S. Highway 101 and Tiburon Boulevard is the primary source of noise in the Planning Area. It further adopts a goal to minimize current noise impacts from Tiburon Boulevard and other high-volume roads on adjacent land uses that are sensitive to noise.
- The Safety Element highlights the importance of evacuation routes and high susceptibility to road blockages. Currently, Tiburon Boulevard and Paradise Drive provide primary access to the planning area. Evacuation traffic on Tiburon Boulevard would cause severe congestion since that is the only major access route for most of the Tiburon Planning Area.

**Tiburon Bicycle and Pedestrian Plan**

The Town of Tiburon adopted the Tiburon Bicycle and Pedestrian Plan in 2016 that focuses on bicycle and pedestrian facilities such as sidewalks, paths, bike lanes, and bike routes (Town of Tiburon, 2016). The following goals were adopted as part of the plan.

- Goal 1 - Increased Bicycle and Pedestrian Access: Expand bicycle and pedestrian facilities and provide increased access to neighborhood areas, employment centers, shopping areas, schools, and recreational sites.
- Goal 2 - Bicycle Transportation: Make travel by bicycle an integral part of daily life in Tiburon by implementing and maintaining a bikeway network, providing end-of-trip facilities, improving bicycle/transit integration, encouraging bicycle use, and making bicycling safer and more convenient.
- Goal 3 - Pedestrian Transportation: Encourage walking as a daily form of transportation in Tiburon by completing a pedestrian network that services short trips and transit, improving the quality of the pedestrian environment, and increasing safety, convenience, and access opportunities for all users.

Connections from residential areas to schools and from the town to Strawberry, Mill Valley, and Corte Madera still present significant obstacles to bicyclists. The Bicycle and Pedestrian Plan specifies the addition of 2.61 miles of bikeways within the Town limits mainly focusing on Tiburon Blvd, Trestle Glen Blvd, and Paradise Dr., and pedestrian crossing improvements on Tiburon Blvd. Furthermore, the plan includes a few trail projects such as Tiburon Ridge Trail and Las Lomas Trail.



### Tiburon Complete Streets Policy

The Town of Tiburon adopted a Complete Streets Policy that expresses its commitment to creating and maintaining “Complete Streets” which are defined as comprehensive, integrated transportation network with infrastructure and design that allows safe and convenient travel along and across streets for all users, including pedestrians, bicyclists, persons with disabilities, motorists, movers of commercial goods, users and operators of public transportation, seniors, children, youth, and families, among others.

### Tiburon Climate Action Plan

The transportation sector is one of the largest sources of greenhouse gas (GHG) emissions (Climate Action Plan, 2011). Hence, it is important to understand the impact of transportation on climate change. To reduce GHG emission from the transportation sector, the following actions were recommended as part of the plan:

1. Reduce GHG emissions through the General Plan and project review processes.
2. Encourage bicycling and walking as a safe and efficient means to travel around Tiburon.
3. Support and promote public transit.
4. Support and promote ridesharing and car-sharing programs.
5. Educate residents and employees about the health and environmental benefits of walking, cycling, taking public transit and ridesharing, and provide information to assist in these modes of travel
6. Encourage the use of fuel-efficient and low GHG-emitting vehicles and driver behaviors.

7. Purchase or lease low or zero-emissions vehicles and the most fuel-efficient models possible for the Town fleet where appropriate.
8. Provide Town employees with incentives to use alternatives to single occupant auto commuting, such as transit incentives, bicycle facilities, ridesharing services and subsidies.
9. Increase ownership of plug-in electric vehicles (EV) by providing EV charging station infrastructure, where appropriate, and encouraging property owners and developers to install EV charging stations in commercial and residential projects.
10. Achieve further carbon reductions for Town fleet operations by purchasing carbon offsets through a program such as TerraPass, after maximizing GHG reductions through alternative transportation measures.

### Downtown Circulation and Parking Analysis, 2012

The purpose of this study was to analyze the parking supply and availability, and vehicular, pedestrian, and bicycle circulation in Downtown Tiburon, and provide recommendations for improving access to parking.

The analysis found that parking supply is more than adequate to accommodate peak demand. The report indicates the total supply of motor vehicle parking consists of 1,608 parking spaces, including 140 on-street spaces. The bulk of the downtown parking supply consists of 1,468 off-street spaces in surface parking lots that occupy large portions of the Downtown area and tend to detract from the pedestrian experience.

The analysis found that the overall parking utilization never exceeded 50%, indicating that any given time over 800 vacant parking spaces are available in downtown Tiburon. All on-street spaces are free, while some off-street spaces are paid, resulting in motorists seeking on-street spaces before entering a paid off-street lot. The analysis found that most parking demand is generated by local residents, while visitor and tourists parking demand increases during the summer months.

The report proposed strategies to manage both the supply and demand for parking, while also maximizing its efficiency and convenience, including recommending increasing the provision of bicycle parking. In addition, the report presents options for implementing various “complete streets” policies and strategies within the study area, which will increase access and safety for all modes of travel. Finally, recognizing that wayfinding elements are crucial to a successful, vibrant downtown, this report recommended strategies for effective signage that will complement improved parking and circulation management, and instill a unique sense of place (Downtown Circulation and Parking Analysis, 2012).



### **Tiburon Bay Trail Gap Study, 2012**

The Bay Trail is an ambitious project to have a Class I, paved, fully separated multi-use pathway as close to the shoreline as possible. The trail is planned to span approximately 500-miles around San Francisco Bay and run through all nine Bay Area counties, 47 cities, and across the region's seven toll bridges.

The Town of Tiburon worked with ABAG, the County of Marin, and Caltrans, to prepare a plan for closing a key gap in the San Francisco Bay Trail System as well as the Town's and Marin County's local and regional bike and pedestrian circulation systems.

As part of this study, eight segments were identified for improvements along with the addition of wayfinding signs (Final Bay Trail Gap Study, 2012).

### **Trestle Glen Bikeway Study, 2003**

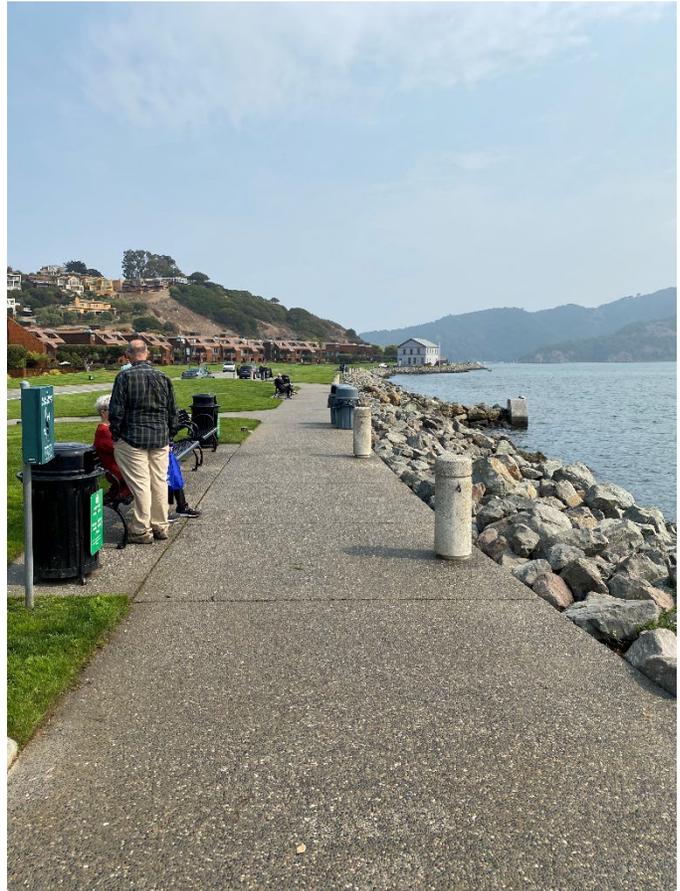
This feasibility study was funded by the ABAG Bay Trail project. The bikeway study was conducted to identify alternatives for the improvements to a 0.7-mile Bay Trail connection on Trestle Glen Boulevard between Tiburon Boulevard and Paradise Drive. Currently, a class II bikeway is being constructed on this segment (Metropolitan Transportation Commission, 2020).

### **Community Action to Reduce Traffic (CART) Summary Report, 2013**

CART is the group that met periodically to study the traffic problems on Tiburon Blvd and identified ways to address them. The group studied a list of approaches such as altering school bell times, signal synchronization, and roundabouts. The group concluded that some of the approaches collectively would result in the reduction of traffic congestion on Tiburon Blvd as listed below:

1. Traffic Signal Synchronization
2. Additional School Bus
3. Bike Train
4. Tiburon Boulevard Shuttle

Additionally, continued diligence and periodic review were suggested for measuring the effectiveness of these approaches (Summary Report, CART, 2013).



## 2 EXISTING SETTING

### REGIONAL CONTEXT

Located eight miles north of San Francisco, Tiburon is placed in the heart of the San Francisco Bay Area. The Tiburon Peninsula is accessible by ferry from downtown San Francisco, by road from Highway 101 and Highway 131 (Tiburon Boulevard), and by bicycle through San Francisco Bay Trail. Apart from San Francisco, the other nearby major cities include Sausalito, Corte Madera, and San Rafael. Coordination among the regional transportation agencies is crucial for the continuous growth through higher connectivity and multiple transportation options of the Town of Tiburon. Figure 1 shows the major regional transportation facilities.

### LOCAL CONTEXT

Due to its unique geography, the Tiburon Peninsula provides various challenges and opportunities for transportation. The challenges are largely due to the relative isolation that results from being a drawn-out peninsula and from topography that is dominated by relatively steep hillsides.

Unique opportunities are provided by the navigable waters that surround the peninsula, the clustering of pedestrian-oriented development in downtown, and the heavily used trails.

### TIBURON TRAVEL CHARACTERISTICS

An efficient transportation system enables the movement of people and goods while minimizing time, cost, and energy. This section summarizes travel characteristics associated with the Tiburon transportation network.

#### Travel Modes to Work

Tiburon has double the rate of people that use public transportation including the ferry service (18.1 percent) for their journey to work as compared to the Marin County transit trips, according to the American Community Survey (ACS) 5-year estimates from 2015-19

54.6 percent of workers drove alone to work which is fairly low as compared to countywide (64.1 percent) and statewide (73.5 percent) averages. Tiburon also has a higher rate of residents working at home (14.9 percent during the 2015-19 period that predates the COVID-19 pandemic), more than double the Bay Area and statewide averages prior to 2020.

On the contrary, the percentage of employed persons who walked to work is only 1.6 percent, lower than the averages for Marin County (3.4 percent) and the Bay Area (3.5 percent). Reasons behind low walking trips might be because of the town's hilly terrain, limited provision of sidewalks, and longer distances between the destinations. Further analysis has shown a decline in walking and bicycling trips from 2016 onwards (Data USA, n.d.). It should be noted that this data does not include recreational walking and bicycling trips. The journey to work commute characteristics data is presented in Table 1.



