

10 Mobility

Introduction

Mobility is the ability to freely move or be moved. The term is sometimes used interchangeably with “transportation” or “circulation,” but there’s an important distinction. “Circulation” is something you do, while mobility is something you have. To have mobility is to have access—in other words, the ability to easily get to work, school, a park, a store, and so on. Easy access to transit doesn’t provide mobility if the bus only comes once an hour or requires a two-hour journey for a ten-mile trip. Owning a bicycle doesn’t provide mobility if it’s unsafe to ride a bike to your destination—and owning a car doesn’t provide mobility if the roads are too congested to drive or you can’t afford insurance and fuel.

The goal of any transportation project should be to improve mobility, and to do so in ways that are safe, efficient, and affordable. Mobility improvements also must support the City’s climate action and environmental quality goals, economic vitality goals, and social equity goals. Finally, mobility plans must be coordinated with the City’s land use plans, since those plans will determine how travel demand may change in the coming years.

The Mobility Element is rooted in data about how we travel through our city, and the ways we move between San Rafael and the rest of the region. It includes data on traffic volumes and congestion. It also includes data on how far we travel, where we go, and how we get there. Many of the policies are informed by forecasts for 2040, applying data on trends and regional growth to estimate how travel patterns may change in the future. The 2040 forecasts guide local investments in mobility improvements, including projects serving cars, bikes, pedestrians, and transit users. In earlier General Plans for San Rafael, these improvements focused on reducing congestion and increasing vehicle speed. General Plan 2040’s focus is based on a different set of priorities, including improved transportation choices and reduced greenhouse gas emissions (GHGs) as well as prior policies on vehicle congestion.

One of the overarching objectives of this element is to align transportation priorities with the City’s Climate Action Plan. Transportation accounts for more than 60 percent of San Rafael’s GHG emissions. Reducing emissions requires shifting to cleaner fuels, improving “active” transportation modes like bicycling and walking, and creating more convenient and reliable public transit.

The reality is that most San Rafael residents will continue to be dependent on their cars, at least for the next decade. Thus, a more impactful way to reduce GHGs may be to reduce the distance that local residents and employees must drive. This can be achieved by making it easier to work at (or near) home, providing a variety of housing types that meet the needs of the local workforce, and maintaining a mix of businesses and services that reduces the need to drive to other communities.

The 2020 COVID-19 pandemic ~~has~~ demonstrated the viability (and impact) of a large segment of the population working from home. The average number of Vehicle Miles Traveled (VMT) by all drivers in Marin County was 4.7 million miles per day in January 2020. By March 31, this number was 476,000, a 90 percent reduction. By June 2020, VMT had rebounded to about two million miles per day. [The long-term impacts of the pandemic on travel patterns remain unknown and will need to be monitored in the coming years.](#)

Photo Credit: Frank Johnson



Overview of the Mobility Element

The requirements of the Mobility Element are laid out by the California Government Code (Section 65302(b)). The Element must identify the general location of existing and proposed major thoroughfares, transportation routes, terminals, airports, and ports—and it must correlate plans for these facilities with the Land Use Element. The Element must also plan for a “balanced, multimodal transportation network that meets the needs of all users of streets, roads and highways” (AB 1358). These users include bicyclists and pedestrians, transit riders, children, seniors, movers of commercial goods, and persons with disabilities, among others.

This Element meets these requirements through its goals, policies, and programs. The Element begins with a “mobility profile” of San Rafael based on census data and regional transportation plans. This includes a general description of the city’s transportation system as well as the travel characteristics of San Rafael’s households and workers. Much of the discussion of future conditions is provided beneath the goal statements in this Element. These include:

- **Goal 1 (Regional Leadership)** describes the City of San Rafael's role in transportation policy making and planning at the countywide and regional levels.
- **Goal 2 (Transportation Efficiency and Access)** addresses the performance of the road system and management of congestion, including Level of Service standards.
- **Goal 3 (Cleaner Transportation)** focuses on the link between transportation and climate change, including strategies to reduce vehicle miles traveled and shift to cleaner fuel vehicles.
- **Goal 4 (High-Quality, Affordable Transit)** seeks to make transit a more viable alternative to driving, by collaborating with service providers and through local land use decisions.

- **Goal 5 (Safe, Attractive Streets)** focuses on traffic calming and safety initiatives, and programs to minimize the potential negative effects of roads and traffic on our neighborhoods.
- **Goal 6 (Safe Walking and Cycling)** addresses improvements to pedestrian and bicycle systems.
- **Goal 7 (Parking)** provides guidance on how to balance parking supply and demand and manage parking in a way that supports economic goals, livability goals, and sustainability goals.

Relationship to Other General Plan Elements

The Mobility Element is related to other elements of the General Plan as follows:

- **Land Use.** Mobility improvements are based on an analysis of growth and travel demand over the next 20 years, which is derived from the Land Use Element. The Land Use Element also guides development to areas with transit infrastructure and promotes a jobs-housing [balance](#) that enables more sustainable travel patterns.
- **Neighborhoods.** Policies throughout the Neighborhoods Element address area-specific transportation issues such as parking and traffic safety, as well as the need for pedestrian and bicycle improvements, roadway improvements, and emergency access.
- **Community Design and Preservation.** Policies in this Element address corridors, gateways, and the overall visual appearance of our streets.
- **Conservation and Climate Change.** Policies recognize the role of transportation in reducing greenhouse gas emissions, along with ways to reduce air and water pollution resulting from transportation.
- **Safety and Resilience.** The Safety and Resilience Element addresses the importance of the transportation system to emergency vehicle access and evacuation. It also considers the impacts of sea level rise on roads and transportation infrastructure.
- **Noise.** The Noise Element recognizes transportation as the primary source of noise in San Rafael and includes measures to reduce noise and ensure that land uses are compatible with ambient noise levels.
- **Community Services and Infrastructure.** The Element acknowledges roads as a component of infrastructure and notes the relationship between our street and our water, sewer, and drainage systems.
- **Economic Vitality.** The Element recognizes the importance of access and mobility to the well-being of residents, workers, and local businesses.
- **Equity, Diversity, and Inclusion.** Affordable, safe, accessible transportation is an important part of being a more inclusive and equitable city. The EDI Element includes policies to focus transportation investments and improvements in neighborhoods where the needs are greatest.
- **Housing.** The focus of the Housing Element is on meeting the needs of San Rafael's residents and workforce, which in turn reduces the need to travel long distances between work and home.



Photo Credit: Youth in Arts/ Y-Plan

Mobility Profile of San Rafael

San Rafael is a regional crossroads. A considerable share of the city's traffic consists of trips with origins and destinations elsewhere, particularly on US 101 and I-580. Prior to the 2020 COVID-19 pandemic, traffic volumes in San Rafael and Marin County were moving steadily upward. The average number of trips per household had been increasing, and San Rafael had a growing number of employees commuting in from other counties. Peak period congestion was exacerbated by regional growth as well as local traffic from schools, new development, SMART rail crossings, and other sources. **The pandemic has temporarily interrupted these trends, but they are expected to resume in the future.**

While the number and length of trips in San Rafael has increased, only minor improvements have been made to our roads and highways. Capacity on freeways and local arterials has not substantially increased. The US 101/I-580 interchange continues to cause bottlenecks and backups, especially for northbound travelers. The lack of north-south alternatives to US 101 places pressure on the freeway as drivers use it for local trips throughout the day. Conversely, when the freeway is congested, drivers exit and use local streets, creating long delays for residents.

Much of this is beyond San Rafael's control. The region is projected to add two million people in the next 20 years. Even if San Rafael limited new development entirely, congestion would continue to grow as a result of growth in other communities. It might even get worse, as new **Bay Area** residents have no local housing options and face longer commutes driving **to back toward** their jobs **in San Rafael**. Expanding transportation options is essential, but these options must be realistic and affordable. Not everyone can bicycle or walk to work, and not every workplace can be served by transit.

The City has made progress in diversifying its transportation network in the past few decades. There is a growing network of multi-modal (bicycle-pedestrian) facilities, including a new bike bridge across the Canal at Grand Avenue, a bike path over Puerto Suelo Hill, and a new path through the Cal Park Tunnel. SMART

Rail initiated service in 2017, with the Larkspur extension opening in 2019. New crosswalks and “Safe Routes to School” improvements are making it safer and easier to walk in some parts of the city. The City has also adopted a “Complete Streets” policy that ensures that streets are designed to meet the needs of all users.

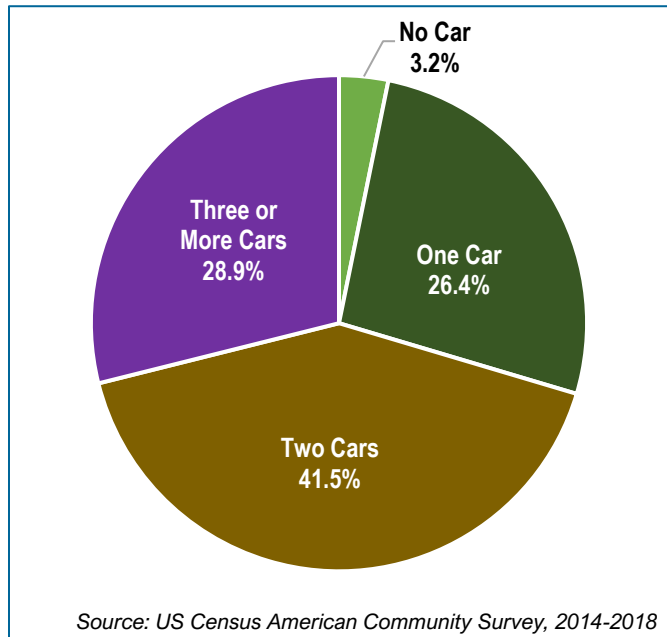
Census data on the mobility characteristics of San Rafael residents is provided below. The data is based on the American Community Survey (ACS), which summarizes conditions during the five-year period from 2014-2018.¹

Mobility Characteristics

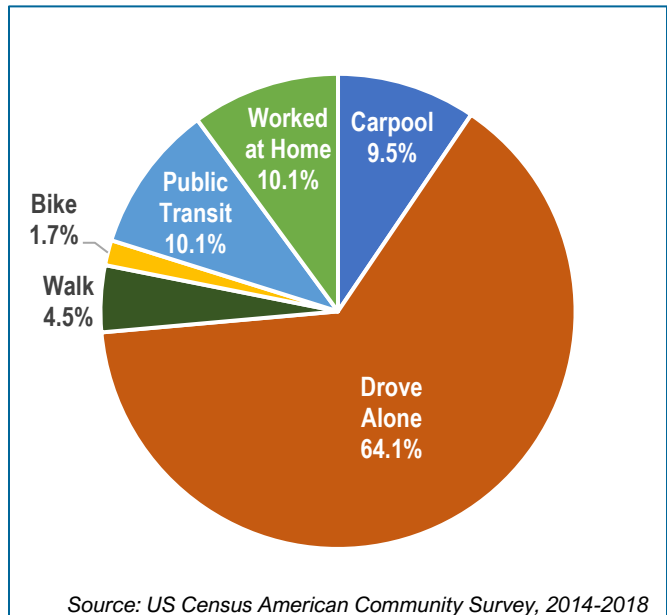
Chart 10-1 indicates vehicle ownership by San Rafael households. Approximately 70 percent of San Rafael’s households own two or more vehicles. The figure is substantially less than ~~than~~ the countywide figure of 77 percent but still indicates a heavily auto-dependent population. In the Bay Area as a whole, 55 percent of all households have two or more cars. Only 3.2 percent of San Rafael’s households have no car, and 26.4 percent own one car.

Chart 10-2 indicates the means of transportation to work for employed San Rafael residents. The table indicates that 64 percent of the city’s employed residents drove alone to work and nine percent carpooled. Another 10 percent used public transit—primarily buses. Just six percent of the city’s residents walked or cycled to work. About 10 percent of employed San Rafael residents worked from home. The local figures are almost identical to the figures for Marin County as a whole. However, relative to the region, a higher percentage of San Rafael households drive alone to work. In the Bay Area as a whole, about 17 percent of the workforce commutes by public transit, and 59 percent drive alone to work.

**Chart 10-1 (top):
Vehicles Owned per Household in San Rafael**



**Chart 10-2 (bottom):
Means of Travel to Work for Employed San Rafael Residents**



¹ The ACS is based on sample data that may undercount undocumented and other foreign-born residents. It also does not reflect transportation trends since 2018. Actual conditions may vary slightly from the charts displayed here.

Chart 10-3:
Travel Time to Work for San Rafael Residents
(excludes persons working at home)

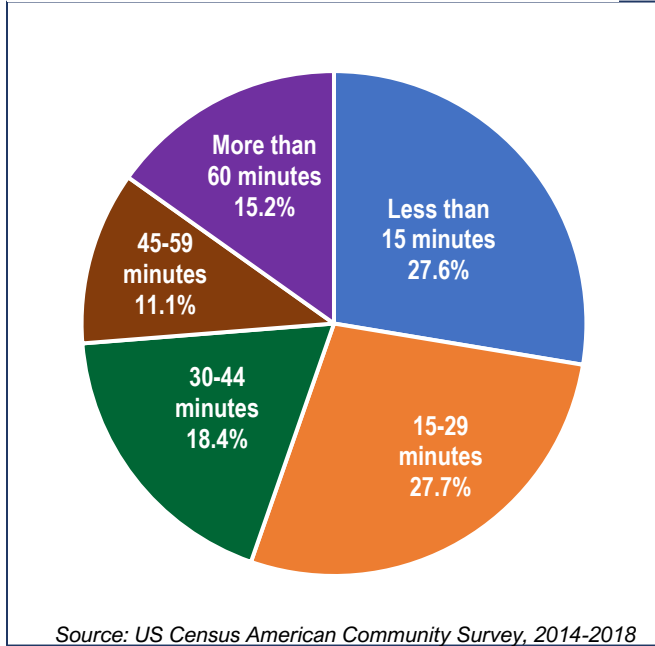
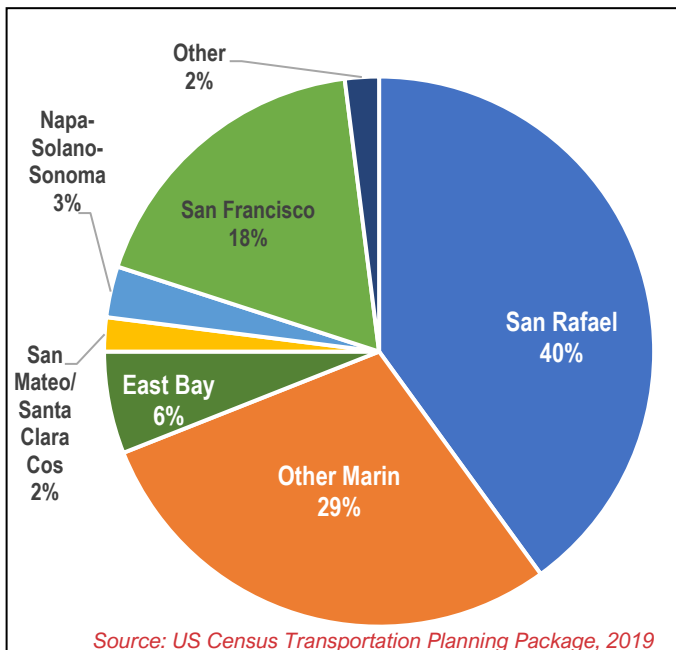


Chart 10-3 shows the average travel time to work for employed San Rafael residents, excluding persons working from home. Roughly 28 percent of employed residents had a commute of 15 minutes or less. About 15 percent had a commute of one hour or longer. The mean travel time to work was 28.9 minutes for the city as a whole. Countywide, the figure was 32.5 minutes. For the nine Bay Area counties, the figure was 30.7 minutes.

Travel patterns in San Rafael are complex. As shown in Chart 10-4, the Census indicates that 40.1 percent of the city’s employed residents work within San Rafael. Another 29 percent work elsewhere in Marin County and 30 percent commute to another county. Of those commuting to jobs outside Marin County, roughly two thirds work in San Francisco. Only six percent of the city’s employed resident work in the East Bay, while three percent work elsewhere in the North Bay and two percent work on the Peninsula or in Silicon Valley.

