



**Making the Most of Marin's  
Transportation Dollars**



## **Marin County Congestion Management Program 2013 Update**

Prepared for:  
Transportation Authority  
of Marin

By: TJKM Transportation  
Consultants

October 15, 2013

Pleasanton  
Fresno  
Sacramento  
Santa Rosa





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Prepared by:  
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## **Executive Summary**

The 2013 Congestion Management Program (CMP) is a document of the Transportation Authority of Marin (TAM), the designated Congestion Management Agency (CMA) for Marin County. The 2013 biennial update is required by State statute. Following are highlights of this document.

### ***Chapter 1: Designated Roadway System***

The designated CMP roadway system in Marin County has not changed as required by law. In the 2011 CMP, the CMP network numbering system was redefined into corridors and segments, allowing readers to more easily reference roadway performance tables in the future.

### ***Chapter 2: Roadway System Level of Service (LOS)***

The monitoring results of roadway segments have varied little since the 2011 CMP Update, although some segments show improved levels of service (LOS). All but one monitored CMP roadway segment (grandfathered and non-grandfathered) are within LOS standards as they were in the 2011 CMP.

That grandfathered segment, US 101 between Tiburon Boulevard (State Route 131) and Tamalpais Drive, stayed at LOS F in 2012, identical to 2010. Grandfathered roadway segments are those that operated at a lower (deficient) LOS than the standard established in 1991. Such segments are allowed to continue operating at a lower LOS standard level until such time as they are improved or the traffic load is diverted.

### ***Chapter 3: System Performance***

The transit system in Marin County continues to carry many residents and workers. The recent dedication of additional resources has led to an expansion of local transit service, which in turn has increased local boardings. Overall demand for Marin Transit basic and Golden Gate commuter services to and from San Francisco has increased slightly after a pronounced decline in recent years, and Marin Transit has maintained most bus services to meet increased demand after previous service reductions.

There continues to be growing demand for paratransit services in Marin County (Whistlestop Wheels), as demonstrated by increased usage since the last CMP. Marin Transit additionally sponsors two new programs since 2011: 1) a Volunteer Driver program for seniors who have difficulty using fixed route or paratransit services, and 2) Catch-a-Ride, which allows eligible Marin County residents to receive a discount to ride on taxis and other licensed vehicles throughout Marin County.

Bicycle and pedestrian improvements are important to many jurisdictions. These improvements are detailed according to information received from staff at each local jurisdiction. Many such improvements are associated with Safe Routes to Schools programs.

The performance measures presented in this chapter show that multi-modal demand is not showing significant change in the last two years. Bus travel times along US 101 between San Rafael Transit Center and Golden Gate Bridge were generally similar between 2010 and 2012, except in the northbound direction during the PM peak, which reduced from 88 to 52 minutes. Overall traffic flow on some major corridors was better in 2012 than it was in 2010; however, some of this is attributable to a change in monitoring segment lengths. For example, a decision was made to

shorten US 101 segment monitoring between San Rafael Transit Center and the Sonoma County line to Novato in 2012, while in 2010 measurements were made to Petaluma, approximately 12 miles further north.

There has been a decrease in total employed County residents in Marin County over the last two years, which is likely a lingering effect of the economic recession of the previous decade. Regional forecasts from the regional *Plan Bay Area* show that in 2010, Marin County had approximately 4,000 more jobs than employed residents, while in 2040 it is expected that the County will have about 7,400 more employed residents than jobs.

#### **Chapter 4: Travel Demand Management**

Marin County Measure A, the 1/2-cent transportation sales tax measure passed in 2004, expanded travel demand management programs in Marin County. These programs are successfully operating today. School programs include Safe Routes to Schools and SchoolPool programs. TAM also promotes compact development strategies by providing the *Pedestrian and Transit-Oriented Design Toolkit* (2007) and encouraging SMART Station Area Planning efforts in San Rafael and Larkspur. With recent adoption of *Plan Bay Area*, and the region's Sustainable Communities Strategy (SCS) mandated by SB 375, future programs in Marin County will continue to be refined to offer alternative approaches to living with traffic congestion.

#### **Chapter 5: Land Use Analysis Program**

The CMP presents two important elements of the Land Use Analysis Program: Part A for major development projects and general plan updates, and Part B for biennial development tracking, both of which require local government participation and cooperation. The first program was adopted in 1991.

#### **Chapter 6: Travel Demand Model**

CMP requirements include maintaining and utilizing a travel demand model that is consistent with the regional model and available for use in corridor and development studies. The active status of this model is summarized for 2013. The Marin Travel Model (MTM) is currently being updated with 2040 land use projections to be consistent with *Plan Bay Area* forecasts.

#### **Chapter 7: Capital Improvements Program**

This CMP is the first to identify programs and funding relative to County Measure B, the \$10 vehicle registration fee (VRF) passed by Marin County voters in 2010. Measure B includes three elements: maintain local streets and pathways; improve transit for seniors and persons with disabilities; and, reduce congestion and pollution with programs relating to school safety and congestion, commute alternatives, and alternative fuels.

A majority of Measure A funding is now allocated to operating existing programs. Also, many Marin County projects have received major funding from other sources in the past several years, so that there are not many improvements that can be identified. The most significant investment to Marin's roadway system, the Marin-Sonoma Narrows (MSN) Project, is detailed in this chapter. MSN Phase I projects are underway, with the Novato carpool lane component completed in 2012. This report also describes other projects whose funding is provided and tracked by regional and state agencies.