TABLE 1: WORK COMMUTE CHARACTERISTICS

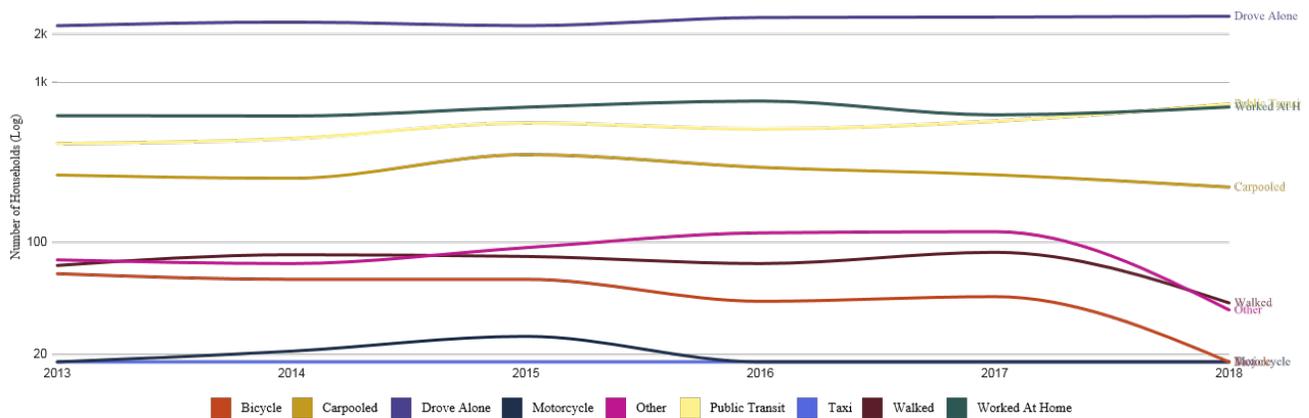
JURISDICTION	TOWN OF TIBURON		MARIN COUNTY		BAY AREA (9 COUNTY REGION)		STATE OF CALIFORNIA	
Employed persons <sup>1</sup>	4,344		130,747		4,119,405		19,078,101	
MODE SPLIT	NUMBER	% <sup>2</sup>	NUMBER	%	NUMBER	%	NUMBER	%
Drove Alone	2,327	54.6%	82,136	64.1%	2,522,264	65.1%	13,767,903	73.5%
Carpool	365	8.6%	10,537	8.2%	374,868	9.7%	1,841,273	9.8%
Public Transit	773	18.1%	12,346	9.6%	522,092	11.1%	970,901	5.2%
Walk	69	1.6%	4,399	3.4%	147,157	3.5%	479,751	2.6%
Other	92	2.2%	2,813	2.2%	143,493	3.3%	482,036	2.6%
Worked at Home	635	14.9%	15,930	12.4%	258,172	7.3%	1,188,387	6.3%

<sup>1</sup> POPULATION INCLUDES 16 YEARS OF AGE OR OLDER

<sup>2</sup> PERCENTAGES ARE ROUNDED OFF TO THE NEAREST INTEGER

SOURCE: U.S. CENSUS BUREAU, 2015-2019 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.

CHART 1: MODE OF TRANSPORTATION



SOURCE: DATA USA, TIBURON, CA, COMMUTER TRANSPORTATION

Since the COVID-19 pandemic, the travel characteristics across all modes of transportation have been significantly impacted. During the lockdown in April 2020, passenger car travel was reduced by as much as three-fourths in some cities and towns as compared to the same period in 2019. However, it did regress through the end of 2020 (Ewoldsen, 2020).

Many cities took this opportunity to create a network of slow streets by closing traffic to encourage and facilitate more walking and biking, including a slow streets program on Main Street in Tiburon that was implemented through October 2021. Concerning active transportation, a cycling boom has been underway across the nation (Eco-Counter, 2021). In addition, interest and sales in electric bicycles (e-bikes) has been growing rapidly and is



expected to continue to grow, with an extended range that increases the viability of bicycling for longer trips, and in areas with hilly terrain such as Tiburon, and can enhance transit access. Bicycle counts conducted in May 2020 found that approximately four to five percent of bicycles on a popular Marin County bicycle path consisted of e-bikes (Transportation Authority of Marin, September 2020).

Public transportation saw a sharp decline in ridership. The social distancing requirements impacted the transit fleet capacity and service intervals. Telecommuting and e-commerce grew during the pandemic resulting in the rise of “zoomtowns” (Fox, 2020). Although research is still ongoing, it is anticipated that some of this trend is likely to continue post-COVID, including higher rates of working from home.

**Place of Work**

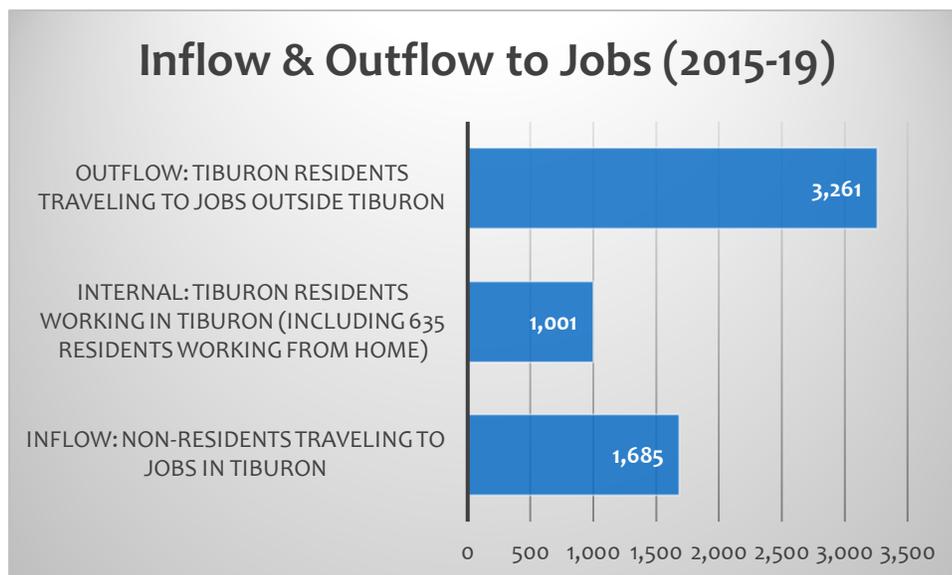
As shown in Table 2, a large number of residents in Tiburon and Marin County travel outside their place of residence for work based on ACS survey data from 2015-19. As shown: 3,260 Tiburon residents commuted to other jurisdictions for work, while 1,001 Tiburon residents worked in Tiburon (including 635 residents that worked from home as indicated on Table 1). Chart 2 summarizes inflow and outflow characteristics of work trips to/from and within Tiburon, showing that approximately 1,685 non-residents commuted to jobs in Tiburon based on 2018 employment data.

**TABLE 2: PLACE OF WORK**

RESIDENCE	TIBURON		MARIN COUNTY		BAY AREA (9 COUNTY REGION)*		CALIFORNIA	
	NUMBER	%	NUMBER	%	NUMBER	%	NUMBER	%
Worked in Place of Residence	1,001	23%	36,791	31%	2,642,859	71%	14,514,622	83%
Worked Outside Place of Residence	3,260	77%	83,811	69%	1,079,553	29%	10,957,928	17%
Worked Outside State of Residence	0	0%	0	0%	14,371	0.4%	82,071	1%

SOURCE: U.S. CENSUS BUREAU, 2015-2019 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.  
\*2013-17 ACS 5 YEAR ESTIMATES

**CHART 2: INFLOW & OUTFLOW OF TRAVEL TO WORK**



SOURCE: U.S. CENSUS BUREAU, OUTFLOW & INTERNAL DATA FROM 2015-19 AMERICAN COMMUNITY SURVEY (SEE TABLE 2 ABOVE); INFLOW DATA FROM U.S. CENSUS BUREAU, CENTER FOR ECONOMIC STUDIES, LONGITUDINAL EMPLOYER-HOUSEHOLD DYNAMICS (LEHD), 2018

### Travel Time to Work

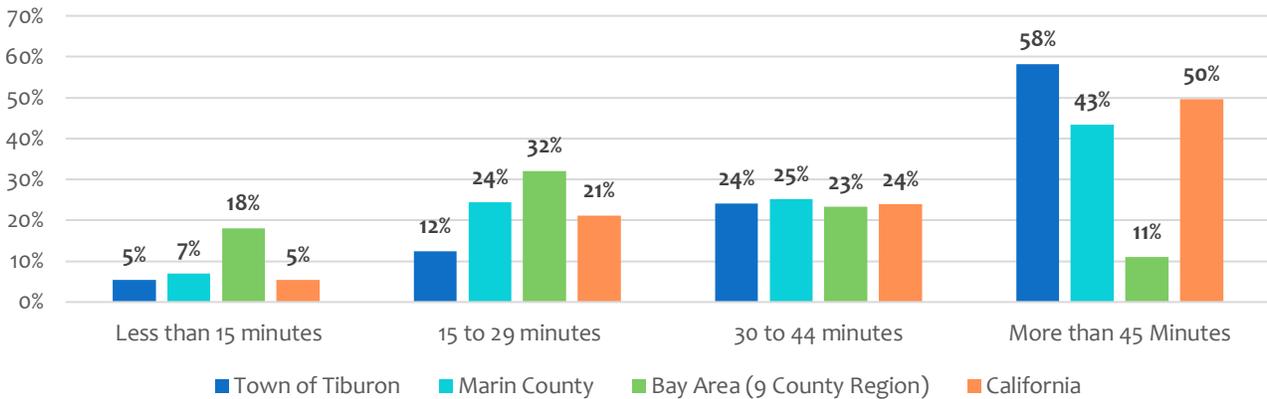
The mean travel time to work for Tiburon residents is 32 minutes, similar to the Marin Countywide and Bay Area average as shown Table 3. However, 58 percent of the work trips for the town are more than 45 minutes long with only five percent trips less than 15 mins. Chart 3 shows the comparison for travel time to work.

TABLE 3: MEAN TRAVEL TIME TO WORK

JURISDICTION	TIBURON	MARIN COUNTY	BAY AREA (9 COUNTY REGION)	CALIFORNIA
Mean Travel Time to Work (in minutes)	32.2	32.6	32.3	30.7

SOURCE: U.S. CENSUS BUREAU, 2013-2017 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.

CHART 3: TRAVEL TIME TO WORK

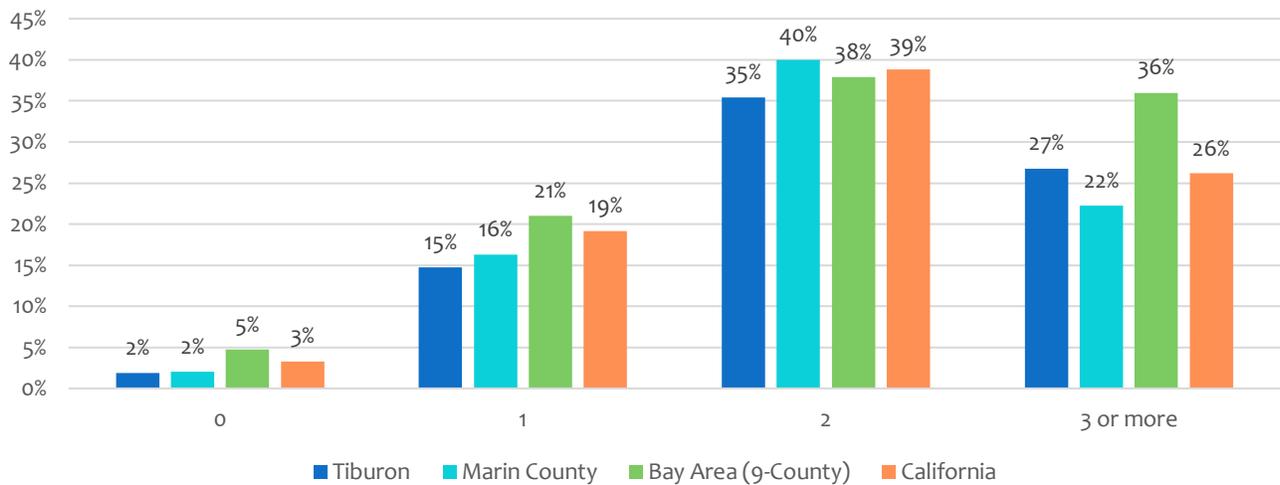


SOURCE: U.S. CENSUS BUREAU, 2015-2019 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.

### Vehicle Ownership

The town of Tiburon has 27 percent households that own three of more cars as compared to 22 percent of that for Marin County as shown in Chart 4. The higher percentage of vehicle ownership may be an indicator of auto-dependency. Automobile dependency is seen primarily as an issue of environmental sustainability as it encourages higher consumption of fossil fuels. Public health is also adversely impacted due to lack of physical activity.

**CHART 4: MOTOR VEHICLE OWNERSHIP**



SOURCE: U.S. CENSUS BUREAU, 2015-2019 AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES.