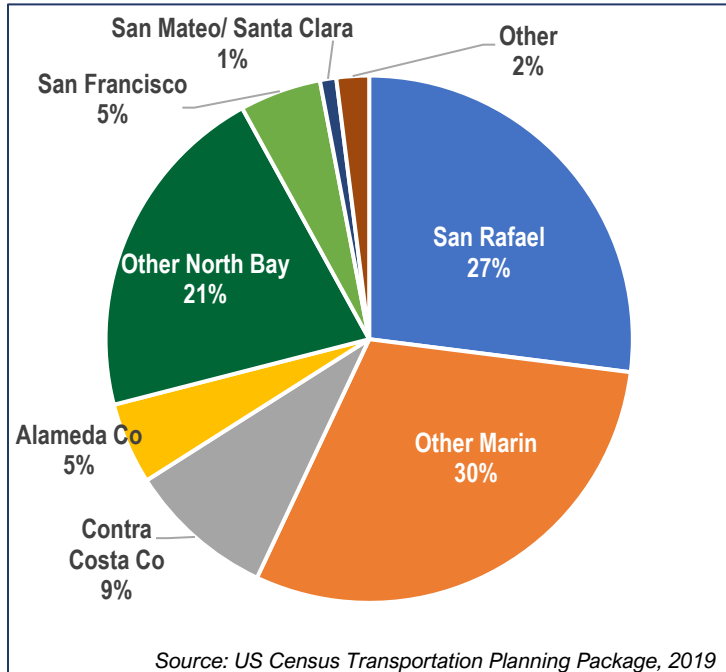
Chart 10-4:
Place of Work for Employed San Rafael Residents



Data collected by the Transportation Authority of Marin (TAM) indicates that the average daily trip length in San Rafael is 8.2 miles. This is slightly lower than the county average of 9.1 miles and nearly 20 percent higher than the Bay Area average of 6.9 miles.

Chart 10-54 indicates the place of residence for persons working in San Rafael. While much of San Rafael initially developed as a “bedroom community,” the city has evolved into an employment center that “imports” more workers than it “exports.” Today, the city’s daytime population is larger than its nighttime population. About 27 percent of the city’s workers live in San Rafael and 30 percent commute in from elsewhere in Marin. About 21 percent commute to San Rafael from other North Bay counties (particularly Sonoma County) and 14 percent commute from the East Bay. The flow of residents leaving San Rafael for work—and non-residents arriving in San Rafael for work—means that significant two-directional traffic occurs in both the AM and PM commute periods.

Editor’s Note: Pie Chart added



**Chart 10-5:
Place of Residence for Persons Working in San Rafael**

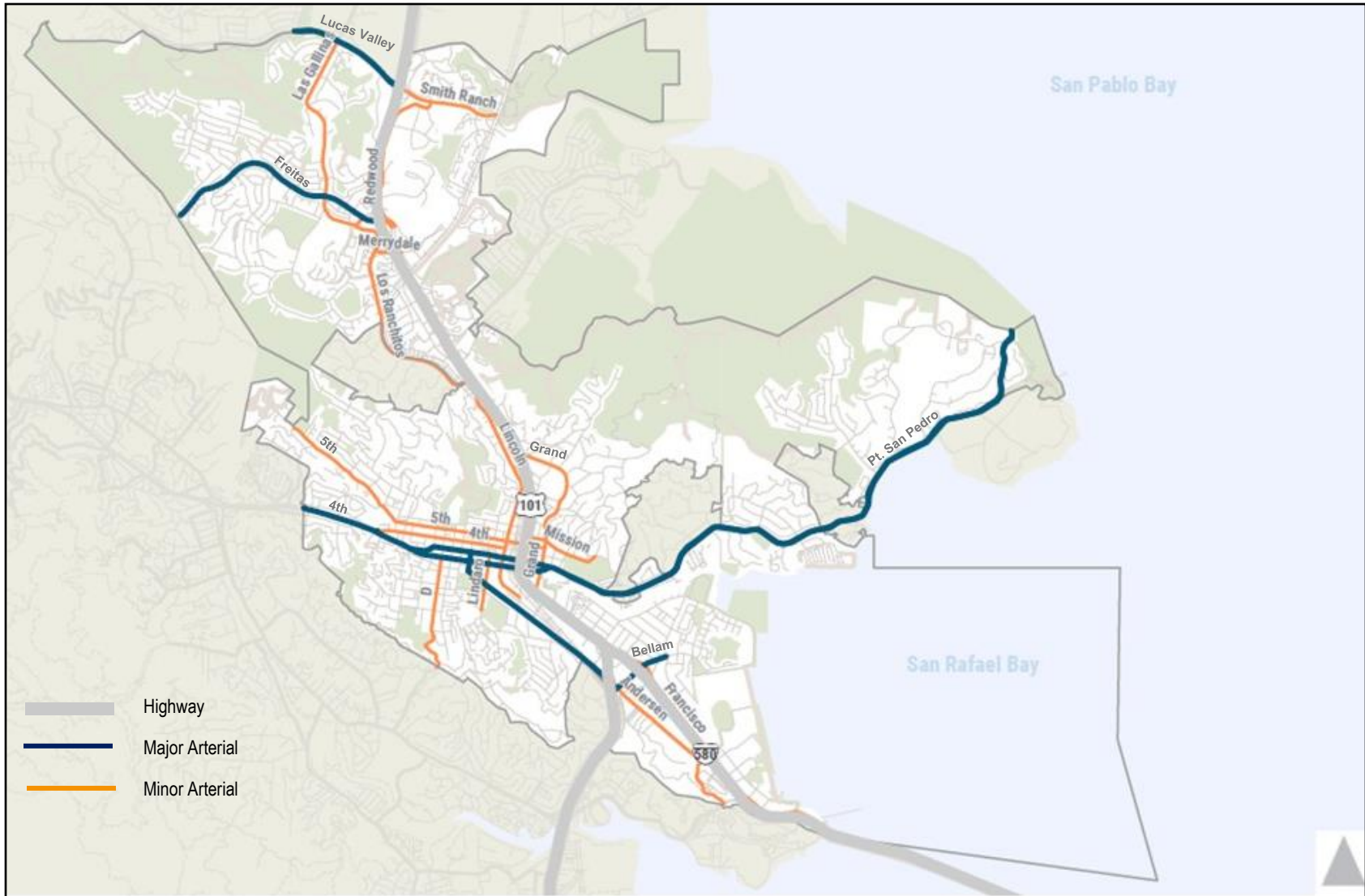
Street System

San Rafael’s street system includes 245 miles of City streets and serves as the primary conduit for most modes of travel. Roads are organized using a hierarchical system consisting of highways, major arterials, minor arterials, collectors, and local streets. These classifications define the functional and operational characteristics of each roadway and are used as a tool for planning and design. Figure 10-1 shows the location of highways (US 101 and I-580) as well as major and minor arterials.

US 101 and I-580 are both Caltrans operated facilities that provide regional access to San Rafael. US 101 extends from Washington State to Los Angeles and is a major north-south Bay Area freeway. The freeway has four lanes in each direction in San Rafael and carries approximately 202,000 vehicles per day. I-580 extends from San Rafael to the East Bay and Central Valley via the Richmond-San Rafael Bridge. The freeway has two lanes in each direction in San Rafael, with an auxiliary lane between Sir Francis Drake Boulevard and the base of the bridge. The freeway carries about 77,000 vehicles per day just east of US 101.

Congestion levels on US 101 as well as the I-580/US 101 junction can cause freeway traffic to detour onto City streets during peak travel periods or when incidents occur on the freeway. This can cause congestion on parallel surface streets such as Las Gallinas Avenue, Los Ranchitos Road, Lincoln Avenue, Grand Avenue, Andersen Drive, and Francisco Boulevard West and East. Land use patterns in San Rafael, coupled with local topography, have resulted in a primarily east-west road network. Major east-west roads include Lucas Valley/Smith Ranch Road, Manuel T. Freitas Parkway, Second and Third Streets, North San Pedro Road, Point San Pedro Road, Bellam Boulevard and Andersen Drive.

Downtown San Rafael is served by both local and regional streets. There is a grid-based network of numbered east-west streets and lettered north-south streets in much of the area. There are also 53 signalized intersections and a number of specialized traffic control devices that facilitate safe pedestrian movement. The one-way segments of Second/Third Street and the segment of Fourth Street between Downtown and San Anselmo are considered part of the regional Congestion Management Program (CMP) network. The Transportation Authority of Marin (TAM) maintains standards for all CMP segments and prepares plans to improve the performance of this regional network. San Rafael’s Downtown segments are considered infill opportunity zones and are generally exempt from these standards.






-  Highway
-  Major Arterial
-  Minor Arterial

Figure 10-1:
Existing Street System

San Rafael’s mobility funding comes from a Federal, State, and local sources. Federal and state funds are constrained, placing a greater burden on county and local governments to meet transportation needs. Marin County Measure AA, a half cent sales tax, was initially passed (as Measure A) in 2004 and affirmed for a 30-year time period in November 2018. The City also collects traffic impact fees from new development to fund improvements identified in the General Plan. Additional funding sources will be required, not only for capital projects but also to improve mobility services for San Rafael residents.

Other Components of the Transportation Network

San Rafael is served by the Marin County Transit District (Marin Transit), the Golden Gate Bridge, Highway, and Transportation District (GGBHTD), and Sonoma Marin Area Rail Transit (SMART). Marin Transit provides local bus service within Marin County and is financially supported by Measure A (AA), as well as State Transportation Development Act funds, fares, property taxes, and federal funds. GGBHTD is a special district created by the State of California to manage the Golden Gate Bridge, provide ferry service, and operate a regional transit system that links the North Bay to San Francisco and the East Bay. GGBHTD is currently leading the effort to relocate San Rafael’s Bettini Transit Center, which is a major intermodal terminal in Downtown San Rafael.

SMART operates rail service between Larkspur Landing and Airport Boulevard in Santa Rosa, with stations in Downtown San Rafael and the Civic Center. The trains provide an **n-important** commute option for persons working in San Rafael and living in Sonoma County, and are a resource for San Rafael residents traveling north or to the Larkspur Ferry. SMART also serves non-commute travelers, with weekend and evening service. Long-range plans call for SMART’s extension to Cloverdale.

Additional information on the transit system is provided under Goal [M-4](#).

San Rafael is served by San Francisco and Oakland International Airports, each located 31 miles away. [Charles M. Schulz Airport is 45 miles to the north near Santa Rosa.](#) There is also a small private airport in North San Rafael, which is locally operated for non-commercial flights. Marin County operates a small public airport for business and pleasure in Novato, known as Gness Field. San Rafael is also served by Airporter buses and shuttles that provide transport to Oakland and San Francisco International Airports, and by Greyhound Bus.

The city has a growing network of bicycle and pedestrian facilities, addressed in Goal 6 of this Element. The San Rafael Bicycle and Pedestrian Master Plan was adopted in 2002 and updated in 2011 and 2018. As a result of the Master Plan, dedicated bike lanes and bike paths have been developed and measures to improve pedestrian safety have been taken.

Editor’s Note: Photo to be resized after tracked changes are accepted



Photo Credit: Florian Kainz

Goal M-1: Regional Leadership in Mobility

Take a leadership role in developing regional transportation solutions.

San Rafael is proud of the leadership role it has taken in planning and securing funding for regional transportation projects. By working closely with regional transportation agencies and service providers, the City plays an important role in managing congestion, reducing greenhouse gas emissions, and expanding travel choices in the Bay Area. The City will continue to advocate for local benefits when regional projects are proposed, including improvements that enhance local access, resilience, economic and fiscal health, social equity, and environmental quality. Project selection and design should be informed by rigorous cost-benefit analysis, objective data, consideration of emerging trends and technologies, and a transparent public process.

Mobility is a regional issue that must be addressed on a regional level. San Rafael is connected to the region by freeways, bridges, rail, buses, ferries, and trails. These facilities are governed by multiple agencies at all levels of government. At the federal level, the US Department of Transportation oversees the safety and efficiency of the nation's highways, airports, rail lines and ports. At the State level, Caltrans manages the State's highways and freeways. At the regional level, the Metropolitan Transportation Commission (MTC) is the transportation planning agency for the Bay Area. San Rafael works with elected local, State, and federal representatives to ensure that the City has a voice in how transportation services are delivered and how major facilities are developed.

Closer to home, the Transportation Authority of Marin (TAM) manages countywide transportation planning and funding. TAM administers the Measure AA half-cent transportation sales tax, as well as a \$10 vehicle registration fee. TAM serves as Marin County's Congestion Management Agency and includes a Board of Commissioners that includes San Rafael representatives. As the largest city in the County, San Rafael has historically been a leader in shaping the future of transportation in Marin. San Rafael is also represented on the boards of local transit agencies and on the MTC and ABAG Executive Boards and various committees.

Policy M-1.1: Regional Transportation Planning

Actively coordinate with other jurisdictions, agencies, and service providers to improve the local and regional transportation system and advocate for the City's interests. Work cooperatively to improve transit and paratransit services, achieve needed highway improvements, and improve the regional bicycle and pedestrian networks.

Program M-1.1A: Participation in Countywide and Regional Transportation Planning. *Actively participate in the planning activities of the Transportation Authority of Marin, the Metropolitan Transportation Commission, SMART, and other transportation agencies and support implementation of cost-effective regional plans and programs.*

Program M-1.1B: Public Information About Transportation. *Provide timely information and opportunities for public input on transportation issues and projects through workshops, neighborhood meetings, social media, staff reports, and other means.*

Policy M-1.2: Regional Funding

Support a regional approach to the funding of transit, highway, bicycle, and pedestrian improvements by seeking a broad range of federal, State, and County funds. Use local funds to leverage and match outside funding sources.

Program M-1.2A: Transportation Project Grants. Work with governmental agencies, non-profits and community groups to secure grants for appropriate transportation projects.

Policy M-1.3: Regional Transportation Improvements

Actively participate in regional transportation improvements that facilitate mobility in San Rafael.

Program M-1.3A: US 101/I-580 Connector. Continue to collaborate with TAM, Caltrans, the City of Larkspur, and impacted stakeholders on improvements to the US 101 I-580 interchange and Richmond-San Rafael Bridge, including advocacy for local access improvements to East San Rafael.

Policy M-1.4: Transportation Innovation

Take a leadership role in delivering innovative transportation services and improvements.

Program M-1.4A: Transportation Technology. Use the most cost-effective proven technologies available when managing congestion and parking, including transportation information systems and “smart city” improvements.

Program M-1.4B: Delivery Services. Prepare for the potential impacts of emerging delivery service technology, including drones, on local roads, infrastructure, parking systems, and noise.

Program M-1.4C: Autonomous Vehicles. Monitor and manage the effects of autonomous vehicles, personal air vehicles, and connected vehicle technology on transportation needs, road design, and travel behavior. Adjust local transportation programs, infrastructure, and design standards as needed.

Policy M-1.5: Travel Data and Modeling

Support the collection and analysis of data on travel behavior in San Rafael, particularly related to commute patterns and the effectiveness of City programs. Use this data when considering public expenditures and programs.



Untangling US 101/ I-580

Planning for a direct connection from northbound US 101 to eastbound I-580 is now underway. The effort is being coordinated by the Transportation Authority of Marin (TAM) in collaboration with Caltrans and the cities of San Rafael and Larkspur.

Currently, northbound drivers on US 101 heading to the Richmond-San Rafael Bridge must exit the freeway on San Francis Drake Boulevard or exit on Bellam Boulevard and continue through a signalized intersection before merging onto I-580. This causes congestion on northbound US 101, as well as Bellam Boulevard and nearby streets. The project will provide a direct ramp connection that avoids local streets. A number of alternative alignments are being considered for the new ramp, each with varying environmental impacts and costs. The project includes bicycle and pedestrian improvements along Bellam Boulevard, and new transit connections.

The US 101/I-580 connector project is being coordinated with efforts to reduce bottlenecks on the eastbound I-580 approach to the Bridge. A third eastbound lane was opened on the bridge in 2018 for afternoon commuters. The connector project includes a new lane on eastbound I-580 from the new US 101 ramp to the existing on-ramp at Sir Francis Drake Boulevard.