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**Chapter 8: Monitoring, Deficiency Plans and Conformance**

Local jurisdictions must meet the CMP conformance requirements to receive funding from several State programs. The conformity process has not substantively changed in the 2013 CMP. LOS monitoring in this CMP did not find any new deficiencies, and local jurisdictions that conform to the land use analysis program requirements are expected to remain in conformance.

## I. Designated Roadway System

### Purpose and Intent of Legislation

The Congestion Management Program (CMP) roadway system is a network that allows performance monitoring in terms of established level-of-service (LOS) standards. The network must be created at a level such that impacts can be identified, and a connection can be made between proposed projects and their specific impacts on the network. The network can neither be too small, as impacts would be unidentifiable, nor too large, as there would be logistical issues in monitoring network performance. The CMP was established as part of the legislated Transportation Blueprint of 1990 and became a requirement for Congestion Management Agencies (CMAs) across California to fulfill.

The Marin County CMA established the CMP roadway network in 1991. The designated CMP roadway system includes all state highways and principal arterial roadways in Marin County. California Government Code Section 65089(b)(1)(A) states that once a highway or roadway has been designated as part of the CMP system, it cannot be removed. Furthermore, Section 60589(b)(4) requires that the regional transportation system is part of the required land use program defined by State statute.

### Relationship to Regional Plans

The CMP is a short-range document containing elements which further the goals of the Regional Transportation Plan (RTP) maintained by the Metropolitan Transportation Commission (MTC), the San Francisco Bay Area's regional transportation planning agency. The Marin CMP roadway system is consistent with the RTP, which was adopted in July 2013 as part of *Plan Bay Area*.

The designated County CMP roadway system is included within the RTP's Metropolitan Transportation System. This facilitates regional consistency between the Marin CMP and CMPs of adjoining Contra Costa, San Francisco, and Sonoma counties.

### Designated CMP System

Prior Marin County CMPs have defined State highways and other principal arterial roadways for the County CMP roadway network. MTC has provided a framework that allows for flexibility in defining the principal arterial system. The following criteria were used to establish the designated CMP roadway network:

State Highways. All State highways must be included in the CMP roadway network according to the CMP legislation. If a route is to be removed from the State Highway System, it is to be evaluated according to principal arterial criteria to determine whether it should remain in the CMP network.

Principal Arterial Roadways. Marin's first CMP, created in 1991, designated principal arterial roadways in addition to State facilities as the CMP roadway network. Non-State CMP roadways were included based upon the following criteria:

- Purpose and function of the roadway
- Land use adjacent to the roadway and proximity to activity centers
- Average Daily Traffic (ADT) volume, generally greater than 25,000 daily vehicles
- Connectivity to other facilities

### County CMP Designated Network

Figure 1 illustrates all designated CMP roadway facilities within Marin County. The following roadways are designated as the State Highway corridors of the Marin CMP roadway network:

1. State Route 1 – from Sonoma County Line to US 101
2. State Route 37 – from US 101 to Sonoma County line
3. US 101 – from Sonoma County Line to San Francisco County Line
4. State Route 131 – from US 101 to Main Street in Tiburon
5. Interstate 580 – from US 101 to Contra Costa County Line

As noted above, additional roadways were designated in Marin’s CMP in 1991. The following routes (also shown in Figure 1) are the Principal Arterials of the Marin CMP Roadway Network:

6. Novato Boulevard/South Novato Boulevard in Novato – from Sutro Avenue/San Marin Drive to U. S. 101
7. Bel Marin Keys Boulevard – from US 101 southbound ramps to Commercial Boulevard
8. Sir Francis Drake Boulevard in unincorporated Marin County, Fairfax, San Anselmo, Ross, Kentfield, Larkspur – from State Route 1 to Interstate 580
9. Red Hill Avenue/2nd Street/3rd Street in San Anselmo and San Rafael – from Sir Francis Drake Boulevard to US 101
10. Bridgeway/Second Street/Alexander Avenue in Sausalito – from US 101 to US 101

Table 1 provides a detailed description of the Marin CMP Roadway Network segments. In total, the 123-mile CMP designated roadway network contains 91 miles of state highways and 32 miles of principal arterial roadways.

**Table 1: Roadway Network Segments**

Corridor			Segment Description				
No.	Roadway	Type	Old Segment No.	No.	Street Name	From	To
1	State Route 1	Arterial	25	1A	Shoreline Hwy (SR 1)	US 101	Almonte Blvd
			19	1B	Shoreline Hwy (SR 1)	Almonte Blvd	Sir Francis Drake Blvd
			1	1C	Shoreline Hwy (SR 1)	Sir Francis Drake Blvd	Sonoma County Line
2	State Route 37	Freeway	5	2A	State Route 37	US 101	Sonoma County Line
3	US 101	Freeway	21	3A	US 101	San Francisco County Line	Shoreline Hwy (SR 1)
			17	3B	US 101	Tiburon Blvd (SR 131)	Sir Francis Drake Blvd
			13	3C	US 101	Sir Francis Drake Blvd	I-580
			11	3D	US 101	I-580	Mission Avenue
			8	3E	US 101	Mission Avenue	N. San Pedro Road
			7	3F	US 101	N. San Pedro Road	SR 37