**Vehicle Miles Traveled (VMT)**

A common indicator used to quantify the amount of motor vehicle use in a specified area is VMT. One VMT is defined as any type of motor vehicle being driven one mile. Many factors affect VMT including the average distance residents commute to work, school, and shopping, as well as the proportion of trips that are made by non-automobile modes. Areas that have a diverse land use mix and ample facilities for non-automobile modes, including transit, tend to generate lower VMT than auto-oriented suburban areas more distant from metropolitan centers.

The Transportation Authority of Marin (TAM) has developed an activity-based model, the TAM Demand Model (TAMDM) to provide estimates of existing (2015) and forecasted (2040) VMT per capita in Marin County. The charts on the following pages show the estimates of VMT per Capita (residential uses) and VMT per Employee (employment uses) for traffic analysis zones (TAZ) (Charts 5 and 6) and micro analysis zones (MAZ) in Tiburon (Charts 7 and 8).

Table 4 shows the town wide rates of VMT per Capita for Tiburon residents, and VMT per Employee for jobs located in Tiburon, according to the TAMDM. Noticeably, the VMT rates for Tiburon are anticipated to increase by 2040, which differs from regional averages for the Bay Area region which are anticipated to decrease by 2040. The TDMDM assumes no population growth for Tiburon and 0.6 percent increase in the total number of jobs.

**TABLE 4: VEHICLE MILES TRAVELED (VMT) ESTIMATE FOR TIBURON**

POPULATION SEGMENT	2015		2040	
	RESIDENTS/ WORKERS	VMT PER CAPITA/ EMPLOYEE	RESIDENTS/ WORKERS	VMT PER CAPITA/ EMPLOYEE
VMT Per Capita (Tiburon residents)	9,180	15.9	9,180	16.2
VMT Per Employee (jobs in Tiburon)	3,075	24.3	3,294	28.6

SOURCE: TRANSPORTATION AUTHORITY OF MARIN, TRAVEL DEMAND MODEL (TAMDM)

CHART 5: TAZ LEVEL AUTO VMT PER RESIDENT FOR HOME BASED TRIP 2015 AND 2040

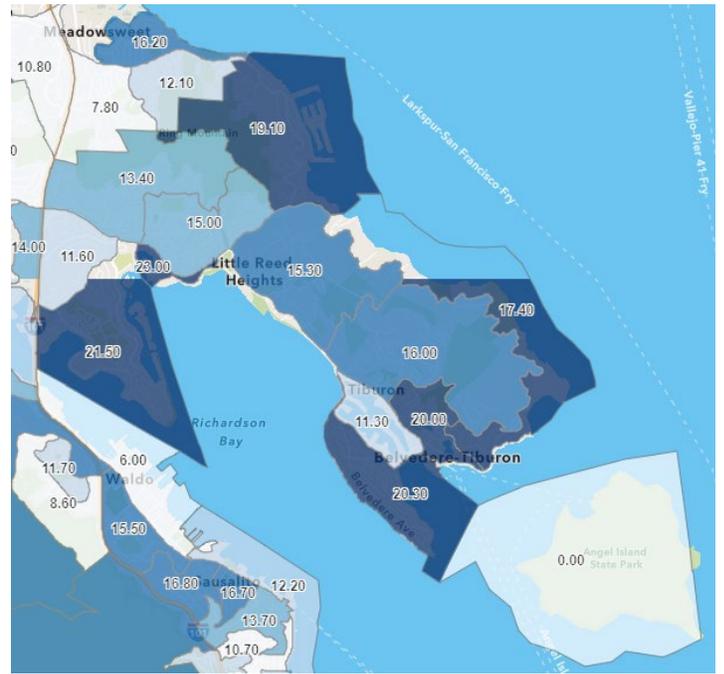
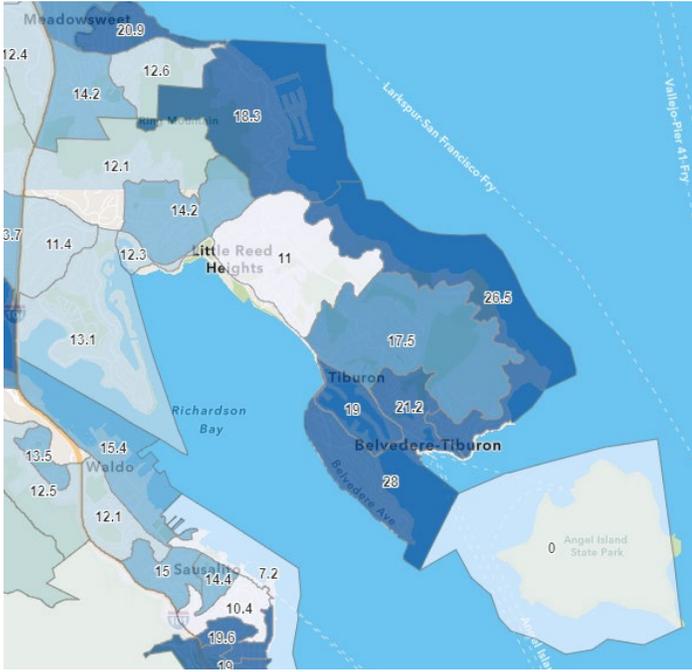
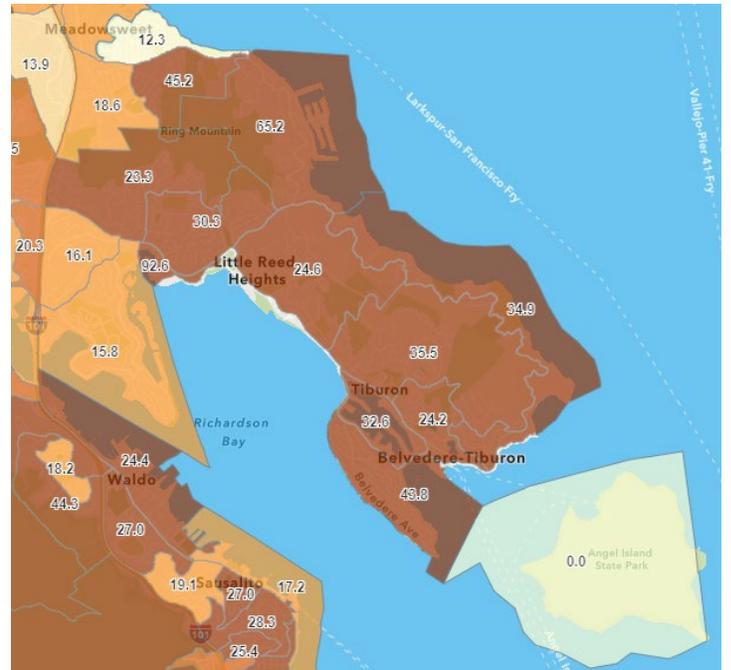
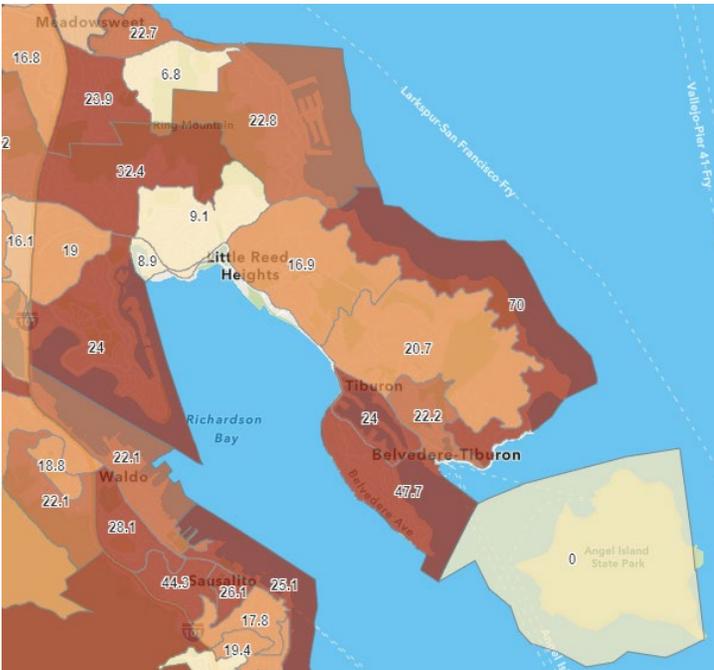
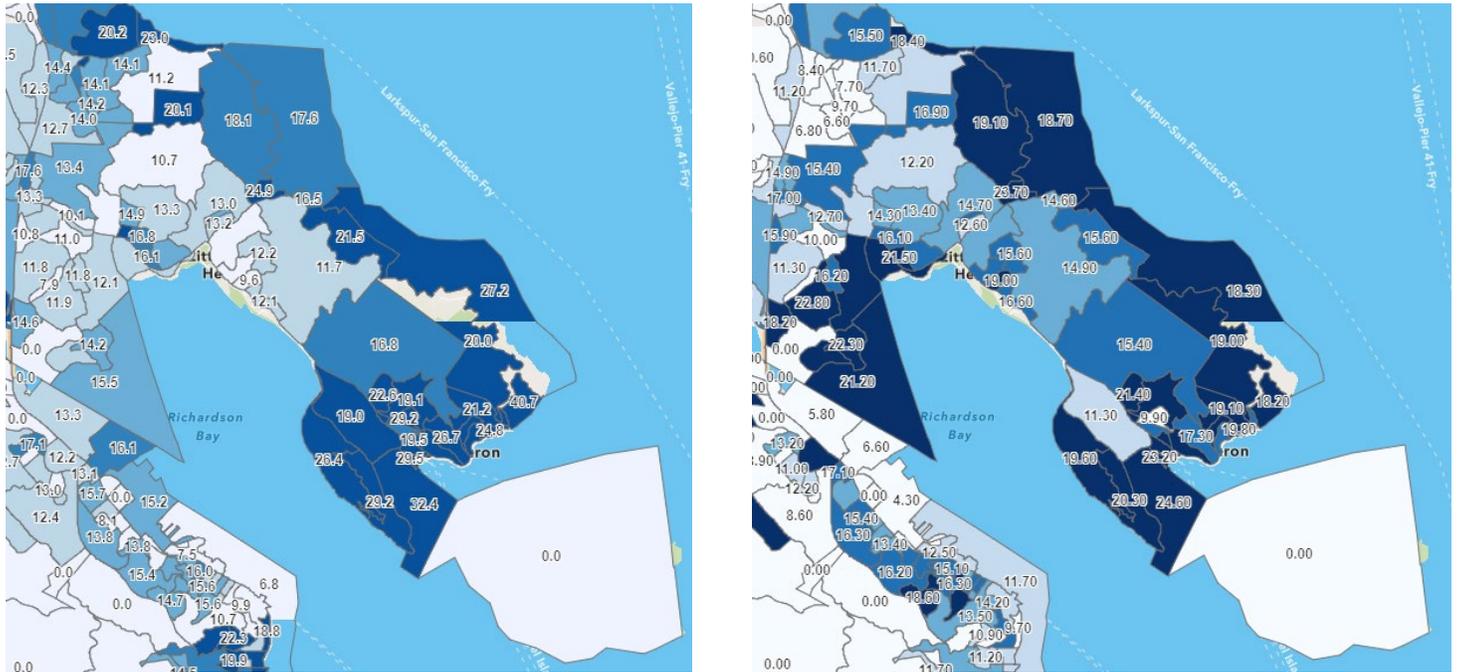