Goal M-2: Improved Transportation Efficiency and Access

Sustain an efficient, cost-effective transportation network that continuously improves mobility and accessibility for all users.

The transportation system will remain safe and responsive to the needs of San Rafael residents, businesses, workers, and visitors. Emerging technologies will help improve the operational efficiency of streets and highways. Persons of all ages and physical capabilities will be able to get around the city. San Rafael will continue to manage local congestion while making it easier to get around without a car.

Given its central location, land use pattern, topography, and role as a regional economic center, San Rafael experiences significant traffic congestion. Congestion frustrates drivers, contributes to pollution and greenhouse gas emissions, and reduces productivity and recreational time. It is regarded as a key indicator of the quality of life.

Over the years, the City of San Rafael has improved the efficiency of its road system and maximized the capacity of its older streets. Examples include the “pairing” of Second/Third and Hetherton/Irwin as one-way arterials through downtown and the Kerner/Irene/Francisco “Loop” in East San Rafael. Technology has enabled the City to synchronize its traffic signals and monitor operating conditions, making adjustments as needed to improve traffic flow. While the City has little control over traffic on Highways 101 and 580, it continues to monitor congestion and support regional mobility initiatives.

Congestion management will continue to be a priority in San Rafael in the future. Much of the General Plan’s focus is on creating more transportation options and making land use decisions that reduce dependency on cars. Managing, maintaining, and improving our roads also has to be part of the solution. The City will continue to require that the impacts of new development on traffic are evaluated, and that improvements are made where necessary to offset these impacts and keep traffic moving.



Transportation Planning

Policy M-2.1: Road Hierarchy

Maintain a network of arterial, collector, and local streets that efficiently moves traffic through the city. Engineering and design standards should reflect road type and function, the characteristics of adjacent uses, and the need to accommodate motorized and non-motorized travel.

Program M-2.1A: Complete Streets. *Consistent with State “Complete Streets” requirements, maintain street design and engineering standards that plan for the needs of all travelers and minimize conflicts between competing modes.*

Policy M-2.2: Safety

Design a transportation system that is safe and serves people using all modes of travel. Higher levels of congestion may be accepted at particular intersections if necessary to ensure the safety of all travelers, including pedestrians, bicycles, motorists, and transit users.

Program M-2.2A: Collision Data. *Collect and analyze data on traffic collisions and use such data to inform decisions about capital improvements, enforcement, and traffic safety programs.*

Program M-2.2B: Street Pattern and Traffic Flow. *Support efforts by the City Traffic Engineer to configure or re-configure street patterns to improve traffic flow and turning movements while prioritizing safety.*

Complete Streets

The concept behind “complete streets” is that streets belong to everyone. They should be designed and operated to allow safe access for all users—not just cars, but pedestrians, bicyclists, transit riders, and persons of all ages and abilities. Complete streets are an essential part of transportation equity. Buses can run more smoothly because the lanes aren’t jammed with cars. Those who don’t own cars have the freedom to move safely through the city.

California adopted complete streets legislation in 2008. All cities and counties in the state are required to design their roads to meet the needs of all users. While there is no single prescription for a complete street, some of the important elements include wider sidewalks, dedicated bike lanes, narrower travel lanes, bus pullout areas, [ramps for disabled persons](#), and curb extensions (“bulbouts”) that reduce the distance pedestrians must travel when crossing the street.



Policy M-2.3: Cost-Benefit Considerations

Consider the relative costs and benefits of transportation improvement projects, including the amount and source of funding, the potential number of people who will benefit, the expected impact on vehicle miles traveled and climate goals, the cost and time impacts on all travelers, the social and equity impacts, the effects on the environment and public safety, and similar factors.

Program M-2.3A: Cost-Benefit Analysis. *Conduct cost-benefit analyses as part of the design process for proposed transportation projects, including the criteria listed above and other factors that may be relevant (see also Policy CSI-5.1 on cost-benefit analysis).*

Policy M-2.4: Transportation Efficiency

Undertake improvements that manage lane capacity, traffic flow, and intersections more efficiently.

Program M-2.4A: Intelligent Transportation Systems. *Support the use of intelligent transportation systems to improve traffic flow and provide real-time data on traffic conditions so that motorists may travel through the city as efficiently as possible.*

Program M-2.4B: Reducing Vehicle Idling. *Support transportation network improvements to reduce vehicle idling, including synchronized signal timing.*

Program M-2.4C: Roundabouts. *Consider the use of roundabouts as an alternative to traffic signals and stops signs. Roundabouts can improve the flow of traffic when they are properly designed and located on streets with low to moderate volumes.*

Level of Service

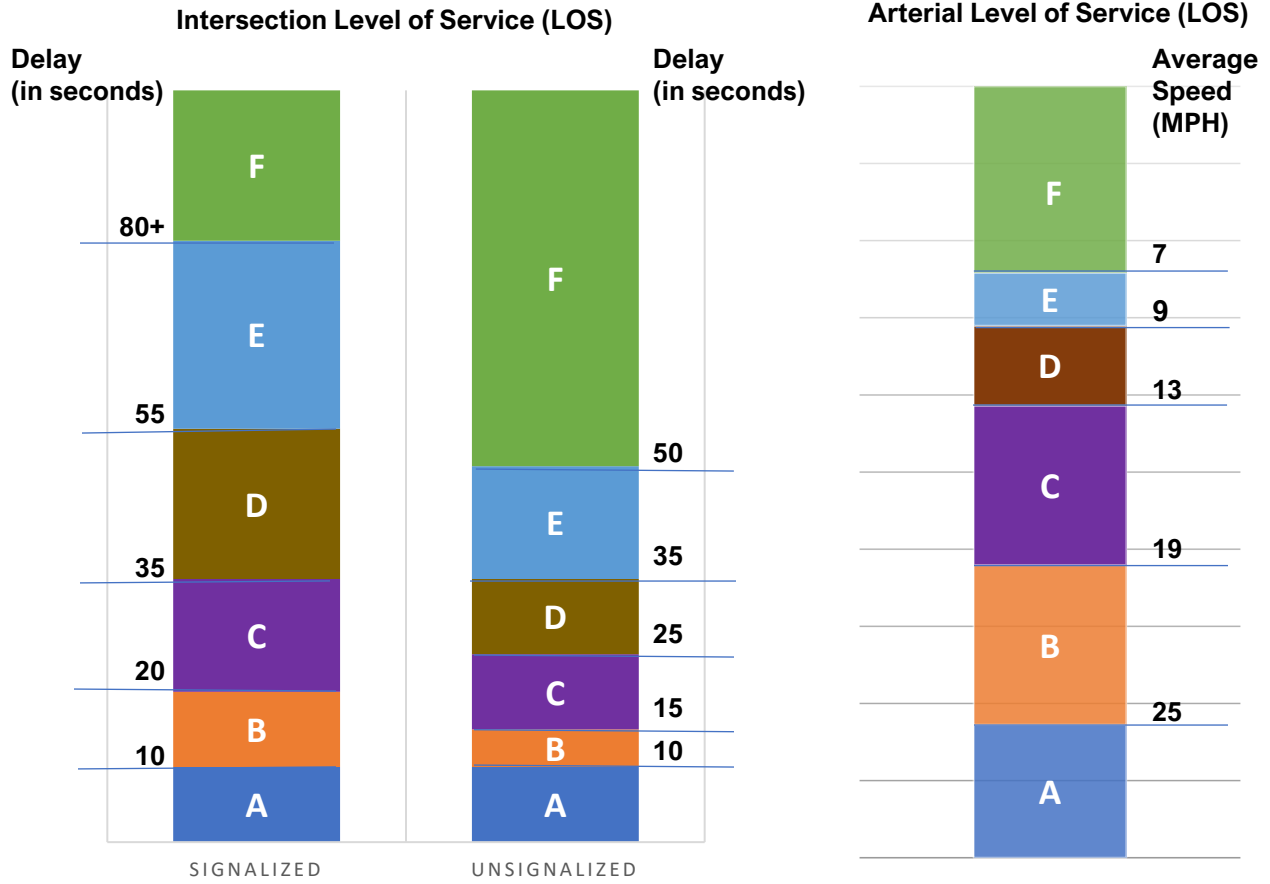
Level of Service (LOS) is a tool used to measure operating conditions and congestion levels at intersections and along road segments.

- For *intersections*, LOS is based on the time it takes to pass through the intersection—specifically, the level of delay that occurs when the intersection is congested.
- For *road segments*, LOS is based on the average travel speed between two points along a road.

LOS is expressed using a letter grade, similar to a report card. LOS “A” corresponds to an intersection with no delay, or a road segment where traffic moves at or above the speed limit. LOS “F” is a failing grade, given to an intersection with long delays or a road segment with jammed traffic. When a road is at LOS “F,” it may take multiple cycles of a traffic light to pass through an intersection. As shown in Chart 10-5, there are specific metrics (seconds of delay and average speed levels) associated with each of the lettered grades.

In the 1980s, San Rafael began using LOS as the metric for evaluating the performance of its road system. The City established LOS “D” as the minimum acceptable standard. For intersections or road segments operating below LOS “D” (or projected to operate below LOS “D” in the future), the City faced a choice: undertake improvements to restore the facility to LOS “D” or better or accept a lower level of service. This choice has been made on a case by case and area by area basis. In some instances, improvements were funded by a traffic mitigation fee levied on new development. A fee was justified because there was a clear connection (called a “nexus”) between new development and the increase in traffic and need for improvements. In other cases, accepting a lower level of service (E or F) was necessary because improvements were infeasible or the project provided a significant public benefit. For example, this might occur where widening a road would require removing homes or businesses, or where denying the project would cause a loss of potential affordable housing or local jobs.

Chart 10-5: Level of Service Metrics for San Rafael



San Rafael's experience with LOS has evolved over the years. The system was initially only applied to evaluate the weekday evening peak hour (4:00-6:00 PM). It was later expanded to include the weekday morning peak hour (7:00-9:00 AM) for environmental review purposes. LOS became the threshold used to determine whether a project had a "potentially significant" impact under the California Environmental Quality Act. Decisions to approve, deny, or scale back new projects very often hinged on their LOS impacts.

In 1988, the City adopted a program called the Priorities Projects Procedure (PPP). PPP allocated development potential in portions of North and East San Rafael based on their remaining traffic capacity. In 2004, the PPP was replaced with the Project Selection Process (PSP), which implemented the same allocation process citywide. In 2011, the PSP program was discontinued because most of the remaining traffic capacity had been used up and few vacant developable sites remained.

In 2013, the California legislature passed SB 743, disallowing the use of LOS as a CEQA threshold. The requirement was phased in over seven years as new guidelines for evaluating impacts were developed. The new requirement came about because reliance on LOS had a number of unintended consequences, including continuous widening of roadways and expansion of road capacity to reduce vehicle delay. At best, these improvements were making it harder to shift trips to public transit, cycling, and walking. At worst, they were contributing to urban sprawl and leading to longer trip lengths. Exclusive reliance on LOS also created a potential disincentive to development in places like Downtown San Rafael, where roads were congested but could not be expanded without further relaxing LOS standards or sacrificing community character and walkability.

As noted in Goal M-3, the City of San Rafael has now adopted Vehicle Miles Traveled (VMT) as its CEQA threshold, consistent with State law (see text box on page 10-27). VMT is a completely different type of threshold, based on regional conditions rather than local conditions. It measures the additional amount of driving a project will generate, rather than the amount of congestion it will create. VMT impacts are usually addressed by providing alternatives to driving, rather than increasing road capacity.



San Rafael will maintain LOS “D” as its planning standard, establishing exceptions in the General Plan as the City has done in the past. Traffic studies will continue to be required to determine if this standard is being met, and what improvements may be required to maintain it in the future. As noted in Goal M-3, a Vehicle Miles Traveled (VMT) standard also will be used to evaluate future projects.

Policy M-2.5 identifies exceptions to the LOS “D” standard for Downtown San Rafael and at several intersections and road segments. These are locations where the existing or projected LOS is below LOS “D,” and where LOS “D” cannot be maintained (or restored) due to financial constraints, engineering or topographic constraints, existing land uses, regional traffic beyond the City’s control, and similar factors. Policy M-2.5 also establishes a City Council exception process for projects that will exceed LOS standards but provide benefits that may outweigh their negative effects on traffic conditions.

Where an LOS below “D” is deemed acceptable, the intent is not to simply let traffic get worse without any intervention. Steps will continue to be taken to address congestion and improve the functionality of these roads and intersections. The City will develop guidelines for traffic studies and improvements that are tailored to roads and intersections that are already operating beyond their accepted capacity.

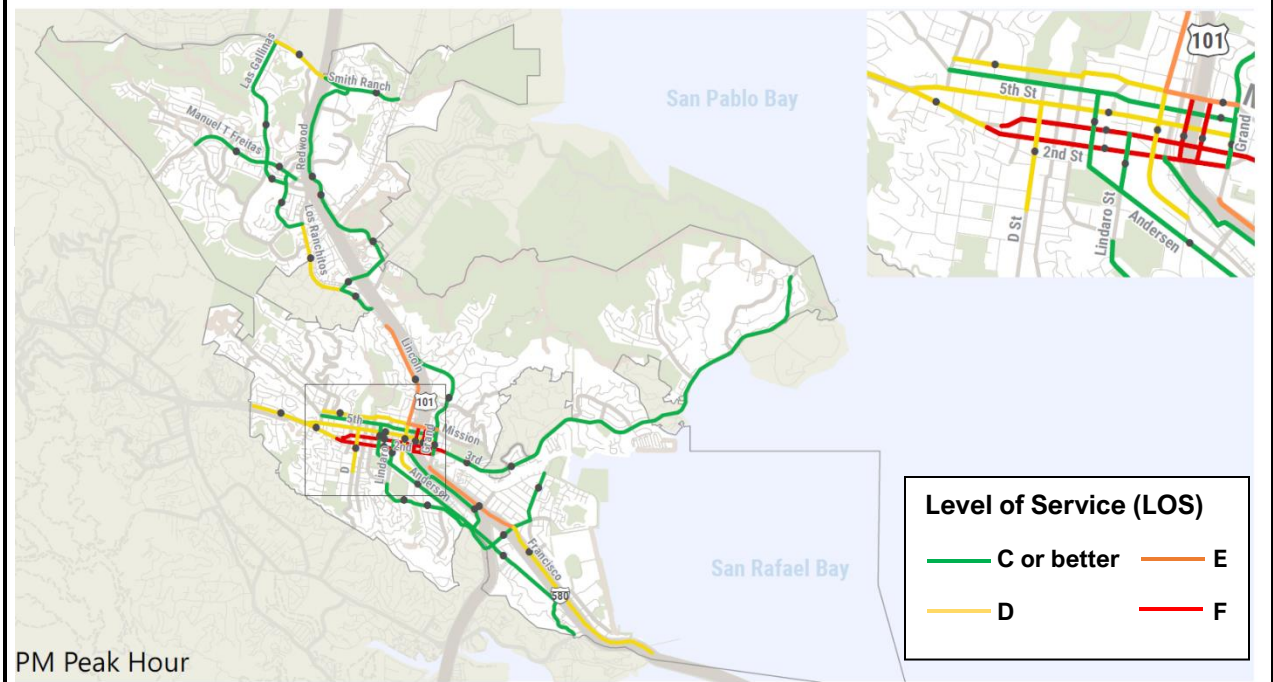
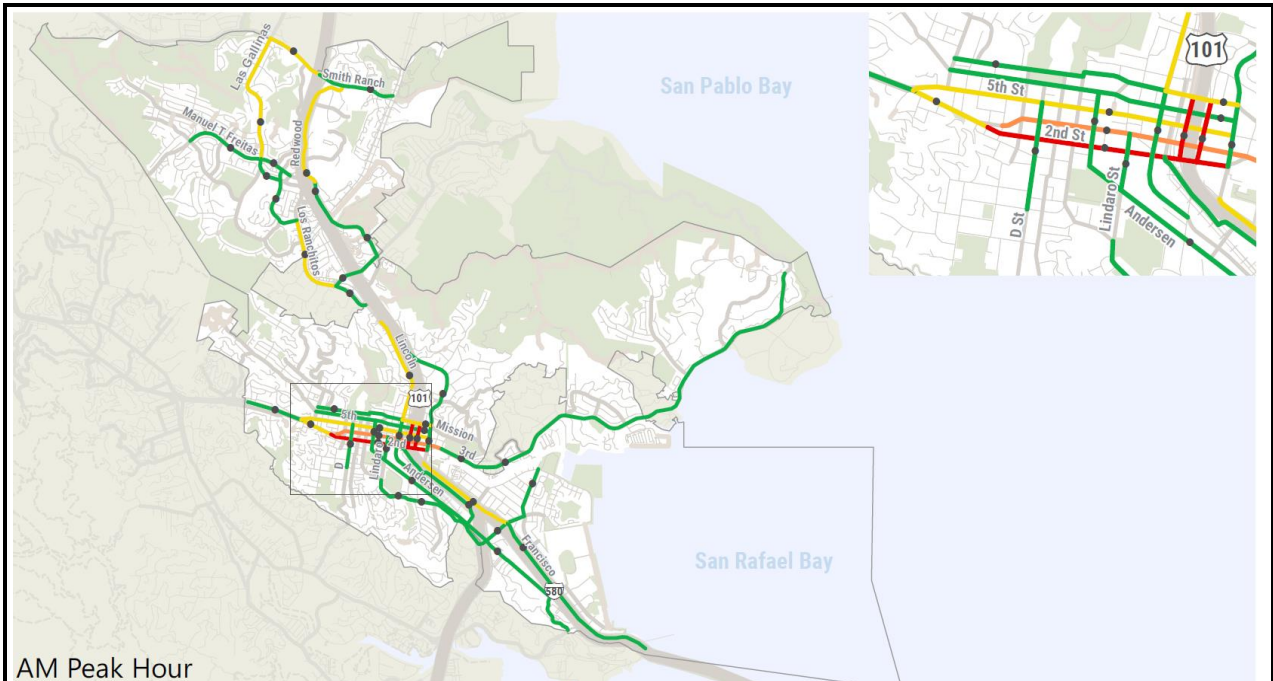
Traffic Volumes and Projected LOS