Corridor			Segment Description				
No.	Roadway	Type	Old Segment No.	No.	Street Name	From	To
			2	3G	US 101	SR 37	Sonoma County Line
4	State Route 131	Arterial	18	4A	Tiburon Blvd (SR 131)	US 101	Main St (Tiburon)
5	Interstate 580	Freeway	15	5A	I-580	Contra Costa Co Line	Sir Francis Drake Blvd
			14	5B	I-580	Sir Francis Drake Blvd	US 101
6	Novato Blvd/ South Novato Blvd	Arterial	3	6A	Novato Blvd	San Marin Drive	Wilson Ave
			24	6B	Novato Blvd	Wilson Ave	Diablo Ave
			4	6C	South Novato Blvd	Diablo Ave	US 101
7	Bel Marin Keys Blvd	Arterial	6	7A	Bel Marin Keys Blvd	US 101	Commercial Blvd
8	Sir Francis Drake Blvd	Arterial	22	8A	Sir Francis Drake Blvd	Shoreline Hwy (SR 1)	Butterfield Road
			9	8B	Sir Francis Drake Blvd	Butterfield Road	Red Hill Avenue
			23	8C	Sir Francis Drake Blvd	Red Hill Avenue	College Avenue
			12	8D	Sir Francis Drake Blvd	College Avenue	US 101
			16	8E	Sir Francis Drake Blvd	US 101	I-580
9	Red Hill Ave / 2nd St / 3rd St	Arterial	10	9A	Red Hill Avenue	Sir Francis Drake Blvd	Marquard Ave/4th St
			26	9B	2nd Street	Marquard Ave/4th St	US 101
			27	9C	3rd Street	US 101	Marquard Ave/4th St
10	Bridgeway/Second St/ Alexander Ave	Arterial	20	10A	Bridgeway/Second St/ Alexander Ave	US 101	US 101

**Figure I: Marin CMP Roadway Network**



## 2. Roadway System Level of Service

### Purpose and Intent of Legislation

California Government Code 65089(b)(1)(A) requires that level-of-service (LOS) standards be established as part of a CMP, using the Transportation Research Board's *Highway Capacity Manual* or an accepted alternative.

Traffic LOS definitions describe roadway operational conditions in terms of speed and travel time, volume, capacity, ease of maneuverability, traffic interruptions, comfort, convenience, and safety. Table 2 shows the roadway segment LOS criteria used in monitoring the Marin County CMP roadway network. There are six gradations of LOS, from A to F. LOS A reflects free-flow conditions, with vehicles traveling at the maximum posted speed. LOS F reflects forced-flow, or "bumper-to-bumper" congested conditions.

**Table 2: Roadway Segment Level of Service (LOS) Criteria**

Level of Service	Basic Freeway Segment Travel Speed* (mph)**	Major Arterial Segment Travel Speed* (mph)	Basic*** Freeway (V/C)	Major*** Freeway (V/C)
A	>60	>25	0.35	0.60
B	57-60	20-25	0.54	0.70
C	54-56	13-19	0.77	0.80
D	47-53	10-13	0.93	0.90
E	30-46	7-9	1.00	1.00
F	<30	<7	>1.00	>1.00

Notes: \*Speed rounded to nearest integer.

\*\* mph = miles per hour

\*\*\*LOS criteria used in Transportation System Performance Monitoring Reports (2008 & 2012). Traffic volumes were collected at one point along the roadway segment then divided by a predetermined roadway capacity to arrive at a V/C ratio.

Source: 1985 Highway Capacity Manual Special Report 209, 2000 Highway Capacity Manual.

The LOS designation as related to facility speeds and volume-to-capacity ratios provides a quantitative tool that can be used to analyze the impacts of land use changes on the CMP network. Traffic LOS also is used as a measure of system performance (e.g., congestion). Every two years TAM (as Marin's CMA) is required to determine whether local governments have been conforming to the CMP, including attainment of LOS standards. This is achieved through a self-certification process in which TAM monitors and reports LOS conditions. The CMA can also consider local jurisdiction monitoring reports to aid in determining whether the local city is in conformance with the CMP. Additional detail on monitoring requirements is included in Chapter 8.

Local cities and towns must consider the impacts that land use decisions have on LOS on the designated CMP network. TAM (as County CMA) works with local government entities to determine whether a change in land use affects LOS negatively, and how to mitigate any anticipated deficiencies. A systems approach may have to be examined when considering LOS of the entire system. Cities and counties may be responsible for improvements and funding of programs that affect the system as a whole.

## Highway Level of Service Standards

### Goals and Objectives

The LOS methodology should allow for measurement of traffic growth trends through changes in volumes, capacity, and delay. CMP legislative guidance identifies several issues that affect the determination of LOS and the application of a standard. The Marin County CMP has developed an approach that is consistent, easy to use, non-duplicative, and compatible with local government data and travel demand models. Table 3 below summarizes the approach used to address each issue identified in the guidance.

The CMP legislation allows trips not originating in a county, trips passing through a county, or trips generated by low- and very low-income housing to be excluded from the determination of conformance with LOS standards following consultation with MTC, Caltrans, and the Bay Area Air Quality Management District. TAM, however, decided to include these trips when determining conformance with LOS standards for local planning purposes, as exclusion of these trips would present a misleading picture of the traffic conditions in the county and could artificially skew the inclusion and/or ranking of projects in the seven-year Capital Improvement Program.