CHART 6: TAZ LEVEL AUTO VMT PER EMPLOYEE FOR WORK RELATED TRIPS 2015 AND 2040



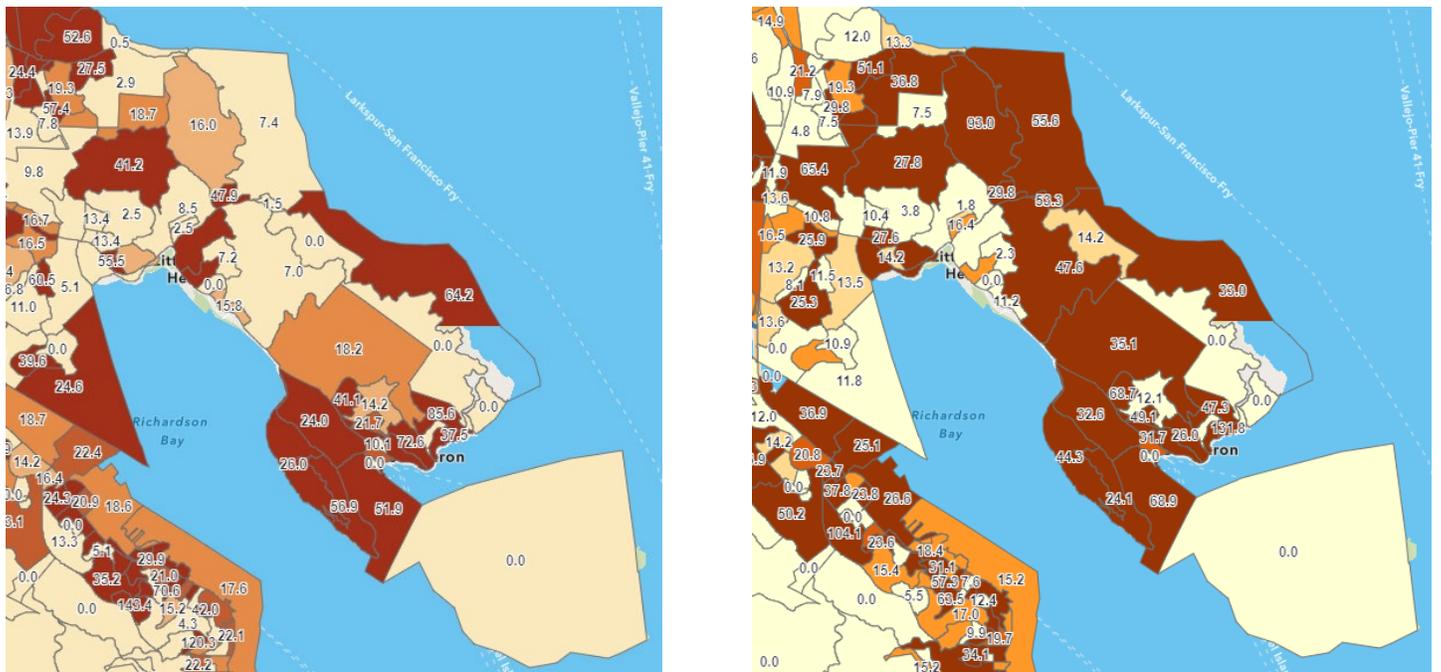
SOURCE: TRANSPORTATION AUTHORITY OF MARIN, TRAVEL DEMAND MODEL, VMT WEB MAP

CHART 7: MAZ LEVEL AUTO VMT PER RESIDENT FOR HOME BASED TRIP 2015 AND 2040



Source: Transportation Authority of Marin, Travel Demand Model, VMT Web Map

CHART 8: MAZ LEVEL AUTO VMT PER EMPLOYEE FOR WORK RELATED TRIPS 2015 AND 2040



Source: Transportation Authority of Marin, Travel Demand Model, VMT Web Map

## STREET NETWORK

### Street Classifications

This section describes the physical characteristics of Tiburon’s street network. The General Plan Circulation Element identifies a functional classification system for each street type. A map of Tiburon’s street network is shown on Figure 2. The existing street classifications are defined as follows, further described on Table 5:

- **Arterials:** A street carrying the traffic of local and collector streets to and from freeways and other major streets, with controlled intersections and generally providing direct access to properties. Safe pedestrian and bicycle facilities, where feasible and appropriate, should be provided along arterials.
- **Collector:** A street for automobile traffic moving between arterial and local streets, generally providing direct access to properties. Safe pedestrian and bicycle facilities should be provided along the collectors where feasible and appropriate.
- **Local Streets:** A street providing direct access to properties and designed to discourage through traffic. Dedicated bicycle and pedestrian facilities, even if feasible, may not be necessary if traffic speeds are slow enough to comfortably share the roadway space.

Tables 6 and 7 summarizes the street network based on functional classification miles and ownership.

**TABLE 5: ROADWAY CLASSIFICATIONS & STREET DESIGN CHARACTERISTICS**

TYPE	FUNCTION	EXAMPLES	TRAFFIC LANES
Freeway	Connects regional activity centers	U.S. 101	> 4
Major Arterial	Connects major local activity centers; also connects arterials with freeways	Tiburon Blvd., from U.S. 101 to Trestle Glen	4
Minor Arterial	Connect major arterial with collector and local streets.	Tiburon Blvd., from Trestle Glen to Main St.; Trestle Glen Blvd.	2 – 4
Collector	Collects traffic from local streets and channels it to arterial streets.	Blackfield Dr., Reed Ranch Rd., Lyford Dr., Stewart Dr.	2
Local	Serve adjacent residential and commercial property.	Gilmartin Dr., Cecilia Way, Main St., Mountain View Dr., Mt. Tiburon Rd., Juno Rd.	2

SOURCE: TIBURON GENERAL PLAN, 2016

**TABLE 6: STREET NETWORK MILES BY CLASSIFICATION**

STREET CLASS	TIBURON (MILES)	PLANNING AREA (MILES)
Freeways and Expressways	0	0
Major Arterial	0.6	1.2
Minor Arterial	3.1	3.1
Collector	5.2	11.3
Local Streets <sup>1</sup>	47.0	55.3
<b>Total</b>	<b>56.0</b>	<b>71.0</b>

SOURCE: MARIN COUNTY GIS PORTAL, 2020

**TABLE 7: STREET OWNERSHIP INFORMATION**

OWNERSHIP	TIBURON (MILES)	PLANNING AREA (MILES)
Town of Tiburon	52.9	52.9
Caltrans	3.1	3.72
Others (Marin County, Corte Madera)	0	14.38
<b>Total</b>	<b>56.0</b>	<b>71.0</b>

SOURCE: MARIN COUNTY GIS PORTAL, 2020

### State Route 131 (Tiburon Blvd)

Caltrans operates and maintains the only state route in Tiburon, SR 131 (Tiburon Blvd). SR 131 is a two to four-lane east-west arterial that carries between 10,000 and 42,000 vehicles per day. It is the only dedicated truck route in the Town of Tiburon. SR 131 is a divided four-lane road from US 101 to Reed Ranch Rd, where it becomes an undivided two-lane road through the rest of the Town. SR 131 primarily provides connection to collector and local streets, as well as some commercial/retail land uses. SR 131 connects to US 101, which provides regional access to the rest of Marin County, Sonoma County, and San Francisco.

### TRAFFIC VOLUMES

Daily (24-hour) traffic volumes on key street segments are summarized below on Table 8 and on Figure 9. It should be noted that volumes are from prior years, as new counts could not be collected in 2020 or 2021 due to the COVID-19 pandemic that reduced travel. Traffic volumes are below capacity on most segments.

**TABLE 8: DAILY TRAFFIC VOLUMES, NUMBER OF LANES & POSTED SPEED LIMIT COMPARISON**

ROADWAY	2005	2014	PERCENT CHANGE (2005-14)	2017*	NUMBER OF THROUGH LANES	POSTED SPEED LIMIT
Tiburon Blvd, west of Redwood Highway Frontage Rd near US 101	41,000	42,100	+3%	48,300	4	35
Tiburon Blvd, west of Blackfield Dr	32,000	30,150	-6%	32,100	4	45
Tiburon Blvd, east of Reed Ranch Road	26,000	26,887	+3%	24,400	4	40
Tiburon Blvd, south of Trestle Glen Blvd	23,100	22,522	-3%		2	40
Tiburon Blvd, north of Avenida Miraflores	-	19,800	N/A		2	40
Tiburon Blvd, north of Rock Hill Dr	19,800	17,950	-9%	20,000	2	40
Tiburon Blvd, north of Lyford Dr	16,000	13,850	-13%		2	35
Tiburon Blvd, south of Beach Rd	7,600	10,400	+37%		2	30
Tiburon Blvd, north of Main St			N/A	6,000	2	30
Trestle Glen Blvd, east of Tiburon Blvd	-	6,225	N/A		2	35
Paradise Dr, east of Trestle Glen Blvd	-	1,535	N/A		2	25

SOURCE: 2017\* - FROM CALTRANS - [HTTPS://DOT.CA.GOV/PROGRAMS/TRAFFIC-OPERATIONS/CENSUS/TRAFFIC-VOLUMES/2017](https://dot.ca.gov/programs/traffic-operations/census/traffic-volumes/2017)

TIBURON GENERAL PLAN, 2016

### MOTOR VEHICLE TRAFFIC OPERATIONS

Motor vehicle traffic operations on Town streets are often evaluated based on intersection level of service (LOS) standards described in the Highway Capacity Manual (HCM). LOS is a qualitative measure based on average delay to vehicles, particularly in the morning peak period (7:00 to 9:00 AM) and evening peak period (4:00 to 6:00 PM). Table 9 summarizes the LOS definitions and relative delay to motorists, for signalized and unsignalized intersections.

The Town's adopted LOS standard as defined in the Circulation Element, states the following:

- For signalized intersections in the Tiburon Planning Area, the peak hour LOS shall not deteriorate below LOS C, with the exception of intersections located near the U.S. 101 interchange, which shall not deteriorate below LOS D.

**TABLE 9: MOTOR VEHICLE LEVEL OF SERVICE DEFINITIONS**

LEVEL OF SERVICE	FLOW TYPE	DESCRIPTION	INTERSECTION CONTROL DELAY (SECONDS/VEHICLE)	
			SIGNAL CONTROL	STOP-SIGN CONTROL
A	Stable Flow	Free-flow conditions with negligible to minimal delays. Excellent progression with most vehicles arriving during the green phase and not having to stop at all. Nearly all drivers find freedom of operation.	< 10	0 – 10
B	Stable Flow	Good progression with slight delays. Short cycle-lengths typical. Relatively more vehicles stop than under LOS A. Vehicle platoons are formed. Drivers begin to feel somewhat restricted within groups of vehicles.	> 10 – 20	> 10 – 15
C	Stable Flow	Relatively higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, although many still pass through without stopping. Most drivers feel somewhat restricted.	> 20 – 35	> 15 – 25
D	Approaching Unstable Flow	Somewhat congested conditions. Longer but tolerable delays may result from unfavorable progression, long cycle lengths, and/or high volume-to-capacity ratios. Many vehicles are stopped. Individual cycle failures may be noticeable. Drivers feel restricted during short periods due to temporary back-ups.	> 35 – 55	> 25 – 35
E	Unstable Flow	Congested conditions. Significant delays result from poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures occur frequently. There are typically long queues of vehicles waiting upstream of the intersection. Driver maneuverability is very restricted.	> 55 – 80	> 35 – 50
F	Forced Flow	Jammed or grid-lock type operating conditions. Generally considered to be unacceptable for most drivers. Zero or very poor progression, with over-saturation or high volume-to-capacity ratios. Several individual cycle failures occur. Queue spillovers from other locations restrict or prevent movement.	> 80	> 50

SOURCE: HIGHWAY CAPACITY MANUAL (HCM) 2010

**Study Intersections**

LOS at the following 11 intersections were evaluated for assessing baseline conditions during the 2016 General Plan Circulation Element update:

1. Trestle Glen Blvd & Tiburon Blvd
2. Ave Miraflores & Tiburon Blvd
3. Rock Hill Dr & Tiburon Blvd
4. Lyford Dr & Tiburon Blvd
5. Beach St & Tiburon Blvd
6. Trestle Glen Blvd & Paradise Dr
7. Backfield Dr & Tiburon Blvd
8. E Strawberry Dr-Bay Vista & Tiburon Blvd
9. Redwood Highway & Tiburon Blvd
10. US 101 Northbound Ramps & Tiburon Blvd
11. US 101 Southbound Ramps & Tiburon Blvd

Based on the Town’s adopted LOS standards, LOS C or better is therefore considered acceptable at intersections #1 to #8, while LOS D or better is considered acceptable at the three study intersections adjacent to the US 101 interchange (i.e., intersections #9 to #11).