To provide a baseline for the transportation analysis in General Plan 2040, 24-hour traffic counts were collected at 41 road segments in the San Rafael Planning Area on a weekday in May 2019. The highest volumes were reported on Fourth Street (west of downtown), the Second/Third Street one-way pair through downtown, Point San Pedro Road, Francisco Boulevard East, Bellam Boulevard, and Freitas Parkway between Las Gallinas and US 101. All of these roads carry more than 1,300 vehicles an hour during the peak commute hours.

Figure 10-2 indicates the AM and PM peak hour LOS on these road segments as of 2019. Figure 10-3 indicates the AM and PM peak hour LOS that is projected by 2040. The projected conditions were developed using a traffic model, which is a mathematical simulation of future traffic flow based on current conditions, the location of future development, and anticipated changes to the road network and modes of travel over the next 20 years. The model was developed by the Transportation Authority of Marin (TAM) for local and countywide transportation planning in Marin County through 2040.

The TAM model takes into consideration not only trips that begin or end in San Rafael, but also regional trips that pass through the city. In fact, much of the increase in traffic in the city is associated with regional growth (or “background” traffic), including traffic caused by cars using surface streets because the freeway is congested. Some of the greatest increases in projected volumes in the next 20 years are on streets like Lincoln Avenue, Los Ranchitos Road, and Francisco Boulevard East. This is at least in part due to the alignment of these streets parallel to the freeways. The traffic model includes assumptions about travel behavior, including drivers exiting US 101 and using parallel surface streets when the freeway is congested.

Road segments and intersections projected to operate at LOS “E” and “F” during the peak hour in 2040 are listed in Policy M-2.5. Programs implementing this policy (M-2.5A, B, and C) describe the requirements for future traffic studies, the findings necessary to allow exceptions to LOS standards, and provisions for ongoing monitoring of traffic conditions. Additional analysis of future traffic conditions in the Priority Development Areas (PDAs) in North San Rafael and Southeast San Rafael should take place as part of future planning studies for each area.



Level of Service (LOS)	
— C or better	— E
— D	— F

Figure 10-2:
2019 Road Segment Level of Service (LOS)
At Peak Hour

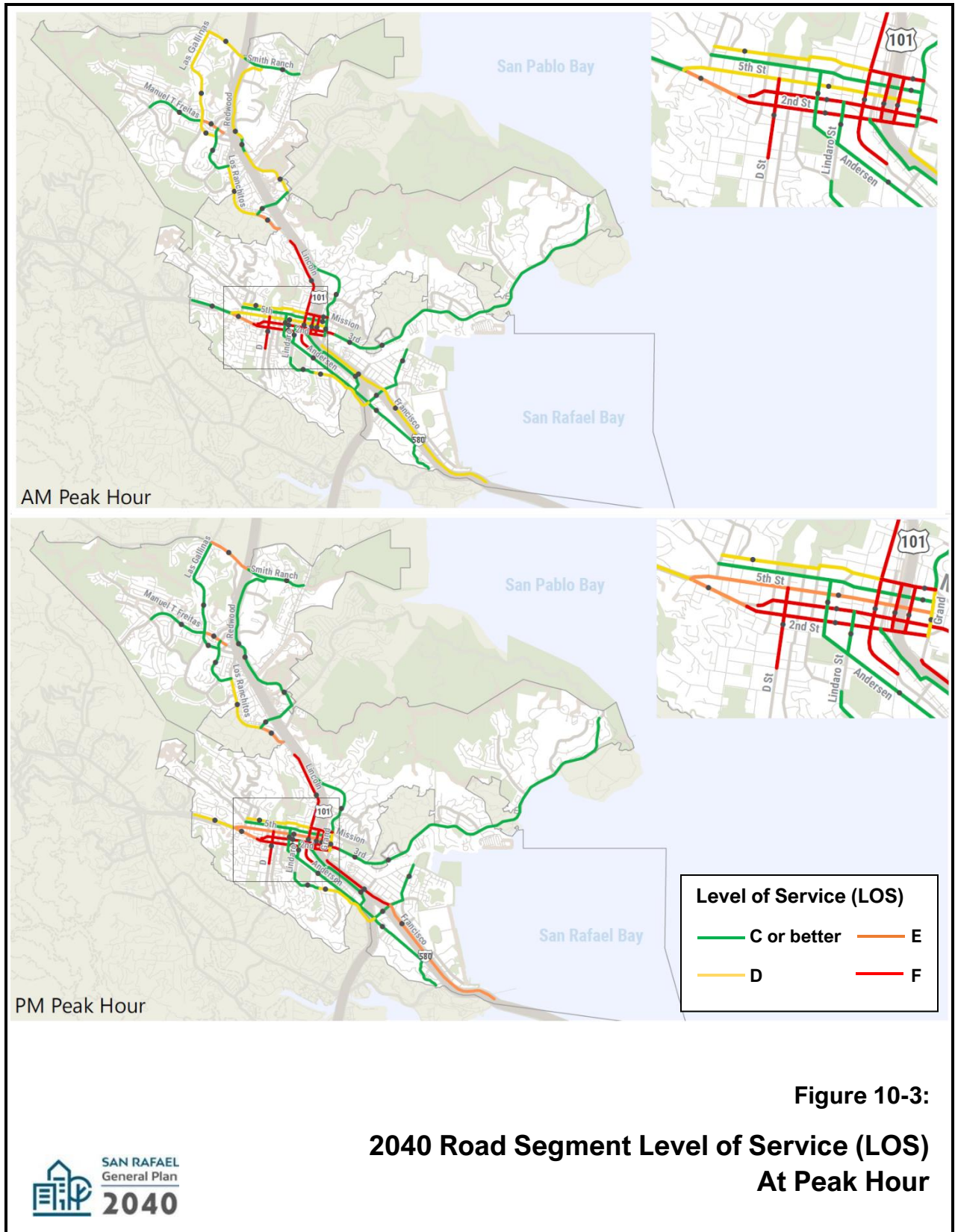


Figure 10-3:

**2040 Road Segment Level of Service (LOS)
At Peak Hour**



Policy M-2.5: Traffic Level of Service

Maintain traffic Level of Service (LOS) standards that ensure an efficient roadway network and provide a consistent basis for evaluating the transportation effects of proposed development projects on local roadways. These standards shall generally be based on the performance of signalized intersections during the AM and PM peak hours. Arterial LOS standards may be used in lieu of (or in addition to) intersection LOS standards in cases where intersection spacing and road design characteristics make arterial LOS a more reliable and effective tool for predicting future impacts.

- a) Intersection Standards. LOS “D” shall be the citywide standard for intersections, except as noted below:
 - 1) Intersections within the Downtown Precise Plan boundary are subject to the provisions of Section (c) below.
 - 2) Signalized intersections at Highway 101 and I-580 on-ramps and off-ramps are exempt because these locations are affected by regional traffic and are not significantly impacted by local measures.
 - 3) LOS “E” shall be acceptable at the following intersections:
 - Andersen and Bellam
 - Bellam and Francisco Blvd East (AM peak only)
 - Freitas at Civic Center/Redwood Highway
 - Merrydale at Las Gallinas Avenue (PM peak only)
 - Freitas Parkway and Northgate Drive (PM peak only)
 - 4) LOS “F” shall be acceptable at the following intersections:
 - Andersen and Francisco Blvd West (AM peak only)
 - Bellam and Francisco Blvd East (PM peak only)
 - Merrydale at Civic Center Drive (AM peak only)

- b) Arterial Standards. LOS “D” shall be the citywide standard for arterials, except as noted below:
 - 1) Arterials within the Downtown Precise Plan boundary are subject to the provisions of Section (c) below.
 - 2) LOS “E” shall be acceptable on the following arterial segments:
 - Freitas Parkway from Las Gallinas to Del Presidio
 - Lucas Valley from Las Gallinas to 101 S/B ramps (PM peak only)
 - Los Ranchitos from North San Pedro to Lincoln
 - Francisco Blvd East from Bellam to Main (Richmond Bridge) (PM peak only)
 - 3) LOS “F” shall be acceptable on the following segments:
 - Francisco Blvd East from Grand Avenue to Bellam
 - Lincoln from 101 SB/Hammondale to Mission
 - Del Presidio from Las Gallinas to Freitas

- c) Downtown Standards. Intersections and arterials within the boundaries of the Downtown San Rafael Precise Plan are not subject to LOS standards, recognizing their unique context, operation, and physical constraints, as well as their multi-modal character. Proactive measures shall be taken to address and manage downtown congestion, evaluate and reduce the impacts of new development on the transportation network, and ensure the long-term functionality of streets and intersections. Traffic shall be monitored and evaluated to identify the need for improvements to ensure that downtown streets adequately serve both local and regional traffic.

- d) Additional Provisions for Roads Operating at LOS “E” or “F.” Where the adopted standard is LOS “E” or “F,” measures should be taken to avoid further degradation of traffic conditions. Projects impacting roads operating at LOS “F” may still be subject to requirements to offset those impacts as a condition of approval.

Program M-2.5A: Traffic Circulation Studies. Traffic impact studies will be required for projects with the potential to increase congestion, create safety hazards, or otherwise impact local circulation conditions. Unless covered by the exemptions in Policy M-2.5, such studies should include projections of future LOS, an assessment of the contribution of the proposed project to increases in congestion, an assessment of projected increases in congestion on greenhouse gas emissions, and an assessment of traffic impact fees related to the project. Measures to maintain adopted service levels may be required as a condition of approval.

Projects that are exempt from LOS and/or VMT standards may still be required to perform limited scope traffic and circulation studies to evaluate impacts on traffic conditions or traffic control devices in the immediate area of the proposed project. For projects in Downtown San Rafael, local traffic assessments (LTAs) should evaluate the potential for additional delay or safety hazards at nearby intersections. LTAs should identify necessary road or operational improvements, ingress and egress requirements, and potential site plan changes that reduce delays, conflicts between travel modes, and potential safety hazards.



Guidelines for traffic impact studies and Local Traffic Assessments have been developed concurrently with ~~should be developed within one year after~~ General Plan 2040 adoption. The guidelines should be periodically updated to ensure they are achieving their intended purpose and to reflect new data, forecasts, and methodologies ~~should include metrics for evaluating impacts to the road network where LOS does not apply or where the acceptable LOS is below the “D” standard.~~

- Program M-2.5B: Level of Service (LOS) Exceptions.** Exceptions to LOS planning thresholds may be granted where both of the following circumstances apply:
- a) The improvements necessary to attain the standards would conflict with other land use, environmental, community character, emission reduction, safety, housing, or economic development priorities.
 - b) Based on substantial evidence, the City Council finds that:
 - (i) The specific economic, social, technological, and/or other benefits of the project to the community substantially outweigh the project’s impacts on circulation.
 - (ii) All feasible mitigation measures have been required of the project including measures to reduce vehicle delay and measures to reduce Vehicle Miles Traveled (VMT); and
 - (iii) The project is consistent with and advances the Guiding Principles of General Plan 2040, including foundational principles such as maintaining great neighborhoods and a sense of community, and aspirational principles such as improving housing affordability, preparing for climate change, and sustaining a healthy tax base.

Program M-2.5C: Traffic Monitoring. Monitor and evaluate traffic conditions throughout San Rafael on an ongoing basis. Based on such evaluations, the City Traffic Engineer may develop recommendations to improve operations, address safety concerns, or modify thresholds. New traffic monitoring technology should be implemented as it becomes available.

Policy M-2.6: Traffic Mitigation Fees

Collect impact fees for new development based on the expected number of trips a project will generate. Fees should be used to implement transportation improvements as directed by City Council resolution.

Program M-2.6A: Traffic Mitigation Fee Updates. Continue to implement and periodically update local traffic mitigation fees and other requirements to cover development-related traffic and transportation improvements.

Future Improvements

Table 10-1 indicates proposed mobility improvements for the 2020-2040 period. Cost estimates for these improvements are contained in a separate report that provides the foundation for the City's traffic impact fee program. These estimates should be periodically reviewed and updated as conditions change. Table 10-1 should be updated as projects are completed and new projects are identified. As required by AB 1600, the City prepares an annual report on traffic impact fee revenues, disclosing how much was collected, how much was spent, and what work was done with the funds.

Policy M-2.7: Proposed Mobility Improvements

Use Table 10-1 (Proposed Mobility Improvements) as the basis for transportation network improvements over the next 20 years. The se improvements shown are intended to balance the City's goals of managing congestion, reducing vehicle miles traveled, and enhancing mobility and safety. Specific improvements will be implemented as conditions require and will be refined during the design phase. Table 10-1 may be amended as needed to reflect other design solutions and priorities, subject to City Council approval. Improvements will be implemented through the Capital Improvements Program using a variety of funding sources and may be subject to further environmental review.

Program M-2.7A: Update Proposed Circulation Improvements. Regularly update the list of proposed circulation improvements based on traffic data, available funding, and evolving issues and priorities. Incorporate projects into the Capital Improvements Program as appropriate.

Program M-2.7B: Circulation Improvement Funding. Advocate for Federal, State, and County funding for the transportation projects shown on Table 10-1, as well as other projects that improve mobility in San Rafael. Seek alternative funding sources if traditional sources are unavailable.