**Table 3: Approaches to Marin CMP Issues**

<i>Issue</i>	<i>Approach</i>
Inter-County Trips	In accordance with California statutory requirements, trips with no end in Marin County (through trips) are not to be included for deficiency plan determination. These trips are included for performance reporting.
LOS Standards	D for Urban and Suburban Arterial Roadways E for Freeways and Rural Expressways (US 101, I-580, and SR 37)
Method of Analysis: Freeway and Rural Expressway Segments	The analysis technique for freeway segments, based on segment weekday PM peak-hour volume to capacity ratios is from chapter 23 and 24 of the <i>Highway Capacity Manual</i> . (The PM peak hour is the highest consecutive 60 minutes of traffic in the afternoon, typically between 5 PM and 6 PM.)
Method of Analysis: Urban and Suburban Arterial Segments	Volume-to-Capacity ratios are the analysis technique for arterial sequences, utilizing capacities provided in Chapter 15 and 16 of the <i>Highway Capacity Manual</i> , and based on weekday PM peak-hour traffic volumes. (The PM peak hour is the highest consecutive 60 minutes of traffic in the afternoon, typically between 5 PM and 6 PM.)
Method of Analysis: Rural Arterial Roadways	Chapter 20 of the <i>Highway Capacity Manual</i> is the analysis technique to be applied for rural roadways, based on weekday PM peak hour traffic volumes. (The PM peak hour is the highest consecutive 60 minutes of traffic in the afternoon, typically between 5 PM and 6 PM.)
Monitoring	The local agency (e.g., city and county) or TAM performs the LOS monitoring. Monitoring frequency is to be biennial (with certain exceptions outlined in Chapter 8 of the <i>Highway Capacity Manual</i> ), recognizing that more frequent counting could be done as part of development impact study requirements.
Deficiency Analysis	More refined analyses may be required when determining if a roadway segment is deficient. If appropriate, the operational analysis methodology described in the <i>Highway Capacity Manual</i> may be used to determine LOS.

### **Facility Classifications**

The *Highway Capacity Manual* provides methods for determining LOS on several types of facilities. These facilities are grouped into interrupted- and uninterrupted-flow facilities. Interrupted-flow facilities include city streets and non-grade separated highways (like State Route 1) that are part of the State Highway System. For purposes of LOS analysis, the CMP network is classified into two functional types of facilities:

- **Basic Freeway and Rural Expressway Segments.** These are designed as uninterrupted-flow facilities with multiple lanes available in each direction, with traffic only stopping when traffic is heavy enough to create slow speeds or when breakdowns occur.
- **Suburban and Rural Arterial Roadways.** Suburban arterial roadways consist of more than one lane in each direction, with traffic signals less than two miles apart on average. Rural arterial roadways are typically a single lane in each direction but designed at lower speeds than rural expressways and have occasional interrupted flow from traffic signals, stop signs or turning vehicles.

### **Definition of Roadway Segments**

Chapter I lists the segments of the Marin County CMP network that are analyzed as part of this CMP (see Figure 1 and Table 1). Each segment is assigned a “responsible jurisdiction,” where the jurisdiction named is the one with the greatest segment mileage. This jurisdiction is responsible for preparing any required deficiency plans, as well as complying with all other CMP legislative requirements related to that segment. Other jurisdictions through which a CMP segment travels are expected to work in a cooperative fashion with the responsible jurisdiction, and bear a pro rata share of the cost of any improvement to the facility based on the approximate cost of improvements in their jurisdiction. In the event that funding is needed for a program, each jurisdiction would contribute its fair share of the cost based on segment mileage within the jurisdiction.

### **Identification of “Grandfathered” Roadway Segments**

“Grandfathered” roadway segments are those that operated at a lower (deficient) LOS than the standard established in 1991. Such segments are allowed to continue operating at a lower LOS standard level until such time as they are improved or the traffic load is diverted. Freeway segments that operated at LOS F or arterial segments that operate at LOS E or F in the 1991 CMP qualify as “grandfathered” segments. Table 4 lists the monitoring locations for each CMP facility in Marin County, while Figure 2 illustrates the grandfathered segments of those facilities.

At the time when the Marin County CMP was created, there was an agreement that some segments would operate at deficient LOS and should be excluded from local government requirements to maintain the adopted level of service standard as part of any new development approval process. These segments were “grandfathered” and thus not required to meet the level of service standard. In Marin County, the segments that qualify as grandfathered are:

- Segment 1B: Shoreline Hwy (SR 1) between Northern Avenue and Almonte Blvd
- Segment 3B: US 101 between Tiburon Blvd (SR 131) and Tamalpais Dr (HOV lane available)
- Segment 3C: US 101 between Sir Francis Drake Blvd and I-580 (HOV lane available)
- Segment 3D: US 101 between I-580 and Mission Avenue (HOV lane available)
- Segment 3E: US 101 between Mission Avenue and N. San Pedro Road (HOV lane available)
- Segment 3F: US 101 between Frietas Parkway and Lucas Valley Road (HOV lane available)
- Segment 3G: US 101 between Atherton Avenue and Sonoma County Line
- Segment 5B: I-580 between Sir Francis Drake Blvd and Bellam Blvd
- Segment 7A: Bel Marin Keys Blvd between US 101 and Commercial Blvd
- Segment 8A: Sir Francis Drake Boulevard between Willow Avenue and Butterfield Road
- Segment 8B: Sir Francis Drake Blvd between San Anselmo Avenue and Red Hill Avenue
- Segment 8C: Sir Francis Drake Blvd between Toussin Avenue and College Avenue
- Segment 8D: Sir Francis Drake Boulevard between College Avenue and Wolfe Grade
- Segment 8E: Sir Francis Drake Boulevard between US 101 and Larkspur Landing Circle

In the future, TAM may wish to develop an improvement plan to address congestion as appropriate for these remaining grandfathered facilities. An improvement plan would consist of a description of the actions required to improve the LOS on the facility, either by increasing capacity or managing the demand for travel in a manner that effectively improves LOS.