Table 10 summarizes the LOS results at each intersection during the 2016 General Plan update that predates the drop in traffic volumes that occurred in 2020 due to the COVID-19 pandemic. Most intersections were found operate at LOS C or better, with the exception of:

- Blackfield Drive & Tiburon Boulevard (intersection #7) operated at LOS D during the AM Peak Hour. This may reflect the peaking pattern associated with AM school traffic.
- Intersections nearest the US 101 freeway interchange (intersections #9 to #11) operated at LOS D. At these three locations, LOS D is considered acceptable based on Town criteria.

**TABLE 10: MOTOR VEHICLE TRAFFIC LEVEL OF SERVICE AT KEY INTERSECTIONS**

INTERSECTION	CONTROL (LOS STANDARD)	PEAK HOUR	AVERAGE DELAY (SECONDS)	LOS
Trestle Glen Blvd & Tiburon Blvd	Signal (C)	AM	34.8	C
		PM	19.1	B
Ave Miraflores & Tiburon Blvd	Signal (C)	AM	19.1	B
		PM	13.4	C
Rock Hill Dr & Tiburon Blvd	Signal (C)	AM	19.1	B
		PM	28.1	C
Lyford Dr & Tiburon Blvd	Signal (C)	AM	14.9	B
		PM	15.1	B
Beach St & Tiburon Blvd	Signal (C)	AM	22.2	C
		PM	22.8	C
Trestle Glen Blvd & Paradise Dr	2-way Stop-sign (C)	AM	13.5	B
		PM	12.7	B
Blackfield Dr & Tiburon Blvd	Signal (C)	AM	<b>37.4</b>	<b>D</b>
		PM	33.4	C
E Strawberry Dr – Bay Vista & Tiburon Blvd	Signal (C)	AM	24.2	C
		PM	28.7	C
Redwood Highway & Tiburon Blvd	Signal (D)	AM	47.1	D
		PM	38.8	D
US 101 Northbound Ramps & Tiburon Blvd	Signal (D)	AM	23.5	C
		PM	47.4	D
US 101 Southbound Ramps & Tiburon Blvd	Signal (D)	AM	23.7	C
		PM	38.8	D

SOURCE: TOWN OF TIBURON, CIRCULATION ELEMENT UPDATE, 2016

NOTE: BOLD INDICATES UNACCEPTABLE LOS BASED ON ADOPTED STANDARDS. LOS C OR BETTER IS CONSIDERED ACCEPTABLE AT MOST INTERSECTIONS BASED ON TOWN OF TIBURON CRITERIA, WITH THE EXCEPTION OF INTERSECTIONS #9-11 NEAR THE US 101 INTERCHANGE WHERE LOS D IS ACCEPTABLE.

## **PUBLIC TRANSPORTATION SYSTEM**

Public transportation in Tiburon is provided by Marin Transit, Golden Gate Transit/Ferry, Blue & Gold Fleet, and Angel Island/Tiburon Ferry. All transit services are operating with reduced services at the time of writing due to the COVID-19 pandemic, so where possible, pre-pandemic services are presented along with current services. Table 11 lists current public transportation services as of time of writing (Winter 2021).

### **Marin Transit**

Marin Transit is the agency responsible for local transit service within Marin County, including Tiburon. The agency operates local transit services and contracts with other operators for three types of fixed route services within the county: large bus fixed route, shuttle, and rural service. Marin Transit also operates paratransit and dial-a-ride service within Marin County.

Currently, there is only one fixed route service within Tiburon: Route 219, which operates along Tiburon Blvd between downtown Tiburon, Belvedere, and US-101 at Seminary Dr Bus Pad in Mill Valley, where connections can be made to regional routes. The route also serves residential neighborhoods in Tiburon on a limited basis during weekdays, however this has been temporarily suspended. The route operates 7-days a week with 30-45 min headways. On weekdays the operating hours are 6:38am-8:53pm and on Weekends/Holidays they are 8:06am-7:58pm. Pre-pandemic, this route operated on a similar schedule, with the exception of inclusion of service to residential areas in Tiburon.

Pre-pandemic, Marin Transit operated school routes on weekdays directly before and after typical school hours. Two of these routes served Tiburon: Route 113 and Route 119. Route 113 made AM trips and 1-2 PM trips, beginning in Paradise Cay and serving East Corte Madera before ending at Redwood High School in Larkspur. Route 119 made 2 AM trips and 1-2 PM trips, beginning at Main St/Tiburon Blvd and making stops in Belvedere and along Tiburon Blvd before ending at Redwood High School in Larkspur. It is expected that both routes will resume post-pandemic once in-person school instruction resumes.

### **Golden Gate Transit**

Golden Gate Transit operates transit services between Marin County and Sonoma, San Francisco, and Contra Costa Counties. It is one of three operating divisions of the Golden Gate Bridge, Highway, and Transportation District. The agency operates two inter-county bus services: Transbay Basic Service, and Transbay Commute Service. Prior to the pandemic, one commute bus route was operated between Tiburon and San Francisco with two AM trips and one PM trip.

### **Golden Gate Ferry**

The Golden Gate Bridge, Highway, and Transportation District operate ferry services between Marin County and San Francisco via conventional and high-speed ferries. Service is provided between the Tiburon Ferry Terminal (located in downtown Tiburon) and the San Francisco Ferry Building Gate B, Monday-Friday. Current service as of January 2022 includes three AM and two PM trips outbound to San Francisco, and two AM and three PM trips inbound to Tiburon. It should be noted that ferry schedules are updated quarterly and vary by season. More crossings are typically offered in the summer than in winter to account for increased tourist traffic.

Since December 13, 2021, Golden Gate Ferry also operates daily service between the San Francisco Ferry Building and Angel Island, with five daily roundtrips from Monday to Friday, and four daily roundtrips on Saturday and Sunday.

### **Angel Island/Tiburon Ferry**

The Angel Island/Tiburon Ferry operates recreational ferry service between Angel Island and downtown Tiburon. Service varies by season and in general more crossings are offered in the summer to account for increased tourist traffic. At the time of writing (Winter 2021), three crossings to Angel Island and four crossings to Tiburon were being offered on weekends; however, service is not being offered at all times during the winter due to the pandemic. Pre-pandemic, service was offered on one-to-two-hour headways, depending on the time of year. Service was offered at one-hour headways on weekends from

April to October, and on one-to-two-hour headways from November to March. No service was offered on weekdays during the winter except by reservation.

**Blue & Gold Fleet Ferry**

Blue & Gold Fleet operates ferry service between Tiburon and Fisherman’s Wharf, Pier 41, in San Francisco with three daily roundtrips (one AM and two PM) as of January 2022.

**Pilot Late Night Ferry Service Program**

A pilot late-night service is proposed between San Francisco and Tiburon with partial funding from the Town of Tiburon preliminarily approved in October 2021. The service would operate on Thursday through Saturday evenings. The Town would subsidize up to 80% of the estimated cost during the first two years of the program. The remaining 20% would be collected from businesses that benefit from the service.

**Marin Access Paratransit**

Marin Access Paratransit offers pre-scheduled bus transportation for persons with disabilities in Marin County. Service is offered within ¾ mile of fixed route Marin Transit routes and covers portions of Tiburon. Service is provided to paratransit eligible individuals on an on-demand basis, during regular Marin Transit operating hours.

**TABLE 11: PUBLIC TRANSPORTATION SERVICES IN TIBURON (AS OF JANUARY 2022)**

SERVICE PROVIDER	ROUTE	DESCRIPTION	FREQUENCY
Marin Transit	Route 219 Tiburon-Strawberry bus	Downtown Tiburon to/from Strawberry (Redwood Highway Frontage Road & DeSilva Island Drive)	30 to 45-minute headways
Golden Gate Ferry	Tiburon-San Francisco Ferry Building	Tiburon Ferry Terminal to/from San Francisco Ferry Building	5 daily roundtrips (weekdays only)
Blue & Gold Fleet (ferry)	Tiburon-San Francisco Pier 41	Tiburon Ferry Terminal to/from San Francisco Fisherman’s Wharf (Pier 41)	3 daily roundtrips
Angel Island Tiburon Ferry	Tiburon-Angel Island	Tiburon Ferry Terminal to/from Angel Island	3 daily roundtrips
Marin Access Paratransit	N/A	On-Demand within ¾ mile of Marin Transit fixed-route service	Varies

SOURCE: MARIN TRANSIT, GOLDEN GATE TRANSIT, BLUE & GOLD FLEET, ANGEL ISLAND-TIBURON FERRY, JANUARY 2022.

**ACTIVE TRANSPORTATION**

Like many other small towns in the nation, Tiburon has a compact center well-suited for walking and bicycle trips. The active transportation network is designed for a range of ages, abilities, incomes, and skill levels. It is designed for people to move independently within their community—such as families walking to the nearby school—and also to experience the landscape between communities, for travel, recreation, or in the context of bicycle tourism (Federal Highway Administration, 2016). The following section describes the bicycle and pedestrian network for Town of Tiburon.

**Bicycle Facilities**

One of the underlying goals of statewide “complete streets” requirements is that all modes of travel, including bicycles, should be adequately accommodated on most streets, not just streets that are designated as bikeways. Therefore, the provision of travel accommodations may occur throughout



the town’s transportation network. Designated bikeways are routes where an additional level of bicycle accommodation is to be provided. There are four classifications of designated bikeway facilities in California, as defined by the California Department of Transportation (Caltrans):

- Multi-Use Paths (Class I Bikeways).** A path physically separated from motor vehicle traffic by an open space or barrier, and either: within a highway right-of-way or within an independent right-of-way used by bicyclists, pedestrians, joggers, skater, and other non-motorized travelers. Because the availability of uninterrupted rights-of-way is limited, this type of facility may be difficult to locate and more expensive to build relative to other types of bicycle and pedestrian facilities, but less expensive compared to building new roadways. The 2.6 mile Old Rail Trail connects Richardson Bay from Blackie’s Pasture, Downtown Tiburon and Shoreline Park. The Old Rail Trail is in close proximity to schools, shopping areas, parks, and public facilities.



*Old Rail Trail, Class I Bikeway*

- Bicycle Lanes (Class II Bikeways).** A portion of a roadway that has been set aside by striping and pavement markings for the preferential or exclusive use of bicyclists. Bicycle lanes are intended to promote an orderly flow of bicycle and vehicle traffic. This type of facility is established by using the appropriate striping, legends, and signs. Buffered bicycle lanes are further enhanced by providing a designated buffer space, typically with pavement markings, between the bicycle lane and adjacent on-street parking or motor vehicle lane. Buffered bicycle lanes provide greater separation between bicyclists and motorists and/or avoid the door zone adjacent to parked cars.



*Tiburon Boulevard near Beach Road, Class II Bikeway*

- Bicycle Routes (Class III Bikeways).** Class III bicycle routes are facilities where bicyclists share travel lanes with motor vehicle traffic. Bike routes must be of benefit to the bicyclist and offer a higher degree of service than adjacent streets. They provide for specific bicycle demand and may be used to connect discontinuous segments of bicycle lane streets. They are often located on local residential streets. Presently, the town has 2.8 miles of class III bikeways on Paradise Drive.

- *Bicycle Boulevard.* In addition, many cities have installed an enhanced type of Class III Bicycle Route, referred to as a “Bicycle Boulevard.” Bicycle Boulevards are generally installed on relatively low-volume streets and often include elements to facilitate bicycle travel, such as reorienting stop signs to reduce delays to cyclists, and/or discouraging use by motorists making through trips, such as through inclusion of traffic calming measures.