Table 10-1: Major Planned Mobility Improvements, 2020-2040

ID	Description
<p>1. Interchange Projects (*)</p>	
<p>Includes modifications to interchanges for capacity, safety, access, and improved circulation.</p>	
1A	<p>US 101/Freitas Parkway Interchange West. Reconfigure the US 101 off-ramp/Freitas Parkway (Del Presidio) and Northgate Rd/Freitas Parkway intersection to address safety, circulation, and capacity issues. Improvements would be coordinated with ongoing development plans and anticipated Northgate PDA Specific Plan/Precise Plan process where appropriate.</p>
1B	<p>US 101/Freitas Parkway Interchange East. Reconfigure the US-101 NB off-ramp/Civic Center Drive intersection to address safety, circulation, and capacity issues. Improvements would be coordinated with ongoing development plans and Northgate PDA, and future planning process where appropriate.</p>
1C	<p>Smith Ranch Road/Lucas Valley Road Multimodal Improvements at US 101. Road widening and additional lane capacity from Los Gamos to Redwood Highway. Improve pedestrian and bicycle access across the US-101 underpass by reconstructing the bridge to provide dedicated bicycle facilities and wider pedestrian sidewalks.</p>
<p>2. Downtown Area Improvements</p>	
<p>Includes multi-modal improvements identified by the Downtown Precise Plan. <i>Projects and improvements may include projects from other adopted City plans that but are intended to achieve the vision, goals and objectives of the Downtown Plan.</i> Also includes first/last mile improvements for SMART Station/Transit Center area (pedestrian, bicycle, lighting, wayfinding).</p>	
2A	<p>Downtown roadway and intersection improvements (traffic signals, roundabouts, pedestrian/bicycle, ADA, and/or turn lane modifications) and improvements to gateway streets to downtown, including:</p> <ul style="list-style-type: none"> • Downtown San Rafael Remaining One-Way Street Conversions, per Downtown Precise Plan • New Signal at Fifth/H St • New Signal at First/C St • New Signal at First/D St • New Signal at Fourth/Union St • <u>New Signal or Roundabout at Mission/Court St</u> • <u>Crosswalk Improvements at Third/Lindero St</u>
2B	<p>US 101/Downtown San Rafael Interchange. Improvements to Irwin St, Hetherton Ave, Second St, and Third St. in the vicinity of the NB off-ramp and SB on-ramp.</p>
2C	<p>Fourth Street (West End) Intersection Realignment. Re-align Fourth Street/Second Street/Marquard Avenue intersection.</p>
2D	<p>Second Street Multimodal Improvements. Improve Second Street corridor operations while addressing pedestrian and bicycle safety at crossing locations, and widen sidewalks and remove parking where feasible.</p>
2E	<p>Fourth Street Multimodal Improvements. Improve pedestrian and bicycle connections while maintaining high quality transit route along 4th Street. Improvements include converting parking to loading, widening sidewalks, and improving the bus and bike experience. Also Includes 4th Street signal and ADA upgrades.</p>
<p>3. Active Transportation Projects</p>	
<p>Includes multimodal improvements and programs, with a focus on pedestrian and bicycle improvements identified in the Bicycle and Pedestrian Master Plan.</p>	
3A	<p>Includes various projects identified in the 2018 BPMP, consistent with the priorities expressed in that Plan.</p>

Table 10-1, continued

ID	Description
4. Complete Streets and Corridors (**)	
Corridor level improvements including reconstruction of sidewalks, streets, pavement, signing, striping, and crossing improvements, with the objective of improving peak hour traffic flows and accommodating modes other than just motorized vehicles.	
4A	Lincoln Avenue Peak Period Lanes/Parking Restrictions. Extend the existing PM peak period parking restrictions, to allow for two lanes in each direction during both AM and PM peak periods, from Hammondale Court/SB US 101 ramps to Mission Ave. Provide additional parking in corridor. Include ADA upgrades, crossing improvements, and other multimodal improvements/accommodations
4B	Northgate Area Intersection and Complete Streets Improvements. Includes Las Gallinas/Northgate and Las Gallinas/Del Presidio intersections. Also includes improvements to Las Gallinas Avenue and Los Ranchitos Road, Northgate Drive, and Del Presidio Blvd, and continued development of North San Rafael Promenade. <i>Additional improvements to be identified through anticipated future PDA planning process.</i>
4C	Francisco Boulevard East Corridor Improvements. Increase capacity from Bellam to Grand Avenue bridge and install signal, ADA, and pedestrian improvements at Harbor St. <i>Additional improvements to be identified through anticipated future PDA <u>and CBTP</u> planning processes.</i>
5. Intersection Improvements (**)	
Intersection improvements including traffic signals, intersection realignments/reconfigurations, and other major changes to spot locations that are outside the Downtown Precise Plan area.	
5A	Fourth Street (Miracle Mile) Intersection Improvement. Improve performance of Fourth Street signal at Ross Valley Dr and Santa Margarita Dr, including ADA upgrades.
5B	Lincoln/DuBois/Irwin. Consider new signal, roundabout, or other intersection improvement to improve safety and traffic flow; right-of-way required.
6. Smart Infrastructure (Technology)	
Traffic signal and communication infrastructure upgrades, including monitoring equipment, fiber optic/communication systems, and other technology enhancements to facilitate smart management of transportation system.	
6A	Intersection Technology. Traffic signal equipment, cameras, modems, wireless, bluetooth, automated data collection, etc.
6B	Corridor Communication System. Fiber optic cable and conduit along major arterials and central city system upgrades.

Notes:

(*) Excludes northbound US 101 to eastbound I-580 connector, as this is a regional transportation improvement sponsored by TAM

(**) Additional improvements may be identified through anticipated future plans to be prepared for North San Rafael Town Center PDA and Southeast San Rafael PDA.

[ADA=Americans with Disabilities Act](#)

Policy M-2.8: Emergency Access

Identify alternate ingress and egress routes (and modes of travel) for areas with the potential to be cut off during a flood, earthquake, wildfire, or similar disaster.

Program M-2.8A: Highway Closures. *Develop and update contingency plans for highway closures as part of the City's disaster preparedness and emergency response plans.*

See ~~the Safety and Resilience Element Program S-4.3B on emergency vehicle access and Program S-6.7A for additional policies on emergency connectors evacuation and emergency response.~~ See Community Services and Infrastructure Element Program CSI-3.2B on emergency response time.

Policy M-2.9: Narrow Streets

In new subdivisions, allow narrower streets to reduce travel speeds and accommodate multiple modes of travel, while still providing for parking and emergency and service access.

See also Goal EDI-6 for policies and actions on the transportation needs of older adults.

Policy M-2.10: Sea Level Rise

Actively plan for the impacts of sea level rise on the transportation system, including the need to elevate roadways, and potentially redesign or relocate roads to reduce flood hazards and meet evacuation needs.

See ~~Policy S-3.4 Goal S-3 for additional policy and program guidance on sea level rise, including plans to redesign or elevate low-lying roadways transportation impacts~~

Policy M-2.11: Environmental Benefits

Look for opportunities to create environmental benefits such as stormwater capture and treatment when reconstructing or improving roads and other transportation facilities,



Goal M-3: Cleaner Transportation

Coordinate transportation, land use, community design, and economic development decisions in a way that reduces greenhouse gas emissions, air and water pollution, noise, and other environmental impacts related to transportation.

Transportation has many direct and indirect environmental impacts. It is the source of 62% of San Rafael's greenhouse gas emissions, and the primary source of local air pollution. The City will reduce transportation impacts on the environment by supporting cleaner fuel vehicles and higher vehicle efficiency standards, improving transit and non-vehicular travel modes, and reducing the vehicle miles traveled (VMT) by San Rafael residents and workers. Cost-effective VMT reduction is an essential part of the City's climate action strategy, and a fundamental part of its mobility programs, and a foundation of the future land use plan.

Vehicle Miles Traveled

There are three primary ways that San Rafael has aligned its transportation plans with its climate action goals:

- First, through strategies to reduce vehicle miles traveled---in other words, the distance and number of vehicle trips taken each day by those who live or work in San Rafael. Since those trips are typically made by gasoline-powered vehicles, reducing VMT results in reduced transportation emissions.
- Second, by supporting a shift to cleaner fuel vehicles such as electric cars.
- Third, by improving alternative modes of travel, including public transit and “active” transportation modes like walking, bicycling and carpooling.

Ultimately, all three of these paths aim to reduce fossil fuel consumption. Goal **M-3** is strongly supported by State legislation aimed at reducing transportation-related greenhouse gas emissions, including AB 32, SB 375, and SB 743. The text box on the next page provides more information on VMT and explains how it works with respect to greenhouse gas reduction.

VMT Explained

Vehicle miles traveled (VMT) measures the number of miles traveled by all vehicles in a defined geographic area over a given period of time. Trips are measured from their origins to their destinations—for example, from home to work, or from work to home. VMT is calculated by adding up the trips taken by all drivers in a city or region over the course of a day, a year, or other period of time.

The shorter the distance is between work and home, the lower the VMT. As housing and employment patterns become more dispersed, VMT tends to go up. [Although this has been tempered by the ability of many residents to work remotely, much of the workforce continues to commute.](#) Reducing VMT is beneficial because it reduces the greenhouse gas emissions that cause global climate change.

VMT may be calculated using anonymous data pulled from smart phones and other devices with GPS. This data is used to generate maps evaluating the distance, frequency, origin, and destination of trips. Algorithms are used to predict the VMT that will be generated by an individual land use, such as a new home or office. The data is available through multiple on-line services.

Unlike Level of Service, VMT is not a measure of congestion. It does not assess the impact of a project on nearby intersections or roads. Rather, it addresses the impacts of a project on a regional scale, based on the amount of driving it will induce. Because it's focused on distance, the metric tends to increase as density decreases. In urban areas, VMT is usually low. People use transit, walk, and complete multiple tasks on the same trip. In a low-density suburban area, VMT is higher. Residents are more dependent on their cars, and drive longer distances to work, shopping, school, and errands.

The Metropolitan Transportation Commission indicates that the “average” Bay Area resident drove 23 miles per day in 2015. On average, San Rafael residents have a daily VMT that is about 10 percent lower than the regional average. However, persons commuting to San Rafael have a VMT per capita that is roughly 7 percent higher than the regional average.

The State Office of Planning and Research (OPR) has provided guidance as cities shift to VMT to evaluate the environmental impacts of new projects. OPR has suggested that new projects achieve a per capita VMT that is 15 percent below the regional average. In San Rafael, it is easier to reach this target for residential development than it is for office development.

So, how does a city go about reducing VMT for its local workforce? In theory, this can be done by building housing closer to local workplaces. But simply building housing near offices does not guarantee that workers will live nearby. Ultimately, a combination of strategies is required, including Transportation Demand Management measures (addressed in the text box on page 10-29).

Policy M-3.1: VMT Reduction

Achieve State-mandated reductions in Vehicle Miles Traveled by requiring development and transportation projects to meet specific VMT metrics and implement VMT reduction measures. ~~In the event a proposed project does not meet these metrics, require measures to reduce the additional VMT associated with the project, consistent with thresholds approved by the City Council.~~

Program M-3.1A: VMT Analysis Guidelines. *Develop local guidelines for calculating the projected VMT associated with future development projects and transportation improvements. The guidelines also should cover administration, screening criteria, and appropriate Transportation Demand Management measures and monitoring procedures. All VMT metrics should be reassessed at least once every four years and revised as needed to reflect changing conditions.*

Policy M-3.2: Using VMT in Environmental Review

Require an analysis of projected Vehicle Miles Traveled (VMT) as part of the environmental review process for projects with the potential to significantly increase VMT. As appropriate, this shall include transportation projects and land use/policy plans as well as proposed development projects.

Program M-3.2A: Screening Criteria for VMT Analysis. *Adopt and maintain screening criteria for different land uses and project types to determine when a VMT analysis is required as part of the environmental review process. Screening criteria should be revisited over time to ensure that they are appropriate. The criteria should include exemptions for projects with substantial VMT benefits, such as mixed use and infill development in Downtown San Rafael.*

Program M-3.2B: Thresholds for Determining a Significant VMT Impact. *Adopt and maintain thresholds to determine if a VMT impact may be considered “significant” under the California Environmental Quality Act (CEQA).*

Program M-3.2C: Mitigation Measures for VMT Impacts. *Develop and implement mitigation measures that can be applied to projects with potentially significant VMT impacts in order to reduce those impacts to less than significant levels (see Policy M-3.3 and Program M-3.3A).*

Program M-3.2D: Overriding Considerations for Projects with Unavoidable VMT Impacts. *Require the adoption of specific overriding consideration findings before approving a project that would result in significant unavoidable impacts on VMT.*

Policy M-3.3: Transportation Demand Management

Encourage, and where appropriate require, transportation demand measures that reduce VMT and peak period travel demand. These measures include, but are not limited to, transit passes and flextime, flexible work schedules, pedestrian and bicycle improvements, ridesharing, and changes to project design to reduce trip lengths and encourage cleaner modes of travel.

Program M-3.3A: ~~Develop TDM Program Guidelines.~~ Develop TDM Program Guidelines ~~— or work in partnership with other local governments to develop Guidelines --~~ than can be used to mitigate potential VMT increases in new development and encourage reductions in existing development. **Update Trip Reduction Ordinance. Modify the San Rafael Trip Reduction Ordinance (TRO) to reflect General Plan VMT policies. The amended TRO shall include VMT reduction thresholds, VMT reduction measures and program guidelines, and a VMT trip reduction monitoring process. The TRO shall be updated a minimum of every four years to reflect changes in baseline values, VMT thresholds, VMT reduction measures, and the results of monitoring. The modified TRO shall reflect the process and methodology for conducting VMT analysis described in the City’s Transportation Analysis (TA) Guidelines.**

Editor’s note:
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Transportation Demand Management

Because there are limited opportunities to expand the road network in San Rafael, transportation demand management (TDM) is a critical part of mobility planning. TDM measures encourage shifts from single occupant vehicles to transit, rideshare, bicycle, or pedestrian travel. They can also shift travel times to off-peak periods, or reduce journey-to-work trips through telecommuting. TDM measures are usually administered by an employer, so they focus on work trips rather than trips for other purposes such as shopping and recreation. However, they may also apply to schools (staggering schedules, etc.), special events, and other activities.

The intent of TDM is not to penalize drivers. Rather, it is to create incentives to use other modes of travel. This concept is not new to San Rafael. The City adopted a Trip Reduction Ordinance ([TRO](#)) in 1993 that requires employers with more than 100 employees to implement measures to reduce peak hour trips. A menu of 35 potential trip reduction strategies is included in the Ordinance.

Typical TDM measures include:

- Bicycle incentive programs, such as free bikes, secured bike parking, restrooms and showers
- Telecommuting, compressed work weeks, and flexible work hours
- Carpool/vanpool incentives such as ride-matching and priority parking
- Bus/rail subsidies and pre-tax bus pass benefits
- Express shuttles to connect workers with commute modes and activity centers
- Guaranteed ride home programs
- On-site child care facilities and concierge services for employees
- On-site or local employee housing, and home-finding assistance programs
- Public education on ridesharing and alternative ways to get to work
- Low emission vehicle fleets with fueling or charging stations
- Financial subsidies for walking or cycling
- Elimination of parking subsidies for employees

Program M-3.3B: Support for TDM. Work cooperatively with governmental agencies, non-profits, businesses, institutions, schools, and neighborhoods to provide and support TDM programs.

Program M-3.3C: City TDM Program. Implement a TDM program for City employees, potentially in partnership with other local governments, public agencies, and transit providers. Promote the program as a model for other local employers.

Program M-3.3D: Shifting Peak Hour Trips. Support efforts to limit traffic congestion by shifting peak hour trips to non-peak hour, modifying school hours to stagger start and end times, and encouraging flexible work schedules. [The long-term impacts of remote work on potential TDM strategies should be considered.](#)

Policy M-3.4: Reducing Commute Lengths

Support reduced commute lengths and frequency by encouraging:

- (a) hiring of local residents by San Rafael employers.
- (b) opportunities for persons who work in San Rafael to live in San Rafael.
- (c) telecommuting and flexible work arrangements.
- (d) local-serving shopping, restaurants, and services that reduce the need to drive elsewhere.

Program M-3.4A: Telecommuting. Encourage San Rafael employers to implement telecommuting and work-from-home programs that reduce daily peak hour commutes. Also encourage co-working spaces, [cafes, short-term office rentals,](#) home offices, improved internet access, and opportunities for residents employed elsewhere to work productively within San Rafael. Consider “lessons learned” during the 2020 COVID-19 pandemic when evaluating policy approaches to telecommuting.

Program M-3.4B: Housing Services. Support and facilitate roommate matching programs, connections between local property managers and major employers, employer housing programs, and other initiatives aimed at helping local workers find housing in San Rafael.

See the Economic Vitality Element and EDI Element for policies on workforce development so that residents may gain the skills needed to find employment in San Rafael.

Policy M-3.5: Alternative Transportation Modes

Support efforts to create convenient, cost-effective alternatives to single passenger auto travel. Ensure that public health, sanitation, and user safety is addressed in the design and operation of alternative travel modes.

Program M-3.5A: Carpooling and Vanpooling. Support car and vanpooling in San Rafael through local and regional programs and on-line apps that match interested drivers and passengers.