#### **2012 Monitoring Results**

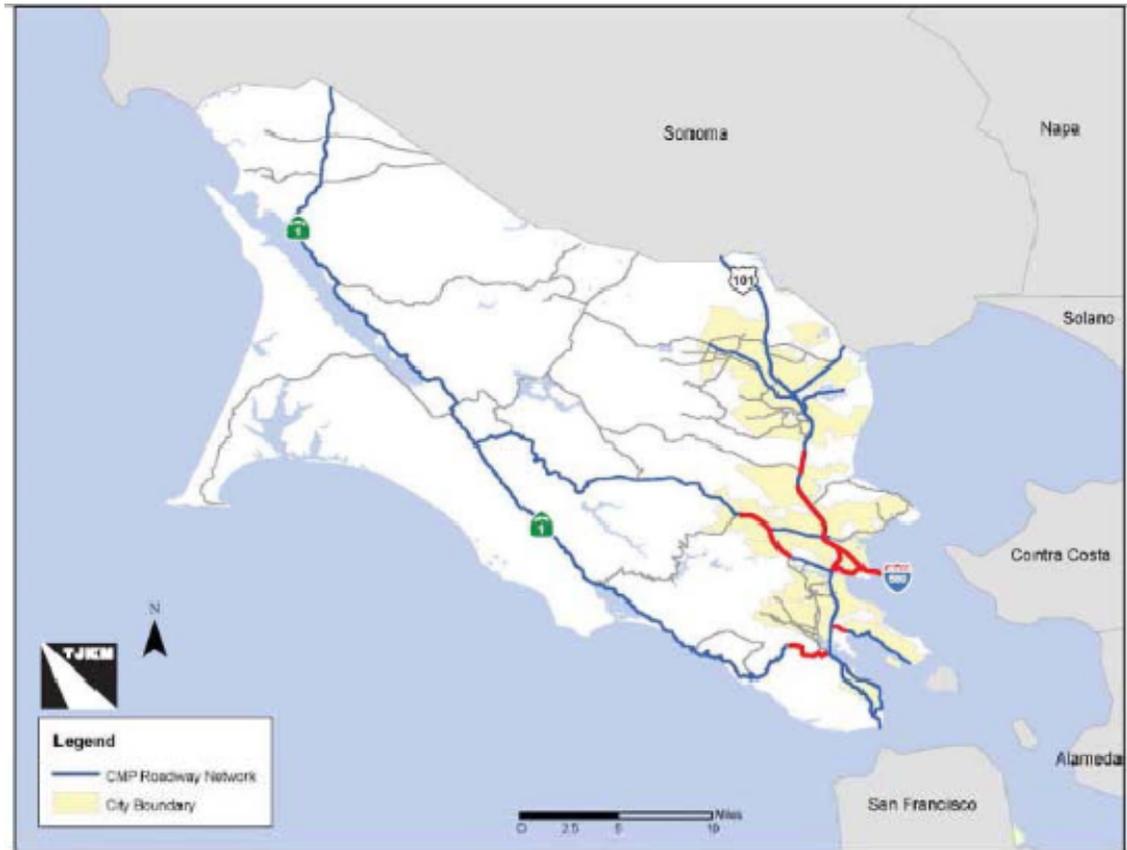
The monitoring for the 2013 CMP was conducted by Kimley-Horn Associates for TAM. The results of monitoring, documented in the *2012 Transportation System Monitoring Report*, provide detailed results that are summarized in Tables 5a, 5b, and 6. Tables 5a and 5b document average travel time, speed survey results, and LOS for the PM peak period. Table 6 contains a historic trend for PM peak period LOS of monitored segments in the peak direction.