*Paradise Drive, Class III Bikeway*

- **Separated Bikeway (Class IV Bikeways).** A Class IV Bikeway is for the exclusive use of bicycles and includes a separation between the bikeway and adjacent vehicle traffic. The physical separation may include flexible posts, grade separation, inflexible physical barriers or on-street parking. Separated bikeways generally operate in the same direction as vehicle traffic on the same side of the roadway. However, two-way separation bikeways can also be used, usually in lower speed environments. Presently, there are no class IV bikeways in Tiburon. However, Tiburon Boulevard between US-101 and Blackfield / Greenwood Cove Drive could be the potential location for class IV bikeways.

Figure 4 shows the existing and planned bikeway network for the town of Tiburon. The existing bicycle facilities follow “Paradise Loop” which runs along Tiburon Boulevard and Paradise Drive and forms the primary bicycle transportation and recreation spine of the Tiburon Peninsula. Table 12 shows the existing and proposed length of bikeways by class.

**TABLE 12: BIKEWAY NETWORK MILES**

TYPE OF BIKEWAY	BIKEWAY CLASS	EXISTING (MILES)	PROPOSED (MILES)
Multi-use Paths	I	2.72	0.0
Bicycle Lanes	II	0.72	1.61
Bicycle Routes	III	2.84	0.97
Separated Bikeways	IV	0.00	0.03
<b>Total</b>	<b>--</b>	<b>6.13</b>	<b>2.61</b>

*SOURCE: TIBURON BICYCLE AND PEDESTRIAN MASTER PLAN, 2016*

## Walking Conditions

### Sidewalk, Path & Crosswalk Network

In addition to the Old Rail Trail, the Town of Tiburon has a variety of pedestrian facilities consisting of sidewalks, crosswalks, stairways, and walkways. A number of these facilities are more or less developed, consisting of historic stairways and unpaved or narrow footpaths (Town of Tiburon, 2016). Examples of high-use pedestrian areas include the downtown area and crossings of Tiburon Boulevard to access destinations such as schools, the post office, and library. In addition, a walkway extends along a segment of Mar West Street to the Tiburon Peninsula Club.



*High Visibility Crosswalk with Pedestrian Island at Tiburon Boulevard*

Figure 5 provides a map showing pedestrian constraints and gaps in the walking network. It is evident that the northern portion of the town lacks dedicated pedestrian facilities. In the southern portion of the town, Rock Hill Road from Tiburon Boulevard to St. Hilary Middle School could be another potential segment for sidewalk addition.

## TRANSPORTATION SAFETY

Collision history from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS), University of California, Berkeley’s Transportation Injury Mapping System (TIMS) were obtained for five years (2015-2019) to determine existing motor vehicle collision trends. The locations of the motor vehicle collisions are shown in Figure 6. As shown in Table 12, there were a total of 58 reported collisions during the years from 2015 to 2019. Figure 7 depicts the type of reported collision by location.

- There were no fatal collisions reported for the specified time frame.
- On average, one serious injury and four visible injury collisions are reported annually.
- Severe injuries occurred in five percent of all the collisions and the major cause of such collisions is unsafe speed.
- Rear end collisions were the most common occurring collision type (33%), followed by Broadside collisions (14%).
- The two most common primary collision factors were unsafe speed (36%) and automobile right-of-way (15%)

**TABLE 13: REPORTED COLLISIONS BY CRASH SEVERITY (2015-19)**

CRASH SEVERITY	TOTAL CRASHES
Fatal	0
Severe Injury	3
Visible Injury	20
Complaint of Pain	35
<b>Total</b>	<b>58</b>

*SOURCE: TIMS, 2021*

Bicyclists and motorcyclists were involved in 19 percent and 16 percent of collisions resulting injuries. As shown in Table 14, just three injury collisions involved pedestrians, while 11 involved bicyclists, and nine involved motorcyclists. Chart 9 illustrates the types of crashes in 2015-19, while Chart 10 shows the severity of crashes by the category of violation.

**TABLE 14 FATAL AND INJURY COLLISIONS BY MODE OF TRAVEL (2015-19)**

ROAD USERS INVOLVED	FATAL	SEVERE INJURY	VISIBLE INJURY	COMPLAINT OF PAIN	TOTAL
Pedestrian - Vehicle	0	0	3	0	3
Bicycle - Vehicle	0	0	5	6	11
Motorcycle - Vehicle	0	0	4	5	9
Other Motor Vehicle Collisions	0	3	8	24	35
<b>Total</b>	<b>0</b>	<b>3</b>	<b>20</b>	<b>35</b>	<b>58</b>

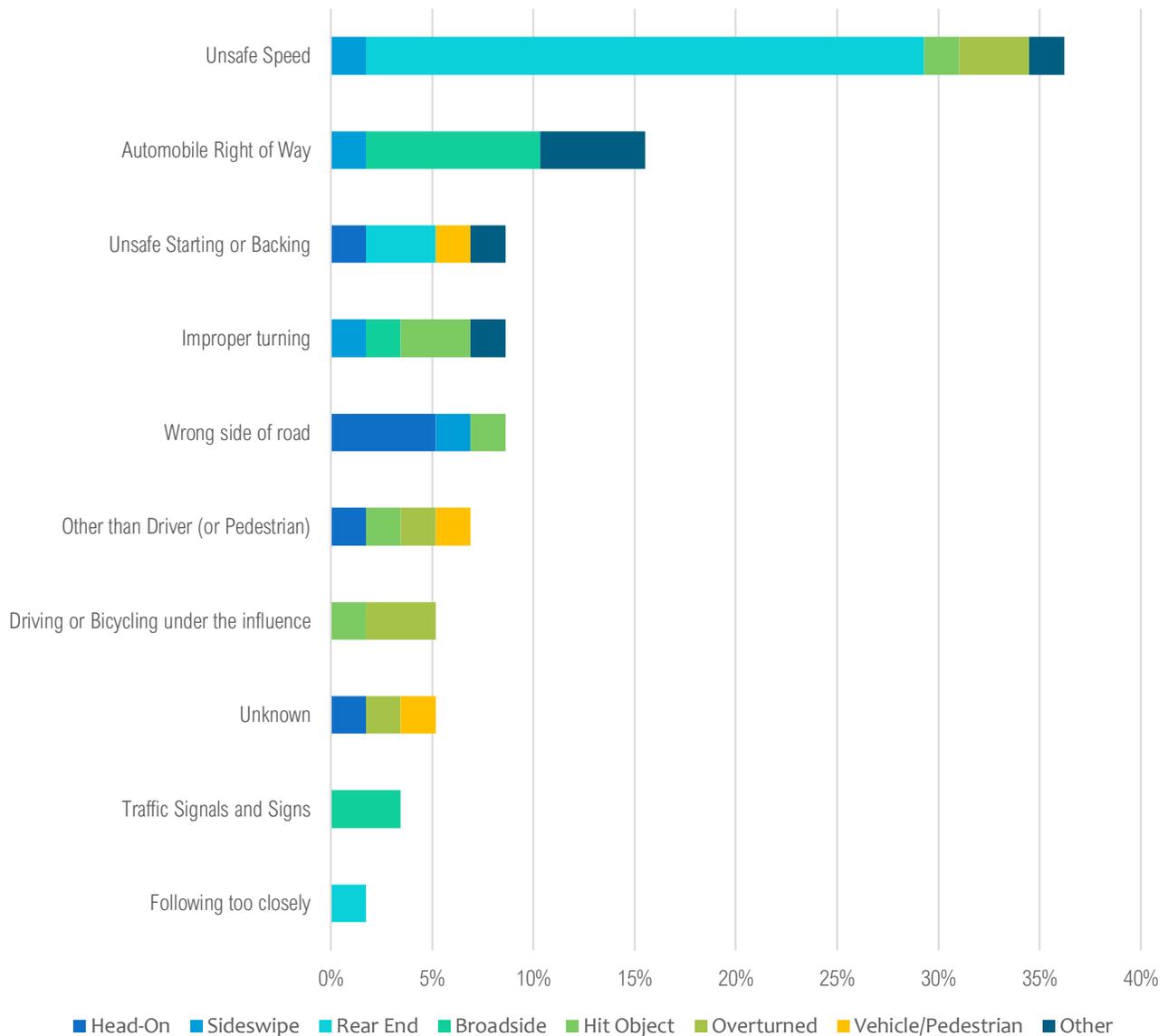
SOURCE: TIMS, 2021

**CHART 9: COLLISION TYPE (2015-19)**

<p>Head-on</p>  <p><b>10%</b></p>	<p>Sideswipe</p>  <p><b>7%</b></p>	<p>Rear-end</p>  <p><b>33%</b></p>	<p>Broadside</p>  <p><b>14%</b></p>
<p>Hit Object</p>  <p><b>10%</b></p>	<p>Overtaken</p>  <p><b>10%</b></p>	<p>Auto/Ped</p>  <p><b>5%</b></p>	<p>Other</p>  <p><b>10%</b></p>

SOURCE: TIMS, 2021

CHART 10: VIOLATION CATEGORIES BY CRASH SEVERITY (2015-19)

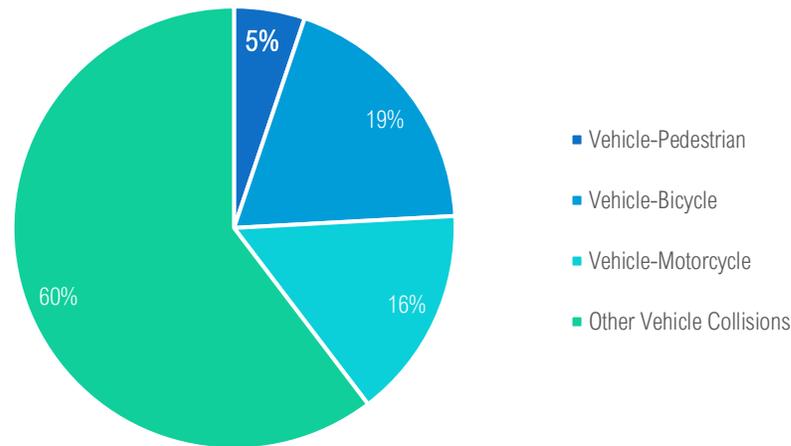


SOURCE: TIMS, 2021

### Bicycle and Pedestrian Collisions

The locations of reported bicycle and pedestrian collisions are shown in Figure 8. As shown, bicycles or pedestrians were involved in approximately 24 percent of reported collisions. Chart 11 depicts the percentage of collisions involving bicycles or pedestrians by type of collision. The majority of collisions involving bicycles or pedestrians were Vehicle-Bicycle collisions, accounting for approximately 19 percent of total collisions.

Bicycle and pedestrian collisions occurred mainly along Tiburon Boulevard and Paradise Drive. Four bicycle and pedestrian collisions occurred near the intersection of Cecilia Way and Paradise Drive. The other major hotspot for bicycle and pedestrian collision is near the Shoreline Park.