Program M-3.5B: Shared Mobility. Support efforts to establish and operate car-sharing, bike-sharing, and other services that provide alternatives to driving, particularly in Downtown San Rafael and other transit-served areas.

Program M-3.5C: Micro-Mobility. Coordinate with “micro-mobility” companies such as shared electric scooter and electric bicycle vendors who seek to provide services in San Rafael.

Program M-3.5D: Transportation Network Companies (TNCs). Work with TNCs (Uber, Lyft, etc.) to address issues such as curbside management and maximize the potential benefits of such services.

Policy M-3.6: Low-Carbon Transportation

Encourage electric and other low-carbon emission vehicles, as well as the infrastructure needed to support these vehicles.

Program M-3.6A: Zero Emission Vehicle (ZEV) Plan. Consistent with the San Rafael Climate Change Action Plan (CCAP), develop and implement a Zero Emission Vehicle (ZEV) Plan with a goal of 25% of the passenger vehicles in San Rafael being ZEVs by 2030. As part of the planning process, targets shall be updated to meet or exceed State ZEV goals, and establish reduction targets for 2040. The ZEV Plan should provide for additional charging stations, preferential parking for ZEVs, other programs that incentivize ZEV use by San Rafael residents, and plans to expand electrical system capacity if needed to meet increased electric vehicle demand.

Program M-3.6B: Municipal Zero Emission Municipal Vehicles. As finances allow, shift the municipal vehicle fleet to ZEVs. Use low-carbon fuels as an interim measure until gasoline-powered City vehicles are replaced.

See also Program M-7.9B on electric charging station requirements

Policy M-3.7: Design Features that Support Transit

For projects located in or near transit hubs such as Downtown San Rafael, incorporate design features that facilitate walking, cycling, and easy access to transit.

Policy M-3.8: Land Use and VMT

Encourage higher-density employment and residential uses near major transit hubs such as Downtown San Rafael, recognizing the potential for VMT reduction in areas where there are attractive alternatives to driving, concentrations of complementary activities, and opportunities for shorter trips between different uses.

See the Downtown Precise Plan for programs implementing Policies M-3.7 and 3.8. See also Land Use Element Policy LU-1.3



Editor's note:
Photo to be
resized after
tracked changes
are accepted

Goal M-4: High Quality, Affordable Public Transit

Support accessible, reliable, cost-effective transit services that provide a convenient, affordable, efficient alternative to driving.

The City of San Rafael is served by several transit agencies, operating buses, trains, ferries, and shuttles. Service improvements by these agencies will be supported so that transit becomes a more competitive alternative to driving, both for trips within San Rafael and for trips to and from other destinations. A safe, convenient, affordable transit system is important to San Rafael's quality of life. Transit has the potential to reduce greenhouse gases, alleviate traffic congestion, and provide mobility to those who are unable to drive or do not own a car.

Based on Census data, roughly 10 percent of San Rafael's employed residents use transit to get to work each day. There is also a significant transit-dependent population in the city, including seniors, youth, low-income households, persons with disabilities, and those who don't own cars. Despite this rider base, transit service in San Rafael is challenging given the dispersed travel pattern and low density land use patterns in the city. Average daily bus ridership has slightly declined over the last 20 years and plunged during the 2020-21 pandemic, making it more challenging to deliver affordable, equitable, convenient service.

Land use policies that support transit use are essential to the future of our local transit systems. This is especially true for SMART Rail, which was developed in part to relieve congestion on the 101 corridor by providing an alternative for commuters. Locating offices and housing near the stations can reduce reliance on automobiles and help support transit use. Bus and rail also provides an essential resource for San Rafael residents commuting to San Francisco, the East Bay, and Silicon Valley. These services remove cars from the highway and help support greenhouse gas reduction goals.



Having a viable transit system is an important equity issue. Transit is a lifeline for many lower income residents. Nearly 60 percent of Marin Transit's passengers have annual household incomes of less than \$50,000, compared to 25 percent of the county's households at large. Persons of color represent 71 percent of Marin Transit's passengers but are only 28 percent of Marin County's residents. While the City itself does not deliver transit services to residents, it can work with service providers to influence routing, transfers, fare policies, and public engagement.

Existing transit facilities are shown in Figure 10-4. The three largest transit service providers in San Rafael—Marin Transit, GGBHTD, and SMART—each have master plans or strategic plans that guide operations, capital improvements, and funding. Updates to these plans will need to respond to the impacts of the 2020-COVID-19 pandemic on ridership and finances, as well as plans to address long-term passenger concerns about rider wellness and safety.

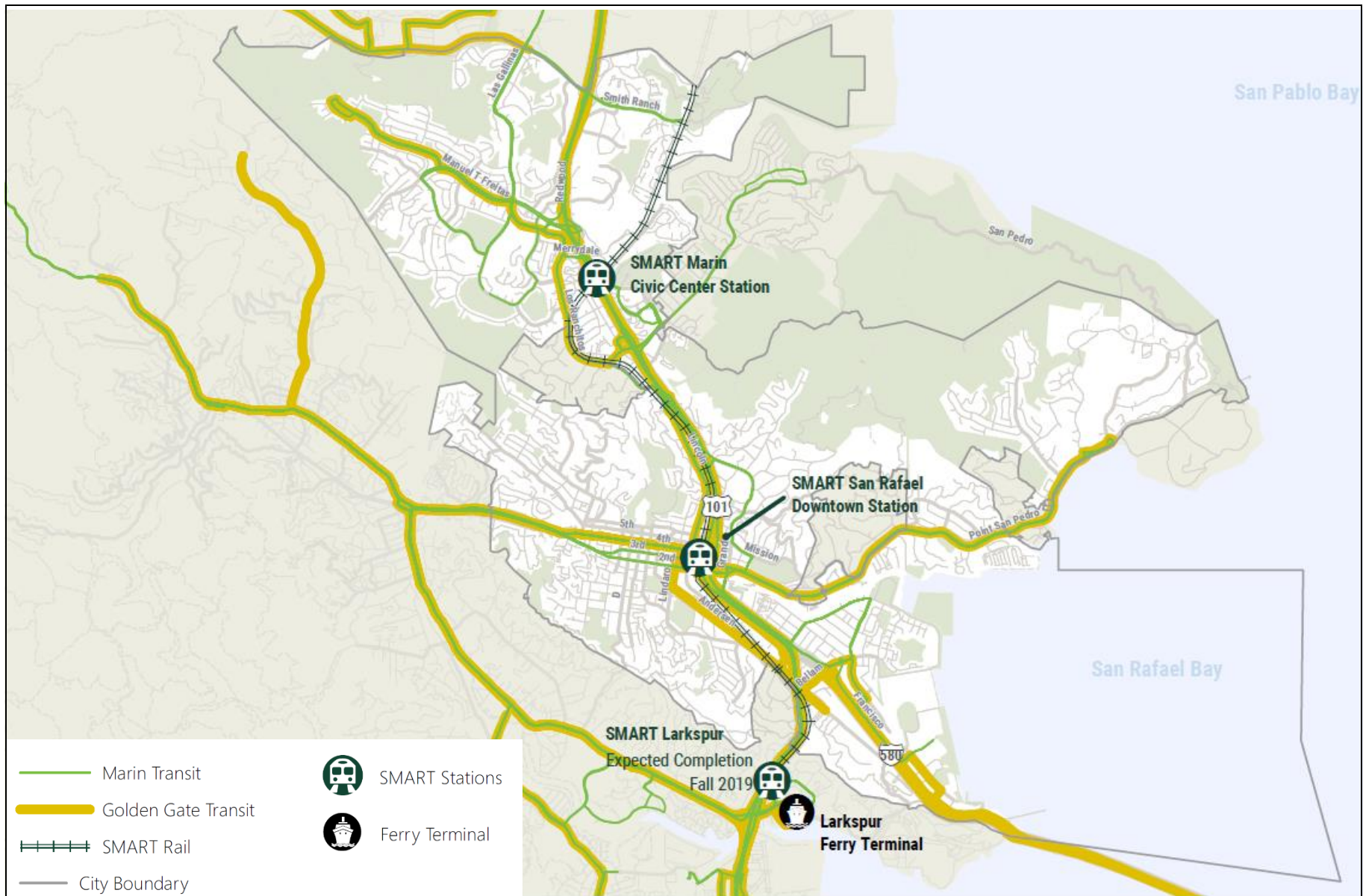


Figure 10-4:
Existing Transit Facilities and Network

Policy M-4.1: Sustaining Public Transportation

Support a level of transit service frequency and routing that promotes transit usage, avoids overcrowding, and makes transit an attractive alternative to driving.

Program M-4.1A: Transit Advocacy. Support State, County, and regional efforts to sustain and expand Marin County's transit network. Work with neighborhoods, employers, transit providers, transportation planning agencies and funding agencies to improve and expand transit and paratransit services.

Program M-4.1B: Evaluating Transit Needs. Support efforts to track, forecast, survey, and respond to changing transit and paratransit needs in order to meet the requirements of specific population groups. Advocate for meaningful public participation in meetings and discussions with transit providers and ensure that the needs of those in the community who are transit-dependent are well represented. Encourage the use of performance measures and regular reporting by transit agencies to ensure services are being delivered as efficiently as possible.

Program M-4.1C: Partnerships. Encourage partnerships between local transit service providers to avoid redundancy, maximize coverage and efficiency, and improve transfers between transit systems.

Program M-4.1D: Transit for Tourism. Support efforts to provide effective transit options for visitors to West Marin and other county tourist destinations, in order to reduce regional traffic flow through San Rafael.

Program M-4.1E: Transit Information. Encourage the development and dissemination of information to facilitate transit use. This includes real-time, multi-lingual information on bus arrivals, departures, transfers, and routes. In addition, the City should include information on transit access on notices of City meetings and provide links to transit websites from its own website

Program M-4.1F: Public Health. Work with transit service providers to effectively respond to service and design challenges associated with rider safety during and after public health emergencies.

Policy M-4.2: Regional Transit Options

Encourage expansion of regional transit connecting Marin with adjacent counties, including basic and express bus service, rail, and ferry service.

Program M-4.2A: Regional Bus Service. Support expansion of regional bus service to and from other Bay Area counties, including expanded express bus service along the 101 and 580 corridors, and continued bus and shuttle service to the region's airports.

Program M-4.2B: Rail Service. Advocate for reliable long-term funding sources to sustain and enhance North Bay rail service.

Program M-4.2C: Ferry and Water Taxi Service. Work with the Golden Gate Bridge Highway and Transportation District and other regional agencies to support improved ferry service, additional ferry terminals, efficient connections between ferries and other transportation modes, new ferry routes (to Vallejo, the East Bay, San Francisco, and points south), autonomous buses, and other improvements that would increase ferry use and regional transit ridership. Consider the viability of water taxi service to supplement the ferry system and improve local connections.



Photo Credit: Frank Johnson

Policy M-4.3: SMART Improvements

Maximize the potential benefits of Sonoma Marin Area Rail Transit (SMART) while minimizing potential conflicts between SMART trains, adjacent land uses, bicycle and pedestrian movement, and vehicle traffic circulation. City plans and programs related to SMART should be periodically evaluated based on changes in funding, operating costs, ridership, and other factors impacting service levels.

Program M-4.3A: Rail Safety. Work with SMART to improve safety measures along the SMART tracks, reduce train noise, and avoid the blockage of intersections by trains.

Program M-4.3B: Passenger Pickup and Drop-Off. Work with SMART on plans to improve passenger pick-up and drop-off, connectivity between trains and buses, and provisions for passenger parking (see also Policy M-7.9 on parking for transit users).

Program M-4.3C: Arrival Experience. Create a welcoming experience for passengers arriving at the Downtown San Rafael and Civic Center stations, including wayfinding signage, easy transfers, and clearly marked, well-lit pathways to nearby destinations.

Program M-4.3D: Service Reliability. Work with SMART to avoid disruptions of service during power outages and provide backup power to sustain operations during and after emergencies.

Program M-4.3E: Downtown Crossings. Continue to work with SMART to reduce congestion related to grade-level train crossings in Downtown San Rafael. Encourage SMART to assess the potential cost, as well potential funding sources, to elevate or underground the tracks through downtown.

See the Land Use Element for policies on encouraging transit-oriented development in the station areas.



Policy M-4.4: Local Transit Options

Encourage local transit systems that connect San Rafael neighborhoods, employment centers, and other destinations.

Program M-4.4A: Local Bus Service.

Support Marin Transit and Golden Gate Transit efforts to improve bus routing, frequency, and equipment, and to keep bus fares affordable.

Program M-4.4B: Improved Bus Stops.

Support efforts to improve bus stops and shelters to provide a safe and pleasant experience for riders. Allow commercial advertising to fund bus shelter upgrades and maintenance.

Program M-4.4C: Local Shuttle Programs.

Support efforts to create financially feasible shuttle, jitney, and circulator bus services to connect passengers arriving at the San Rafael Transit Center and SMART stations to their destinations.

Policy M-4.5: Transit and the Environment

Encourage a less carbon-intensive transit system with reduced environmental impacts. This could include electrification of buses and trains, and the use of smaller vehicles in areas of lower demand. Environmental costs and benefits should be a critical factor when evaluating transit service improvements over the long- and short-term.

Policy M-4.6: Paratransit Options

Encourage expansion of paratransit and flexible route services as needed to serve specialized populations including seniors, students, and persons with disabilities.

Program M-4.6A: Other Local Transit. *Support Dial-A-Ride, taxi, and transportation network company (TNC) services serving San Rafael.*

Program M-4.6B: Paratransit Service. *Support continued Whistlestop Wheels service and expanded regional paratransit services where needed.*

Policy M-4.7: Intermodal Transit Hubs

Support efforts to develop intermodal transit hubs in downtown and North San Rafael to provide safe, convenient connections for all travelers. Such hubs should include secure bicycle parking, EV charging stations, and efficient drop-off and pick-up areas and create a positive experience for those arriving in San Rafael.

Program M-4.7A: Transit Center Relocation. Complete the relocation process for the San Rafael Transit Center. Design of the facility should consider the effects on local street congestion and the safety of those walking or bicycling to and from the facility. Continue to work with transit service providers to coordinate schedules, transfers, and routing in a manner that is convenient for San Rafael travelers.

Program M-4.7B: First Mile/ Last Mile Trips. Work with TAM, transit agencies, neighborhood groups, and the local business community to improve options for “first mile/last mile” trips connecting regional transit hubs to nearby destinations.

Program M-4.7C: Implementation of Other Plans. Implement the recommendations of the Downtown Precise Plan, the Downtown Station Area Plan, and the Civic Center Station Area Plan for coordination of transit services and improvement of connections between travel modes.

Goal M-5: Safe, Attractive Streets that Connect the Community

Provide a transportation system that minimizes negative impacts on neighborhoods while maximizing access and connectivity in the community.

Local streets should be safe, attractive, and provide easy access to homes and businesses. Neighborhoods should be protected from the impacts of cut-through traffic, regional congestion, and overflow parking. Business districts should be conveniently connected to the neighborhoods around them. Residents should be able to comfortably travel to schools, parks, shopping, and workplaces without driving. Transportation improvements should protect the environment and minimize off-site impacts.

Safe, attractive streets are an important part of the quality of life in San Rafael neighborhoods. As congestion increases, drivers may seek alternate routes through adjacent neighborhoods. The problem is made worse by phone apps and GPS systems that sometimes direct commuters through residential areas when arterials and freeways are jammed.

In the past, the City of San Rafael has helped neighborhoods reduce the impacts of increased traffic volumes and speeding cars through neighborhood traffic calming measures. These measures range from speed humps and stop signs to road closures on streets such as Los Gamos Drive. In some settings, road “bulbouts” or curb extensions may be used to slow traffic and reduce pedestrian crossing distances. The City Council has adopted a Speed Hump Installation Policy establishing specific criteria for speed hump installation. Criteria have also been adopted for multi-way stops. Traffic calming measures also include increased enforcement and expanded public education about rules of the road.

Other mobility factors contributing to the quality of life include street appearance and connectivity. Street trees, landscaping, signage, and public art can make the city more attractive while providing orientation and a sense of place. Connectivity includes improvements that make it easier to travel from one neighborhood to another, or from one’s home to school, work, or shopping. San Rafael’s topography has resulted in some neighborhoods being isolated from others, resulting in longer trips and more driving. Highway 101 contributes to the problem by bisecting the city, making it harder to get from one side to the other.