**Table 4: Grandfathered CMP Roadway Facilities**

Corridor			Segment Description					Monitoring Location		Grandfathered Status
No.	Name	Type	Old Segment No.	No.	Street Name	From	To	From	To	
1	State Route 1	Arterial	25	1A	Shoreline Hwy (SR 1)	US 101	Almonte Blvd	US 101	Tennessee Valley	No
			19	1B	Shoreline Hwy (SR 1)	Almonte Blvd	Sonoma County Line	Northern Avenue	Almonte Blvd	Yes
			1	1C	Shoreline Hwy (SR 1)	Sir Francis Drake Blvd	Sonoma County Line	Sir Francis Drake Blvd	Point Reyes	No
2	State Route 37	Freeway	5	2A	State Route 37	US 101	Sonoma County Line	US 101	Atherton Avenue	No
3	US 101	Freeway	21	3A	US 101	San Francisco County Line	Shoreline Hwy (SR 1)	North of Golden Gate Bridge	Spencer Avenue	No
			17	3B	US 101	Tiburon Blvd (SR 131)	Sir Francis Drake Blvd	Tiburon Blvd (SR 131)	Tamalpais Dr	Yes
			13	3C	US 101	Sir Francis Drake Blvd	I-580	Sir Francis Drake Blvd	I-580	Yes
			11	3D	US 101	I-580	Mission Avenue	I-580	Mission Avenue	Yes
			8	3E	US 101	Mission Avenue	N. San Pedro Road	Mission Avenue	N. San Pedro Road	Yes
			7	3F	US 101	N. San Pedro Road	SR 37	Frietas Parkway	Lucas Valley Road	Yes
			2	3G	US 101	SR 37	Sonoma County Line	Atherton Ave	Sonoma County Line	Yes
4	State Route 131	Arterial	18	4A	Tiburon Blvd (SR 131)	US 101	Main St (Tiburon)	Redwood Frontage Road	Strawberry Drive	No
5	Interstate 580	Freeway	15	5A	I-580	Contra Costa Co Line	Sir Francis Drake Blvd	End of R-SR Bridge	Sir Francis Drake Blvd	No
			14	5B	I-580	Sir Francis Drake Blvd	US 101	Sir Francis Drake Blvd	Bellam Blvd	Yes
6	Novato Blvd/ South Novato Blvd	Arterial	3	6A	Novato Blvd	San Marin Drive	Wilson Ave	San Marin Drive	Eucalyptus Ave	No
			24	6B	Novato Blvd	Wilson Ave	Diablo Ave	Grant Avenue	Diablo Ave	No

Corridor			Segment Description					Monitoring Location		Grandfathered Status
No.	Name	Type	Old Segment No.	No.	Street Name	From	To	From	To	
			4	6C	South Novato Blvd	Diablo Ave	US 101	Sunset Parkway	US 101	No
7	Bel Marin Keys Blvd	Arterial	6	7A	Bel Marin Keys Blvd	US 101	Commercial Blvd	US 101	Commercial Blvd	Yes
8	Sir Francis Drake Blvd	Arterial	22	8A	Sir Francis Drake Blvd	Shoreline Hwy (SR 1)	Butterfield Road	Willow Ave	Butterfield Road	Yes
			9	8B	Sir Francis Drake Blvd	Butterfield Road	Red Hill Avenue	San Anselmo Ave	Red Hill Ave	Yes
			23	8C	Sir Francis Drake Blvd	Red Hill Avenue	College Avenue	Toussin Ave	College Ave	Yes
			12	8D	Sir Francis Drake Blvd	College Avenue	US 101	College Ave	Wolfe Grade	Yes
			16	8E	Sir Francis Drake Blvd	US 101	I-580	US 101	Larkspur Landing Cir	Yes
9	Red Hill Ave/ 2nd St/ 3rd St	Arterial	10	9A	Red Hill Avenue	Sir Francis Drake Blvd	Marquard Ave/4th St	Sir Francis Drake Blvd	Hildale Drive	No
			26	9B	2nd Street	Marquard Ave/4th St	US 101	Marquard Ave / 4th St	US 101	No
			27	9C	3rd Street	US 101	Marquard Ave/4th St	US 101	Marquard Ave / 4th St	No
10	Bridgeway / Second St / Alexander Ave	Arterial	20	10A	Bridgeway/ Second St/ Alexander Ave	US 101	US 101	Gate 5	Gate 6	No

**Figure 2: Grandfathered Roadway Network**



**Table 5a: 2013 Study Roadway Segment Monitoring Results (PM LOS) – Northbound / Eastbound Direction**

No	Corridor Name	Corridor Type	No	Old Seg. No	Street Name	From	To	Length	Direction	Avg. Time (Sec)	Avg. Time (Min)	Avg. Speed (mph)	LOS Result	LOS Standard	Grand-fathered Status
1	State Route 1	Arterial	1A	25	Shoreline Hwy (SR 1)	US 101	Tennessee Valley	0.3	NB	79	1.31	20.2	B	D	No
			1B	19	Shoreline Hwy (SR 1)	Northern Avenue	Almonte Blvd	0.8	NB	108	1.80	27.9	A	D	Yes
			1C	1	Shoreline Hwy (SR 1)	Sir Francis Drake Blvd	Point Reyes	2.1	NB	206	3.43	36.0	A	D	No
2	State Route 37	Freeway	2A	5	State Route 37	US 101	Atherton Avenue	2.3	EB	134	2.24	61.9	A	E	No
3	US 101	Freeway	3A	21	US 101	North of GG Bridge	Spencer Avenue	2.0	NB	98	1.63	43.8	E	E	No
			3B	17	US 101	Tiburon Blvd (SR 131)	Tamalpais Drive	1.7		NB	241	4.01	22.8	F	E
									NB HOV	283	4.71	21.7	F	E	
			3C	13	US 101	Sir Francis Drake Blvd.	I-580	1.3	NB	91	1.51	52.4	D	E	Yes
									NB HOV	89	1.48	53.5	D	E	
			3D	11	US 101	I-580	Mission Avenue	1.1	NB	80	1.34	51.1	D	E	Yes
									NB HOV	74	1.24	53.7	D	E	
			3E	8	US 101	Mission Avenue	N. San Pedro Road	1.6	NB	110	1.84	52.9	D	E	Yes
NB HOV	110	1.83							54.2	C	E				
3F	7	US 101	Frietas Parkway	Lucas Valley Road	1.0	NB	46	0.77	59.8	B	E	Yes			
						NB HOV	62	1.03	58.9	B	E				
3G	2	US 101	Atherton Avenue	Sonoma Co. Line	5.3	NB	605	10.08	33.8	E	E	Yes			
4	State Route 131	Arterial	4A	18	Tiburon Blvd (SR 131)	Redwood Frontage Road	Strawberry Drive	0.5	EB	80	1.34	27.4	A	D	No
5	Interstate 580	Freeway	5A	15	I-580	End of R-SR Bridge	Sir Francis Drake Blvd	3.3 (EB)	EB	312	5.20	38.8	E	E	No
			5B	14	I-580	Sir Francis Drake Blvd	Bellam Blvd	1.4	EB	121	2.01	44.5	E	E	Yes