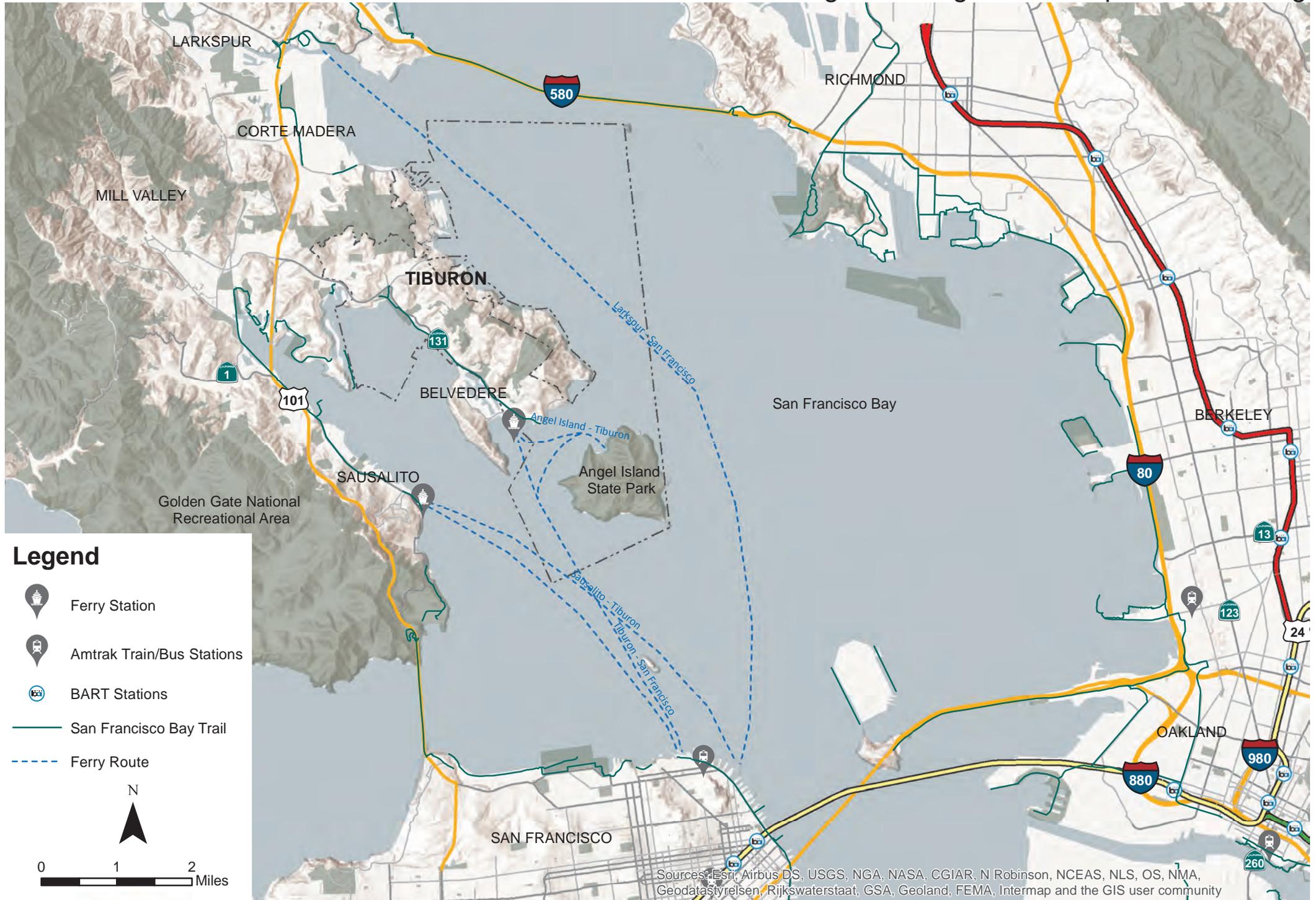
**CHART II: COLLISIONS INVOLVING BICYCLES OR PEDESTRIANS**

*SOURCE: TIMS, 2021*

### **ALTERNATIVE FUEL VEHICLES**

With incentives from government, more Californians are moving towards cleaner alternative energy sources for their vehicles as a way to reduce their impact on the natural environment. As one of the largest producers of pollution, the automobile and transportation industries are rapidly responding to this shift toward alternative fuel sources for vehicles. Marin County has the 2nd highest per capita EV ownership of any county in the California, and with 58 charging stations and 201 charging ports, there are more EV charging stations than gas stations in Marin County (Transportation Authority of Marin, 2018). TAM has funded the two charging stations in Tiburon. Additional infrastructure deployment will be essential to for the success of alternative fuel vehicles. Figure 10 shows the location of existing hydrogen and electric vehicle charging stations.