Examples of neighborhoods that are not well connected include the Canal and Downtown, Terra Linda and the Civic Center area, and Terra Linda and Downtown. Over the years, projects like the Merrydale Overcrossing, the Andersen Drive extension, and the Puerto Suelo Bike Path have helped connect the city and make it easier to get around. Opportunities for additional connections should be pursued.

Policy M-5.1: Traffic Calming

Protect residential areas from the effects of speeding traffic or traffic from outside the neighborhood through appropriate traffic “calming” solutions such as speed humps, bulb-outs, speed limits, stop signs, and chicanes. Traffic calming measures shall not conflict with emergency response capabilities.

Program M-5.1A: Traffic Calming Program. *Maintain a neighborhood traffic calming program under the direction of the City Traffic Engineer and seek funding for its implementation. Ensure neighborhood participation in the development and evaluation of potential traffic calming solutions.*

Program M-5.1B: Emergency Access Considerations. *Ensure that road redesign projects, including bicycle and pedestrian improvements, maintain evacuation capacity and emergency vehicle response time, particularly along designated evacuation routes.*

Policy M-5.2: Attractive Roadway Design

Design roadway projects to be attractive and, where possible, to include trees, landscape buffer areas, public art, public space, and other visual enhancements. Emphasize tree planting and landscaping along all streets.

Program M-5.2A: Landscape Maintenance. *Continue to regularly maintain landscaping along roadways, and to encourage attractive drought-tolerant and native plantings.*

See also Policy CDP-3.3 and 3.4 on landscaping and maintenance of City streets and Policy CSI-4.7 on street maintenance.

Policy M-5.3: Connected Neighborhoods

Identify opportunities to better connect San Rafael neighborhoods to one another and to improve access to local destinations such as schools, shopping, and workplaces. Consider such connections as part of emergency response and evacuation planning.

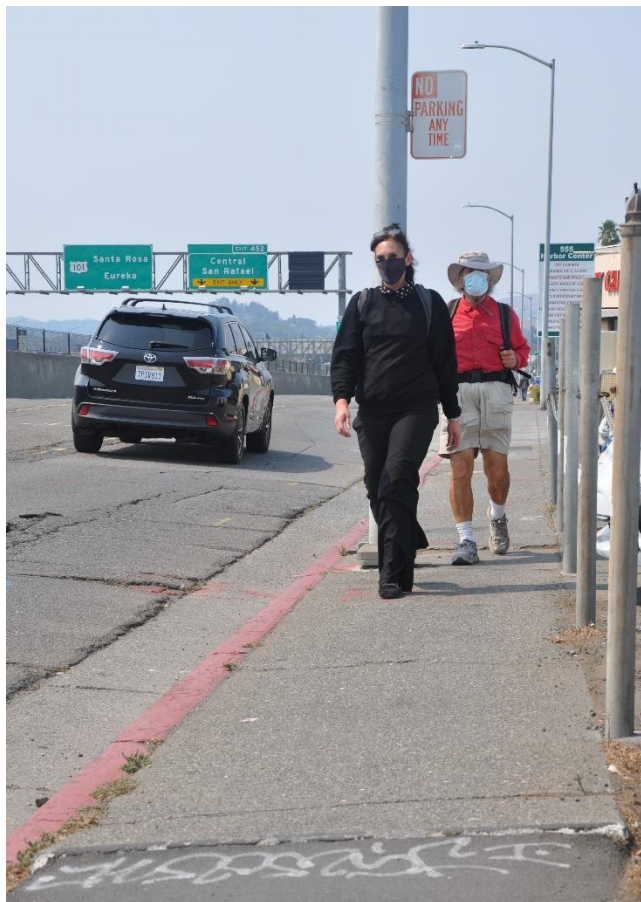
Program M-5.3A: East San Rafael Improvements. *Consider the potential for new or relocated roads in East San Rafael that would relieve local street congestion, increase efficiency, and improve access between the north and south sides of Interstate 580.*

See Program M-6.3A for a description of pathway improvements. Improvements are also addressed in the Neighborhoods Element.

Policy M-5.4: Meeting Local Circulation Needs Around Highway Interchanges

Ensure that regional transportation projects located in San Rafael provide local benefits, address the safety of all travelers, and improve circulation between neighborhoods.

Program M-5.4A: Interchange Improvements. Work with Caltrans and TAM to ensure that the design of freeway interchange improvements includes measures to relieve local congestion, provide commuter parking, improve pick-up/drop-off parking at bus stops, and enhance pedestrian and bicycle access and safety. This could include *safe and grade-separated underpass or overpass pedestrian and bike path crossings where needed.*



Policy M-5.5: School-Related Traffic

Actively encourage public and private schools to reduce congestion caused by commuting students and staff through improved provisions for pick-up and drop-off, parking management, staggered start and end times, and trip reduction.

Program M-5.5A: School Transportation. Implement measures to improve the safety and enjoyment of students walking, bicycling, or taking the bus to school. Examples include pedestrian crossing enhancements, transit passes or reduced rates for students, locating transit stops near school campuses, supporting increased funding for school buses and crossing guards, and staggering school hours.

See also Policy CS-1.5 on coordination with schools

Policy M-5.6: Truck Impacts

Manage truck traffic and deliveries in residential areas to avoid conflicts with local auto traffic, pedestrian and bicycle safety, parking, and adjacent uses, and to minimize air pollution in residential areas.

Program M-5.6A: Trucking Routes and Transportation Permits. Continue to designate specific streets as trucking routes and maintain permit requirements for vehicles that exceed weight limits on non-designated routes.

Program M-5.6B: Quarry Traffic. Continue, and periodically update, measures to address mitigate the impacts of quarry-related truck traffic on Point San Pedro Road.

Goal M-6: Safe Walking and Cycling

Encourage walking and bicycling as safe, pleasurable, healthful ways to travel.

Walking is an integral part of daily life and provides benefits to our health, the environment, and the character of our neighborhoods. Cycling is both a recreational activity and a practical way to complete short trips for many residents. Looking to 2040, walking and cycling will be supported by an expanded network of sidewalks, paths, crosswalks, bike lanes, and bike parking.

San Rafael established a Bicycle and Pedestrian Advisory Committee (BPAC) in 1998 with the specific purpose of creating and maintaining a Bicycle and Pedestrian Master Plan (BPMP). The City's most recent BPMP was adopted in 2018, advancing the city's current priorities and ensuring San Rafael's eligibility for State Active Transportation Program (ATP) funding and other grants. The 2018 BPMP includes 109 proposed projects, including 2.9 miles of sidewalk improvements, 33 intersection or undercrossing improvements, and 13.1 miles of new or improved bikeways.

Pedestrian Conditions

San Rafael has a well-developed network of sidewalks and walkways. Most areas of the city have sidewalks on at least one side of the street and most commercial areas have sidewalks on both sides. Downtown has high pedestrian volumes, as well as amenities such as curb extensions, benches, shade trees, and crosswalks. However, there are safety issues associated with crossing downtown's high-volume arterials (Second, Third, Hetherton, and Irwin). Elsewhere in the city, sidewalk conditions vary. Some areas have narrow sidewalks, discontinuous sidewalks, sidewalks occupied by parked cars, or no sidewalks at all. According to the State Office of Traffic Safety, the City of San Rafael had the second highest frequency of pedestrian collisions among 104 comparably sized cities in California in 2016. One in ten collisions in San Rafael involves a pedestrian, with most of these collisions occurring downtown.

One of the goals of the BPMP is to encourage and support walking as a daily form of transportation. The ~~BPMP Plan~~ prioritizes projects to make sidewalks safer and expand the existing pedestrian network. It proposes closing gaps in the sidewalk network, creating more direct walking routes, incorporating pedestrian improvements in new development and transportation projects, and improving conditions for students, seniors, and persons with disabilities. The ~~BPMP calls for Plan-seeks~~ ongoing funding for maintenance of sidewalks and pathways, as well as curb cuts and other improvements required by the Americans With Disabilities Act ([ADA](#)).

Bicycle Conditions

Figure 10-5 displays the location of existing and proposed bicycle facilities in San Rafael (see text box on page 10-42 for an explanation of the bicycle classification system). About 12 percent of the city's roads have space dedicated for bicycle use. Class I bicycle facilities have been developed parallel to the SMART rail line, along the San Rafael Bay shore in Starkweather Park, along Mahon Creek, along Lucas Valley Road, and along ~~and~~ the North Fork of Gallinas Creek. There are Class II bike lanes along Las Gallinas Avenue, Freitas Parkway, and Andersen Drive. Multiple streets in the city have been designed as Class III bike routes. There are currently no Class IV facilities in San Rafael.

Based on 2016 data from the State Office of Traffic Safety, San Rafael has the eighth highest frequency of bicycle collisions among 104 comparably sized cities in California. The highest collision densities are located in the San Rafael Transit Center area and the Downtown Core. Downtown bicycle facilities consist primarily of bike routes, with bicycle traffic mixing with vehicle traffic on many surface streets.

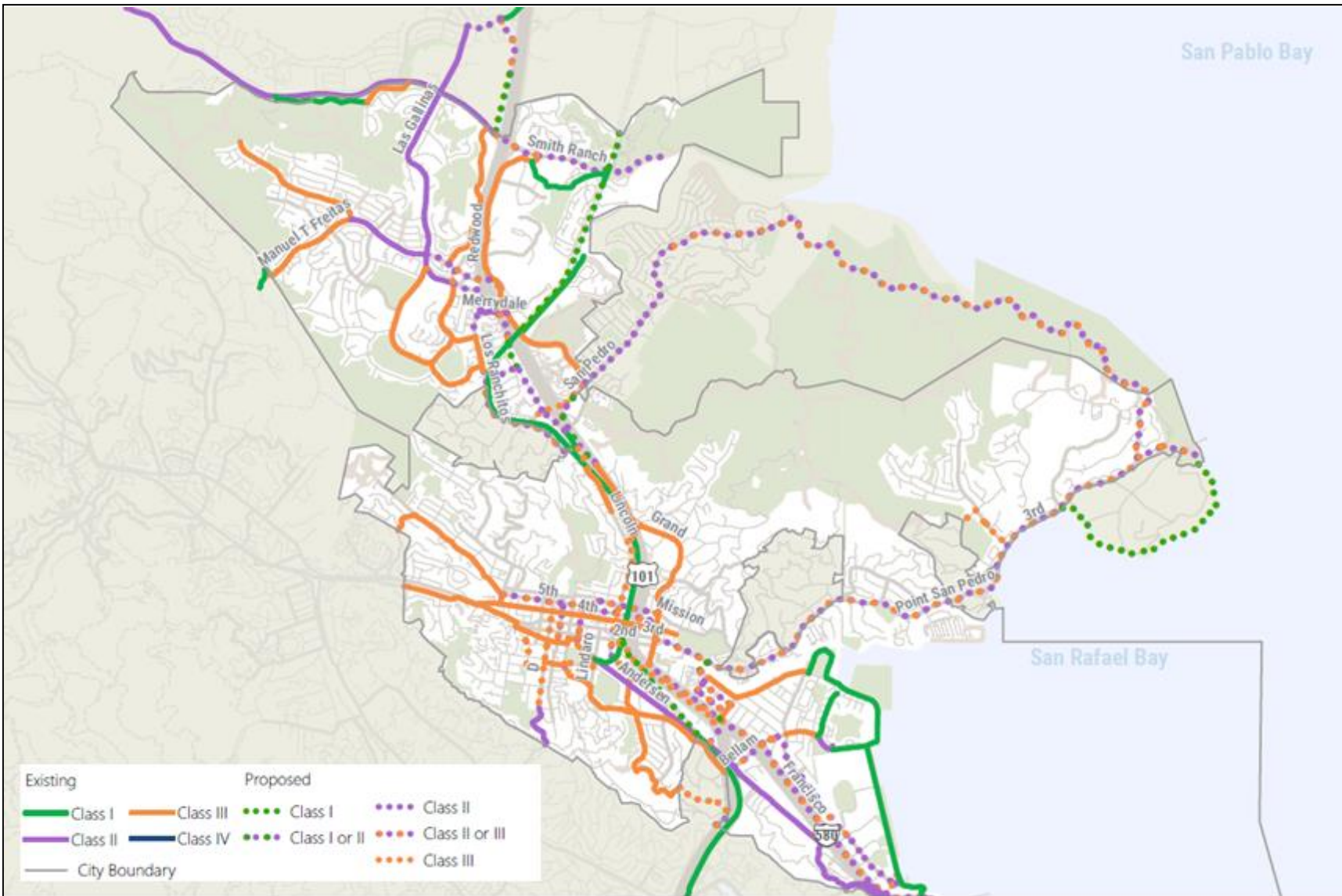


Figure 10-5:

Existing and Proposed Bicycle Facilities

Bicycle Facility Types



Class I bicycle facilities consist of completely separate rights of way and are designed for the exclusive use of bicyclists and pedestrians. These facilities provide a safe environment for younger or less experienced cyclists who do not want to ride alongside traffic. An example is the Puerto Suelo Hill path along the SMART line.



Class II bicycle facilities provide a restricted right-of-way and are designated for use by bicyclists with a striped lane on the street. Bicycle lanes are generally five feet wide. Examples include Andersen Drive and Las Gallinas Avenue.



Class III bicycle facilities require bicyclists to share the right-of-way with motor vehicles. These routes may be designated by signs or by “sharrow” markings on the pavement that indicate that bicycles may use the travel lanes.



Class IV bicycle facilities or “cycle tracks” are dedicated bike lanes separated from vehicle traffic by bollards, raised medians, or dividers. They are located on the curb side of parking lanes, offering a higher level of protection to cyclists.

Significant expansion of the bicycle network has taken place in recent years, and additional improvements are planned. In addition to bike lanes and paths, the City has developed bike racks, lockers, and signage. Public education, outreach, and rider safety has been an important component of these efforts.

Because the list of potential projects exceeds available resources, prioritization is an important part of long-range planning. Among the priority projects are completion of the Cross-Marin Bikeway, extending (from the West End to Peacock Gap), a Downtown east-west connector, the North San Rafael Promenade, completion of the North-South Greenway (generally following the SMART right-of-way), and connections between the Canal neighborhood, Downtown, and the Richmond Bridge. Funding for these and other projects will come from local, state, and federal programs.

The County of Marin has also adopted a Bicycle and Pedestrian Master Plan for the unincorporated area. That Plan identifies improvements that complement those in the city, including connections between Terra Linda and Marinwood and improvements in the Santa Venetia area.

Policy M-6.1: Encouraging Walking and Cycling

Wherever feasible, encourage walking and cycling as the travel mode of choice for short trips, such as trips to school, parks, transit stops, and neighborhood services. Safe, walkable neighborhoods with pleasant, attractive streets, bike lanes, public stairways, paths, and sidewalks should be part of San Rafael’s identity.

Program M-6.1A: Bicycle and Pedestrian Master Plan Implementation. *Maintain San Rafael’s Bicycle and Pedestrian Master Plan (BPMP) and update the Plan as required to ensure eligibility for grant funding. The BPMP should be a guide for investment in pedestrian and bicycle infrastructure, and for programs to make walking and cycling a safer, more convenient way to travel.*

Program M-6.1B: Station Area Plans. *Implement the pedestrian and bicycle improvements in the 2012 Downtown Station Area Plan and the 2012 Civic Center Station Area Plan.*

Program M-6.1C: Canal Community Based Transportation Plan (CBTP). *Update the CBTP for the Canal neighborhood, including provisions to improve walking and cycling within the Canal and East San Rafael communities, explore water transportation, and better connect the Canal area to downtown, the waterfront, and the rest of the community.*

Program M-6.1D: Funding. *Seek grant funding for implementation of the BPMP and other plans proposing bicycle and pedestrian improvements.*

Policy M-6.2: Pedestrian and Bicycle Safety

Identify, prioritize, and implement pedestrian and bicycle safety improvements to reduce collisions and injuries, and eliminate fatalities.