**Table 5a: 2013 Study Roadway Segment Monitoring Results (PM LOS) – Northbound / Eastbound Direction (continued)**

No	Corridor Name	Corridor Type	No	Old Seg. No	Street Name	From	To	Length	Direction	Avg. Time (Sec)	Avg. Time (Min)	Avg. Speed (mph)	LOS Result	LOS Standard	Grand-fathered Status
6	Novato Blvd / South Novato Blvd	Arterial	6A	3	Novato Blvd	San Marin Drive	Eucalyptus Ave	0.4	NB	68	1.13	23.7	B	D	No
			6B	24	Novato Blvd	Grant Avenue	Diablo Ave	0.7	NB	193	3.21	22.0	B	D	No
			6C	4	South Novato Blvd	Sunset Parkway	US 101	1.1	NB	164	2.73	24.7	B	D	No
7	Bel Marin Keys Boulevard	Arterial	7A	6	Bel Marin Keys Blvd	US 101	Commercial Blvd	0.3	EB	38	0.64	26.8	A	D	Yes
8	Sir Francis Drake Blvd	Arterial	8A	22	Sir Francis Drake Blvd	Willow Ave	Butterfield Road	0.2	EB	34	0.57	25.5	A	D	Yes
			8B	9	Sir Francis Drake Blvd	San Anselmo Ave	Red Hill Ave	1.1	EB	235	3.92	17.3	C	D	Yes
			8C	23	Sir Francis Drake Blvd	Toussin Ave	College Ave	0.3	EB	98	1.63	12.0	D	D	Yes
			8D	12	Sir Francis Drake Blvd	College Ave	Wolfe Grade	0.6	EB	83	1.38	26.9	A	D	Yes
			8E	16	Sir Francis Drake Blvd	US 101	Larkspur Landing Cir	0.4	EB	169	2.82	13.4	C	D	Yes
9	Red Hill Ave / 2nd St / 3rd St	Arterial	9A	10	Red Hill Avenue	Sir Francis Drake Blvd	Hildale Drive	0.4	EB	55	0.91	27.6	A	D	No
			9B	26	2nd Street	Marquard Ave/4th St	US 101	0.8	EB	242	4.04	16.6	C	D	No
			9C	27	3rd Street	US 101	Marquard Ave / 4th St	0.8	One-way Street						D
10	Bridgeway / 2nd St / Alexander Ave	Arterial	10A	20	Bridgeway / 2nd St / Alexander Ave	Gate 5	Gate 6	0.2	NB	43	0.71	19.5	C	D	No

**Table 5b: 2013 Study Roadway Segment Monitoring Results (PM LOS) – Southbound / Westbound Direction**

No	Corridor Name	Corridor Type	No	Old Seg. No	Street Name	From	To	Length	Direction	Avg. Time (Sec)	Avg. Time (Min)	Avg. Speed (mph)	LOS Result	LOS Standard	Grand-fathered Status
1	State Route 1	Arterial	1A	25	Shoreline Hwy (SR 1)	US 101	Tennessee Valley	0.3	SB	77	1.29	18.5	C	D	No
			1B	19	Shoreline Hwy (SR 1)	Northern Avenue	Almonte Blvd	0.8	SB	120	2.00	24.9	B	D	Yes
			1C	1	Shoreline Hwy (SR 1)	Sir Francis Drake Blvd	Point Reyes	2.1	SB	208	3.46	35.8	A	D	No
2	State Route 37	Freeway	2A	5	State Route 37	US 101	Atherton Avenue	2.3	WB	133	2.22	60.0	A	E	No
3	US 101	Freeway	3A	21	US 101	North of GG Bridge	Spencer Avenue	2.0	SB	260	4.33	36.4	E	E	No
			3B	17	US 101	Tiburon Blvd (SR 131)	Tamalpais Drive	1.7	SB	92	1.53	49.7	D	E	Yes
									No SB HOV in PM Peak				E		
			3C	13	US 101	Sir Francis Drake Blvd.	I-580	1.3	SB	88	1.47	54.0	C	E	Yes
									No SB HOV in PM Peak				E		
			3D	11	US 101	I-580	Mission Avenue	1.1	SB	73	1.21	55.4	C	E	Yes
									No SB HOV in PM Peak				E		
			3E	8	US 101	Mission Avenue	N. San Pedro Road	1.6	SB	172	2.87	37.1	E	E	Yes
									No SB HOV in PM Peak				E		
3F	7	US 101	Frietas Parkway	Lucas Valley Road	1.0	SB	46	0.77	60.3	A	E	Yes			
						No SB HOV in PM Peak				E					
3G	2	US 101	Atherton Avenue	Sonoma Co. Line	5.3	SB	319	5.31	60.9	A	E	Yes			
4	State Route 131	Arterial	4A	18	Tiburon Blvd (SR 131)	Redwood Frontage Road	Strawberry Drive	0.5	WB	79	1.31	26.9	A	D	No
5	Interstate 580	Freeway	5A	15	I-580	End of R-SR Bridge	Sir Francis Drake Blvd	3.3 (EB)	WB	36	0.60	55.8	C	E	No
			5B	14	I-580	Sir Francis Drake Blvd	Bellam Blvd	1.4	WB	86	1.43	55.8	C	E	Yes