Figure 1: Regional Transportation Setting



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community



Figure 2: Street Network

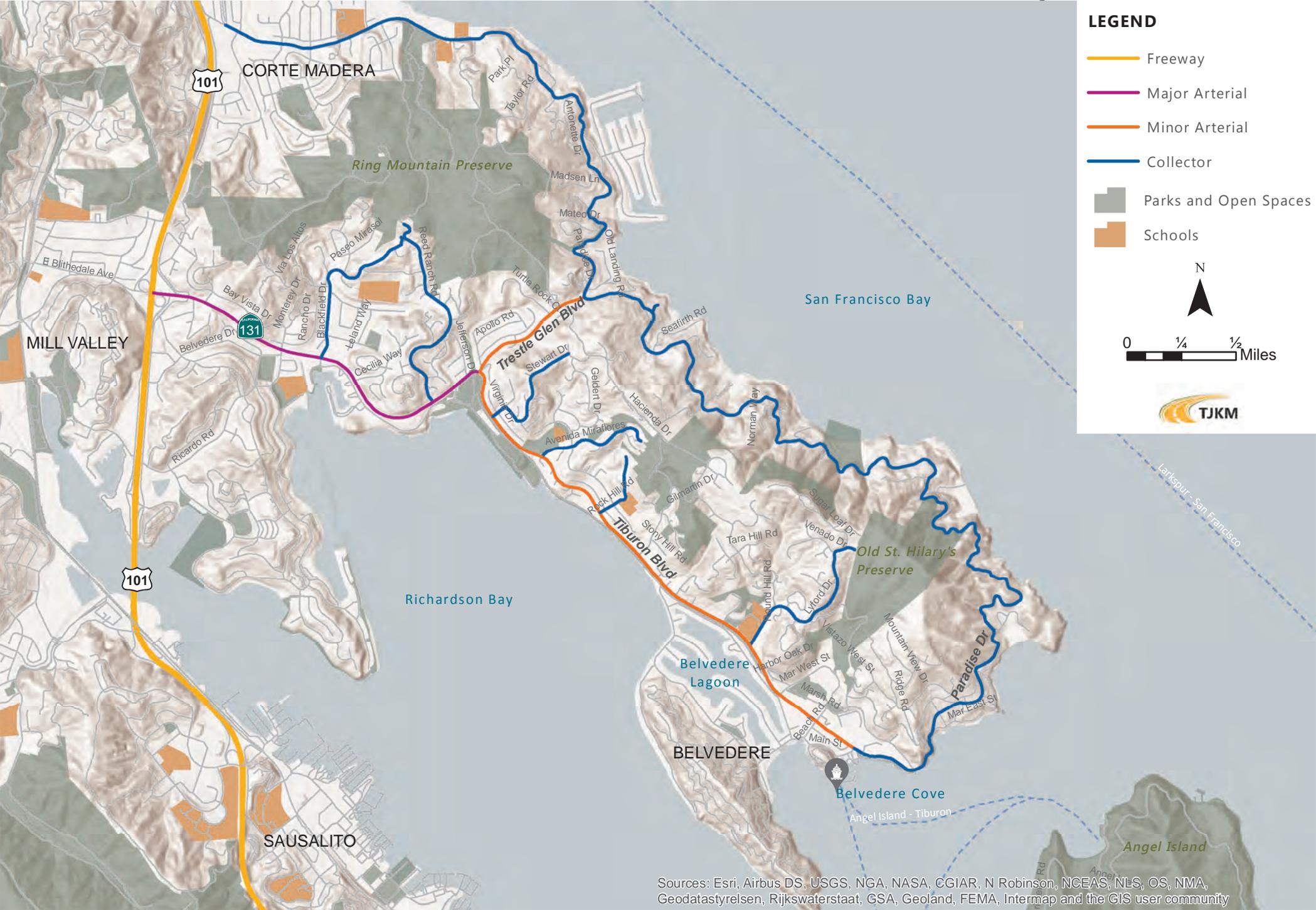


Figure 3: Transit Routes



Figure 4: Bikeway Network



Figure 5: Sidewalks & Paths

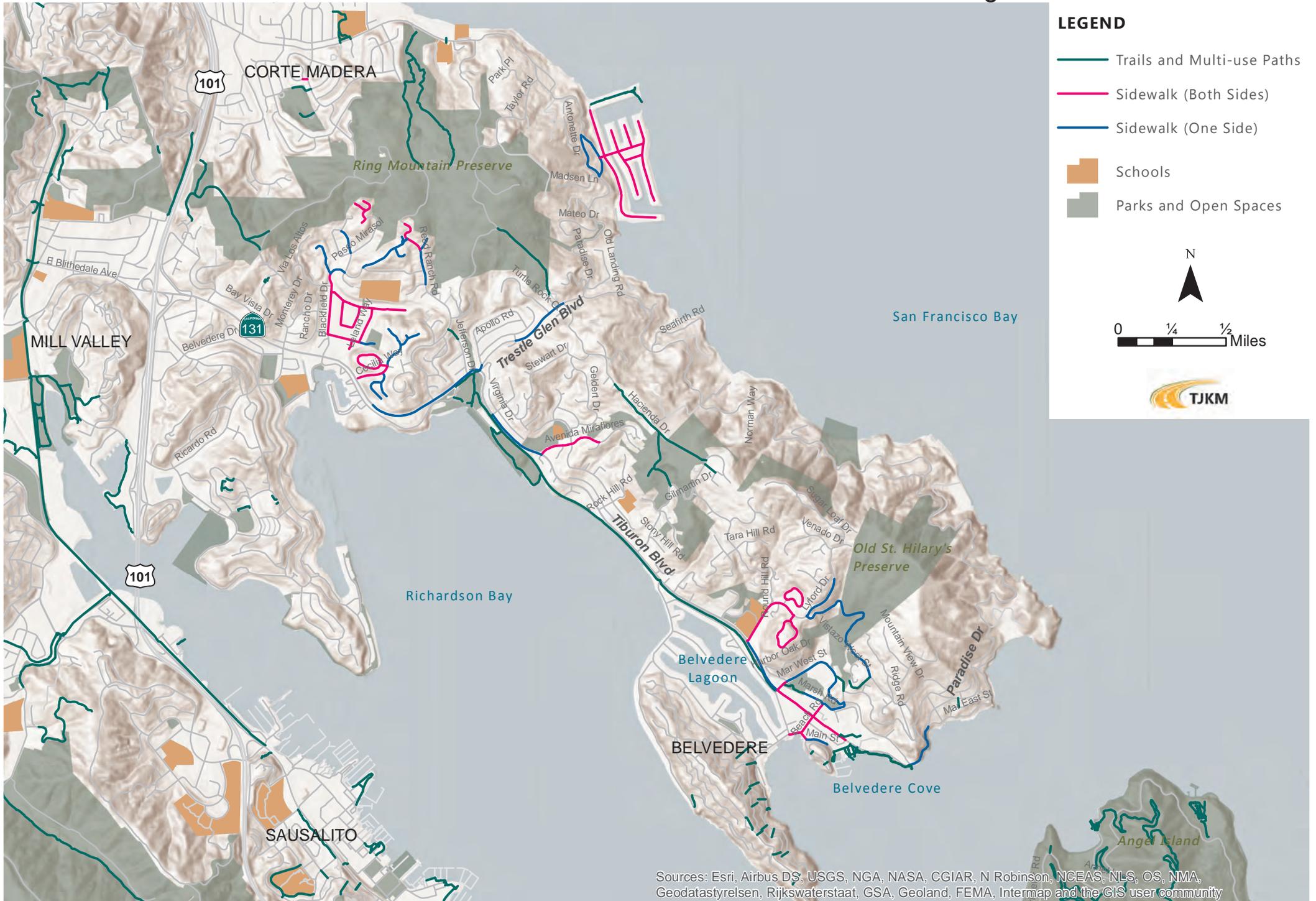




Figure 7: Types of Reported Collisions

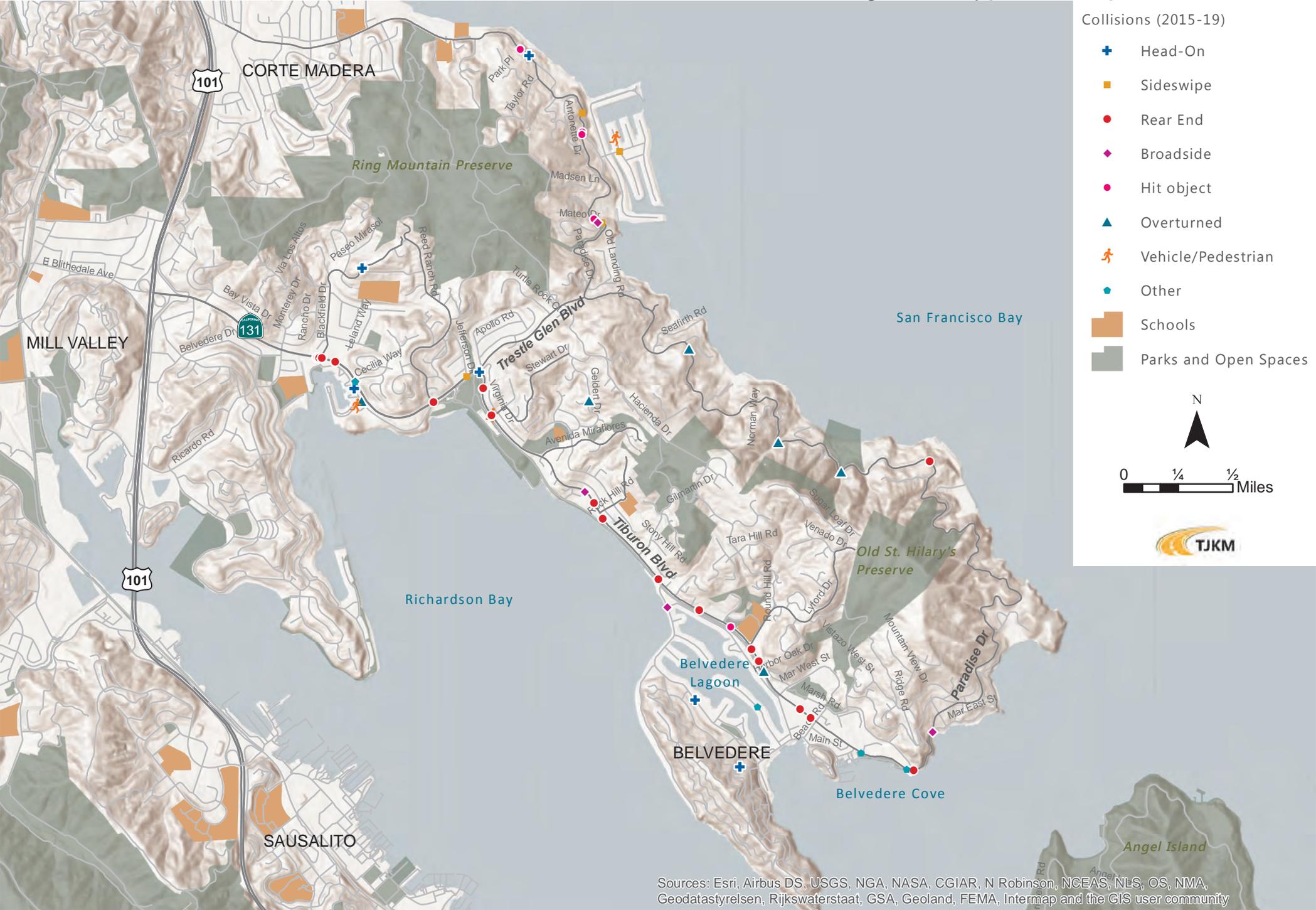
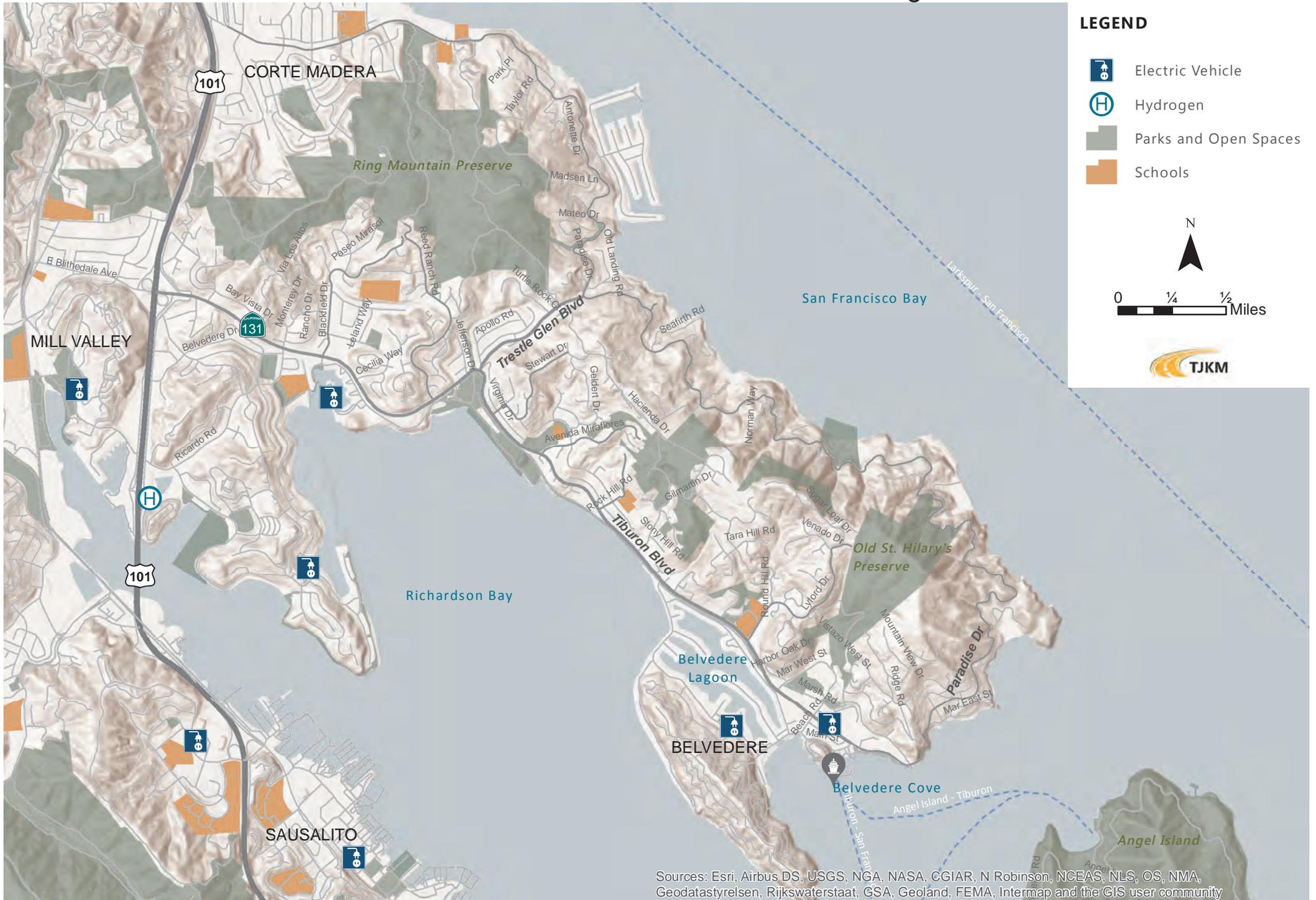




Figure 9: Daily Traffic Volume



Figure 10: Alternative Fuel Stations



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

## REFERENCES

---

- California Complete Streets Act of 2008. (2008). *Cal. AB 1358, Chapter 657*. California. Retrieved from [http://leginfo.ca.gov/pub/07-08/bill/asm/ab\\_1351-1400/ab\\_1358\\_bill\\_20080930\\_chaptered.html](http://leginfo.ca.gov/pub/07-08/bill/asm/ab_1351-1400/ab_1358_bill_20080930_chaptered.html)
- Caltrans. (2001). *Director's Policy on Context Sensitive Solutions*. California Department of Transportation. Retrieved May 13, 2019, from <http://www.dot.ca.gov/hq/transprog/ocip/te/dp-22.pdf>
- Caltrans. (2014). *Deputy Directive-64-R2: Complete Streets—Integrating the Transportation System*. California Department of Transportation. Retrieved May 10 2019, from [http://www.dot.ca.gov/hq/tpp/offices/ocp/docs/dd\\_64\\_r2.pdf](http://www.dot.ca.gov/hq/tpp/offices/ocp/docs/dd_64_r2.pdf)
- Curran, P. (2013, May 15). Summary Report, CART. Tiburon.
- Data USA. (n.d.). *Tiburon CA*. Retrieved January 14, 2021, from Data USA: <https://datausa.io/profile/geo/tiburon-ca#housing>
- Eco-Counter. (2021, January 28). *Looking back on the 2020 cycling boom – digging into the bike count data*. Retrieved from Eco-Counter News; Data Visualization: <https://www.eco-compteur.com/en/blog/looking-back-on-the-2020-cycling-boom-digging-into-the-bike-count-data/>
- Ewoldsen, B. (2020, August 17). *COVID-19 Trends Impacting the Future of Transportation Planning and Research*. Retrieved from Transportation Research Board: <https://www.nationalacademies.org/trb/blog/covid-19-trends-impacting-the-future-of-transportation-planning-and-research>
- Federal Highway Administration. (2016). *Small Town and Rural Multimodal Networks*. Final Report. Retrieved January 12, 2021, from [https://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/](https://www.fhwa.dot.gov/environment/bicycle_pedestrian/)
- Fox, J. (2020, August 27). *The Rise of Work-From-Home Towns*. Retrieved from Bloomberg Opinion: <https://www.bloomberg.com/opinion/articles/2020-08-27/scenic-towns-enjoy-boom-as-work-from-home-becomes-pandemic-norm>
- LawInfo, part of Thomson Reuters. (n.d.). *Transportation Law*. Retrieved January 08, 2021, from LawInfo: <https://www.lawinfo.com/resources/transportation-law/#:~:text=Congress%20is%20authorized%20to%20regulate,federal%20transportation%20policies%20and%20regulations.>
- Metropolitan Transportation Commission. (2019). *One Bay Area Grants*. Retrieved My 10, 2019, from MTC: <https://mtc.ca.gov/our-work/fund-invest/investment-strategies-commitments/focused-growth/one-bay-area-grants>
- Metropolitan Transportation Commission. (2019, February 20). *Plan Bay Area 2050*. Retrieved from Metropolitan Transportation Commission: <https://mtc.ca.gov/our-work/plans-projects/plan-bay-area-2050>
- Metropolitan Transportation Commission. (2020, September 15). *Complete Streets*. Retrieved from MTC: <https://completestreets.mtc.ca.gov/projects/1120>
- Office of Planning and Research. (2018). *Technical Advisory on Evaluating Transportation Impacts in CEQA*. State of California. Retrieved May 2019, from [http://opr.ca.gov/docs/20190122-743\\_Technical\\_Advisory.pdf](http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf)
- Ohio-Kentucky-Indiana Regional Council of Governments. (2016). *Land Use and the Natural Environment*. Retrieved April 30, 2019, from 2040 OKI Regional Transportation Plan: <https://2040.oki.org/land-use-the-natural-environment/>
- Rodrigue, D. J.-P. (2017). *The Geography of Transportation System* (Fourth ed.). New York: Routledge. Retrieved from [https://transportgeography.org/?page\\_id=4852](https://transportgeography.org/?page_id=4852)

Town of Tiburon. (2011). *Climate Action Plan*. Retrieved from <https://marinclimate.org/wp-content/uploads/2019/09/Tiburon-Climate-Action-Plan.pdf>

Town of Tiburon. (2012). *Downtown Circulation and Parking analysis*.

Town of Tiburon. (2012). *Final Bay Trail Gap Study*.

Town of Tiburon. (2016). *Tiburon Bicycle and Pedestrian Master Plan*. Tiburon. Retrieved from <http://www.townoftiburon.org/DocumentCenter/View/919/Bicycle-Pedestrian-Master-Plan-2016?bidId=>

Town of Tiburon. (n.d.). *Planning*. Retrieved December 21, 2020, from Town of Tiburon Website: <https://www.townoftiburon.org/158/Planning>

Transportation Authority of Marin. (2018). *Draft Electric Vehicle Charging Station Siting Plan, 2018*. Retrieved from <http://www.tam.ca.gov/wp-content/uploads/2019/01/DRAFT-Site-Plan-Update-2018.pdf>

Transportation Authority of Marin. (2020 September). *Electric Bicycles in Marin County*.