Program M-6.2A: Implementation of Safety Measures: *Implement pedestrian and bicycle safety measures as described in the 2018 BPMP, including ADA compliant curb ramps, curb extensions in business districts, median refuge islands, active warning beacons, painted bike “boxes” at intersections, and signal phasing adjustments in areas with high bicycle volumes.*

Program M-6.2B: Vision Zero. *Consistent with the BPMP, support a “Vision Zero” approach to safety among pedestrians and cyclists, with the goal of eliminating severe injuries and fatalities.*

Program M-6.2C: Enforcement. *Conduct enforcement activities to improve compliance with traffic safety laws, especially around intersections with frequent collisions.*

Program M-6.2D: Safe Routes Programs. *Work collaboratively with local schools to implement Safe Routes to School programs. Explore similar programs to promote safe routes to parks, work, services, and transit, as well as safe routes for seniors.*



Safe Routes to School

Safe Routes to School (SR2S) is a national program designed to improve the safety of children walking or biking to school. The Transportation Authority of Marin (TAM) administers an SR2S program that includes San Rafael. The program includes education, special events, infrastructure improvements, crossing guards, and other strategies. To address the unique needs of each school district, a Task Force is formed for each program, bringing together families, school personnel, law enforcement, and City representatives.

Policy M-6.3: Connectivity

Develop pedestrian and bicycle networks that connect residents and visitors to major activity and shopping centers, existing and planned transit, and schools, and other neighborhoods. Work to close gaps between existing facilities. Funding and prioritization for projects should consider relative costs and benefits, including such factors as safety, number of potential users, and impacts on parking.

Program M-6.3A: Implementation of Pathway Improvements. *Implement the major pedestrian and bicycle pathway, intersection, and lane improvements included in adopted City plans, including:*

- *Restoration of pedestrian paths, stairways, and rights-of-way, particularly in the “inner ring” neighborhoods around downtown*
- *An east-west bikeway across downtown*
- *A north-south greenway and separated bicycle and pedestrian facilities along West Tamalpais Avenue*
- *Improved crossings of the San Rafael Canal, including a potential new crossing east of Grand Avenue*
- *Additional Class I, II, and IV lanes, as identified in the BPMP*
- *Improved signage, pavement markings and sidewalk widening*
- *Closing gaps in the Bay Trail*
- *Bike lane improvements to Point San Pedro Road (Cross-Marin Bikeway)*
- *Pedestrian/bicycle “promenades” along the San Rafael Canal and in North San Rafael (Civic Center Station to Terra Linda Community Center, including Freitas Parkway and North San Pedro Road)*
- *Potential pedestrian crossing over 101 (in association with the I-580/101 reconstruction) and east-west pedestrian improvements under the 101 viaduct through downtown.*

See the Neighborhoods Element for further descriptions of some of these improvements

Program M-6.3B: Improvements in the Unincorporated Area. *Integrate the recommendations of the Unincorporated Marin County Bicycle and Pedestrian Master Plan to create a seamlessly connected system that allows for easy bicycle travel between city and county neighborhoods. This includes improvements along Miller Creek Road and Las Gallinas Avenue in Marinwood.*

Program M-6.3C: Bicycle Parking. *Create additional bicycle parking and storage capacity at the SMART stations and in Downtown San Rafael.*

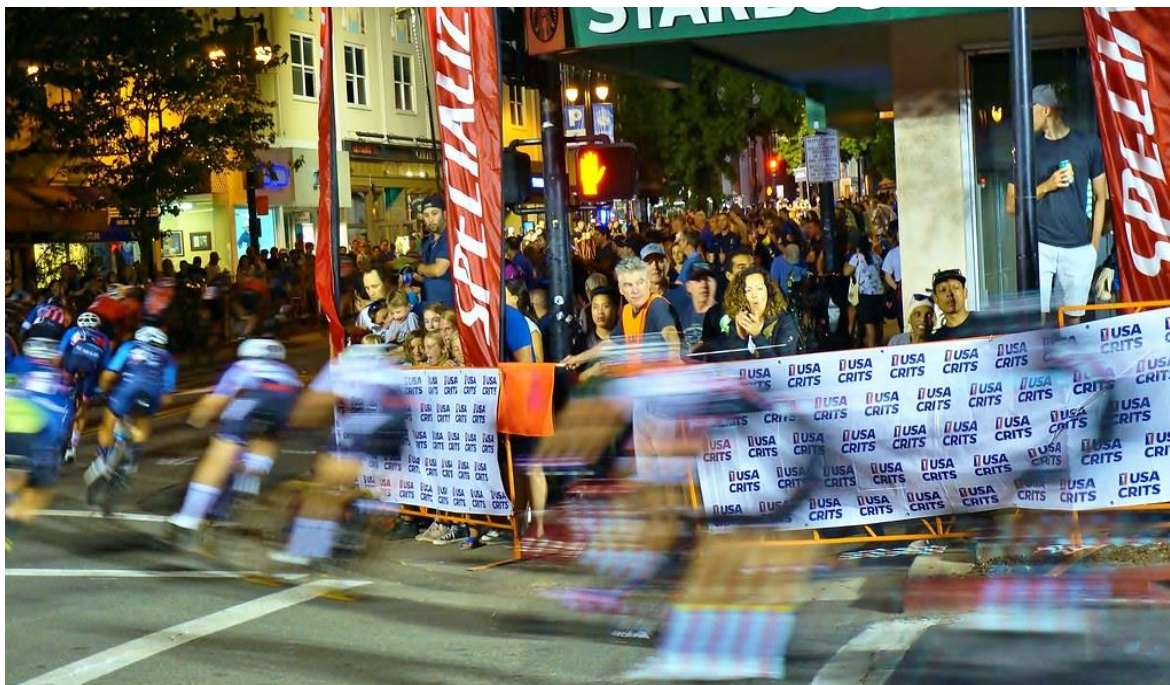
Program M-6.3D: Electric Bicycles. *Monitor and support the use of electric bicycles and periodically evaluate the need for standards, programs, and facilities that support their use.*

Policy M-6.4: Urban Trails Network

Identify, renovate, improve, and maintain an urban trails network to encourage walking and appreciation of historical and new pathways.

Program M-6.4A: Urban Trails Master Plan. *As part of a citywide Trails Master Plan, include an “urban trails” component with maps and descriptions of existing and potential urban trails in San Rafael. Urban trails to be identified include, but are not limited to, historic neighborhood stairways and walkways, downtown alleyways, park pathways, and creekside paths. Identify potential funding sources for projects identified in the Plan projects and include the projects in the Capital Improvements Program.*

Photo Credit: Frank Johnson



Policy M-6.5: Pilot Projects

Support pilot projects that install removable pedestrian and bicycle improvements on a short-term basis to test their effectiveness and public reception before investing in permanent improvements.

Policy M-6.6: Coordination

Work with other jurisdictions, transit agencies, and stakeholders to implement projects that reflect bicycle and pedestrian needs at the local and regional levels.

Program M-6.6A: Bikeshare Program. Partner with the Transportation Authority of Marin (TAM) in implementation of a bikeshare program in Downtown San Rafael and at the Civic Center station. Consider possible locations for bike sharing “pods” at destinations throughout San Rafael, especially downtown.

Program M-6.6B: Monitoring. Maintain data on the effectiveness of pedestrian and bicycle improvements and use this data to adjust programs as needed.

Policy M-6.7: Universal Design

Design and construct bicycle and pedestrian facilities to serve people of all ages and abilities, including children, seniors, families, and people with limited mobility.

Program M-6.7A: ADA Compliance. Continue efforts to improve access for those with disabilities, including compliance with Federal and State accessibility requirements.

Program M-6.7B: Best Practices. Continue to construct bicycle and pedestrian facilities according to the most up-to-date local, state, and national best practices and design guidelines.

Policy M-6.8: Pedestrian and Bicycle Programming

Continue programs and activities to encourage walking and cycling.

Program M-6.8A: Public Information. *Maintain public information on pedestrian and bicycle projects, routes, data, and information on the City's website.*

Program M-6.8B: Bike to Work Day. *Encourage City employees, other San Rafael workers and residents to participate in Bike to Work Days and similar programs that encourage cycling as a viable commute alternative.*

Program M-6.8C: Maintenance of Pedestrian and Bicycle Facilities. *Develop a program for prioritizing and funding the maintenance of existing pedestrian and bicycle facilities based on use, connectivity, and facility conditions.*

Goal M-7: Well Managed Parking

Manage parking in a way that meets resident, business, and visitor needs while supporting the City's goal of a more sustainable transportation system.

Parking will be managed to support local businesses and enhance the quality of life in residential areas. In areas of high demand, a range of strategies will be used to balance supply and demand, including pricing, shared parking, on-site parking requirements, public-private partnerships, and similar measures that support mobility and economic vitality. Demand will be monitored over time to respond to trends and ensure appropriate design standards. Parking policies should support the goal of a walkable, transit-friendly environment while still recognizing the needs of motorists.

Parking is both a transportation issue and a land use issue. Most San Rafael households own two or three cars, use these vehicles several times a day, and require parking at their destinations. Much of the city was designed for vehicle access and has plentiful parking. Other areas have limited supply. In addition, areas like the Canal neighborhood were designed in anticipation of single-car households, but are now occupied by larger households with multiple cars.

While parking is necessary to support businesses and meet resident needs, it is not always the most efficient or desirable use of land. This is particularly true of large surface parking lots, which may trap heat, contribute to water pollution, and detract from aesthetics and neighborhood character. In many settings, parking lots sit vacant for many hours of the day. Parking structures have been developed in Downtown San Rafael and a few other places in the city, providing an essential resource for local business. But providing *too much* parking makes it harder to achieve competing City goals, such as encouraging public transit use, walking and bicycling.

The City strives for balance as it manages parking, recognizing these competing factors. A combination of on-street and off-street policies is used to balance supply and demand. These policies must be regularly revisited as vehicle technology changes, and as parking technology itself evolves.

San Rafael’s parking needs vary by area. The highest demand occurs downtown, given the density of development and concentration of businesses. A Downtown Parking District was formed in 1958 to better provide parking for the area. The District roughly encompasses the area bounded by Lincoln Avenue, D Street, Second Street and Fifth Avenue. The City has adopted reduced off-street parking standards for development in this area, recognizing the availability of municipal parking and nearby public transit.

Other commercial areas, such as the Montecito Shopping Center, experience high parking demand during peak shopping hours. Parking for transit users is also an ongoing issue in the city. Neither of San Rafael’s SMART stations, nor the San Rafael Transit Center, has dedicated off-street parking facilities. The need for parking must be balanced with the desire to discourage driving to the station. This has led to a focus on “last mile” trips between the transit stations and passenger destinations, potentially including shuttles, e-scooters, shared bicycles, and similar modes.

The Neighborhoods Element of the General Plan provides additional direction on parking in specific neighborhoods, supplementing the citywide policies cited below.

Policy M-7.1: Optimizing Existing Supply

Optimize the use of the existing parking supply. Expand the supply where needed through innovative programs, public/private partnerships, and land use policies.

***Program M-7.1A: Shared Parking.** Encourage shared parking arrangements that serve private and public users (for example, private office parking lots that are available for nighttime public use).*

Policy M-7.2: Parking Districts

Encourage parking districts in areas of high demand. Such districts reduce the burden of providing off-street parking facilities on individual business owners and encourage shared facilities that meet the parking needs of multiple users.

Policy M-7.3: Parking Technology

Use technology to improve parking efficiency and reduce the land area required to meet parking needs.

***Program M-7.3A: Downtown Parking and Wayfinding Study Recommendations.** Implement the technology recommendations of the 2017 Downtown Parking and Wayfinding Study and ~~study consider~~ the application of these recommendations to other parts of San Rafael.*



Improving Parking Through Technology

San Rafael completed a Downtown Parking and Wayfinding Study in 2017. Among the Study’s recommendations was to improve parking efficiency through new technologies, including:

- End-user technologies, such as a mobile responsive website or text message maps to enhance wayfinding
- Mobile parking apps to allow on-street meters to be located and used more easily
- Mobile lifts, stackers, and other methods to accommodate parking with less space
- Automated space counters, digital displays, and real-time information on space availability at garages.

Policy M-7.4: Downtown Parking

Maintain a sufficient number of downtown parking spaces to meet demand and support local businesses.

Program M-7.4A: Monitoring Demand. Monitor demand for parking around the Downtown SMART station and San Rafael Transit Center to determine the need to adjust parking time limits and costs, and the need to increase supply.

Program M-7.4B: Assessment District Expansion. Modify the Downtown Parking Assessment District boundaries to include the areas east to Hetherton and west to E Street. Pursue parking and other transportation-related services and improvements in the expanded area.

Program M-7.4C: Private Garages. When new private parking structures are constructed downtown, encourage the inclusion of spaces that are available for public use (at rates to be set by the owner). Consider development agreements and public private partnerships that support such set-asides.

Program M-7.4D: Wayfinding Signage. Improve wayfinding signage for downtown parking. Undertake marketing programs to make drivers and pedestrians more aware of the location of parking and convenience of downtown parking lots and garages.

Program M-7.4E: Design Standards for Parking Garages. Develop design standards for parking garages to ensure that they maintain architectural integrity, are easy to use, align pedestrians toward their destinations, and can support ancillary activities where they front pedestrian-oriented streets.



Policy M-7.5: Dynamic Pricing

Consider dynamic pricing options (e.g., varying prices at different times of the day) to manage parking in high-demand locations such as downtown. Parking rates should distribute demand more evenly and achieve the most efficient use of space. Rates should be periodically adjusted to reflect demand, operating costs, and changes in technology.

Program M-7.5A: Adjustments to Parking Rates. Establish a formal system for setting and periodically re-evaluating parking rates based on performance, costs, best practices, and similar factors. Rates should be based on occupancy data and designed to support fiscal health, as well as the needs of residents, businesses, workers, and visitors. As needed, the City Code should be modified to establish principles for parking management as well as a process for rates to be reviewed based on specified metrics.

Policy M-7.6: Off-Street Parking Standards

Maintain off-street parking standards that adequately respond to demand, minimize adverse effects on neighborhoods, [avoid future parking problems](#), and sustain local businesses.

Program M-7.6A: Adjustments to Parking Standards. Periodically adjust off-street parking requirements to respond to data on parking needs, and trends in vehicle design, car ownership, and travel behavior.

Program M-7.6B: Parking Reductions. Allow reduced parking subject to findings that a project will have lower vehicle ownership rates (for example, for senior housing or housing [in the Downtown area adjacent to a SMART station](#)).

Policy M-7.7: Parking Management

Proactively manage street parking in areas of heavy demand and areas where parking affects neighborhood character, convenience, and safety.

Program M-7.7A: Residential Permit Parking. Re-evaluate provisions for residential permit parking to make it easier and less costly to implement such programs.

Program M-7.7B: Parking Studies. Periodically conduct neighborhood and business district parking studies. Use these studies as the basis for parking management strategies.

See also Policy LU-3.7 on on-street parking in neighborhoods

Policy M-7.8: Parking for Alternative Modes of Transportation

Designate parking spaces to incentivize and encourage carpooling, electric vehicles, and other more sustainable modes of travel.

Program M-7.8A: Charging Stations. Install additional ~~electric vehicle~~ chargers in public parking lots and garages [for electric vehicles and e-bikes](#). Consider expanding electric charging requirements for private parking lots and structures.

Program M-7.8B: Parking Standards. Periodically revisit off-street parking standards to include incentives or additional standards for clean air vehicles, bicycles [and e-bikes](#), shared vehicles, and other low-emission travel modes.

[See also Policy M-3.6 on zero emission vehicles](#)

Policy M-7.9: Parking for Transit Users

Support regional efforts to fund and construct commuter parking along transit routes, near commuter bus pads, and near inter-modal commuter hubs in order to support use of transit. Parking areas should include secure parking for carpools, bicycles and other alternative modes and should minimize neighborhood impacts.

Program M-7.9A: Commuter Parking. Regularly evaluate the need for parking around the SMART stations and San Rafael Transit Center, as well as ways to meet that need.

See also Program M-7.5D on wayfinding signage

Policy M-7.10: Curbside Management

Plan for on-street parking in a way that considers broader curbside needs associated with loading, deliveries, passenger pick-up and drop-off, cycling, and other activities. Curb space should be managed to recognize changing needs throughout the day and night.