**Table 5b: 2013 Study Roadway Segment Monitoring Results (PM LOS) – Southbound / Westbound Direction (continued)**

No	Corridor Name	Corridor Type	No	Old Seg. No	Street Name	From	To	Length	Direction	Avg. Time (Sec)	Avg. Time (Min)	Avg. Speed (mph)	LOS Result	LOS Standard	Grandfathered Status
6	Novato Blvd / South Novato Blvd	Arterial	6A	3	Novato Blvd	San Marin Drive	Eucalyptus Ave	0.4	WB	64	1.06	25.3	A	D	No
			6B	24	Novato Blvd	Grant Avenue	Diablo Ave	0.7	SB	192	3.20	22.3	B	D	No
			6C	4	South Novato Blvd	Sunset Parkway	US 101	1.1	SB	128	2.14	29.1	A	D	No
7	Bel Marin Keys Boulevard	Arterial	7A	6	Bel Marin Keys Blvd	US 101	Commercial Blvd	0.3	SB	27	0.45	21.6	B	D	Yes
8	Sir Francis Drake Blvd	Arterial	8A	22	Sir Francis Drake Blvd	Willow Ave	Butterfield Road	0.2	WB	55	0.91	19.3	C	D	Yes
			8B	9	Sir Francis Drake Blvd	San Anselmo Ave	Red Hill Ave	1.1	WB	208	3.46	20.2	B	D	Yes
			8C	23	Sir Francis Drake Blvd	Toussin Ave	College Ave	0.3	WB	56	0.93	19.9	C	D	Yes
			8D	12	Sir Francis Drake Blvd	College Ave	Wolfe Grade	0.6	WB	94	1.56	24.2	B	D	Yes
			8E	16	Sir Francis Drake Blvd	US 101	Larkspur Landing Cir	0.4	WB	169	2.82	10.7	D	D	Yes
9	Red Hill Ave / 2nd St / 3rd St	Arterial	9A	10	Red Hill Avenue	Sir Francis Drake Blvd	Hildale Drive	0.4	WB	158	2.63	13.1	C	D	No
			9B	26	2nd Street	Marquard Ave/4th St	US 101	0.8	WB	One-way Street				D	No
			9C	27	3rd Street	US 101	Marquard Ave / 4th St	0.8	WB	215	3.59	18.4	C	D	No
10	Bridgeway / 2nd St / Alexander Ave	Arterial	10A	20	Bridgeway / 2nd St / Alexander Ave	Gate 5	Gate 6	0.2	SB	28	0.47	25.6	A	D	No

**Table 6: Historic LOS Trends – PM Peak Direction**

Old Segment No.	Segment Description				2003 (Old Method)	2005 (Old Method)	2006	2008	2010	2012	LOS Standard	Grandfathered Status
	No	Street Name	From	To								
25	1A	Shoreline Hwy (SR 1)	US 101	Tennessee Valley	NA	NA	NA	B	B	C	D	No
19	1B	Shoreline Hwy (SR 1)	Northern Avenue	Almonte Blvd	C	F	B	A	A	B	D	Yes
1	1C	Shoreline Hwy (SR 1)	Sir Francis Drake Blvd	Pt. Reyes	A	A	A	A	A	A	D	No
5	2A	State Route 37	US 101	Atherton Avenue	C	C	A	B	A	A	E	No
21	3A	US 101	North of Golden Gate Bridge	Spencer Avenue	C	C	A	A	D	E	E	No
17	3B	US 101	Tiburon Blvd (SR 131)	Tamalpais Dr	C	F	F	F	F	F	E	Yes
		NB HOV				--	--	A	A	D	F	E
13	3C	US 101	Sir Francis Drake Blvd	I-580	F	F	E	E	D	D	E	Yes
		NB HOV				--	--	--	--	A	D	E
11	3D	US 101	I-580	Mission Avenue	F	F	F	E	E	D	E	Yes
		NB HOV				--	--	--	--	A	D	E
8	3E	US 101	Mission Avenue	N. San Pedro Road	F	F	C	F	E	D	E	Yes
		NB HOV				--	--	--	--	A	C	E
7	3F	US 101	Frietas Parkway	Lucas Valley Road	C	E	A	A	D	B	E	Yes
		NB HOV				--	--	A	A	A	B	E
2	3G	US 101	Atherton Ave	Sonoma County Line	F	D	E	F	E	E	E	Yes
18	4A	Tiburon Blvd (SR 131)	Redwood Frontage Road	Strawberry Drive	C	C	A	A	B	A	D	No

Old Segment No.	Segment Description				2003 (Old Method)	2005 (Old Method)	2006	2008	2010	2012	LOS Standard	Grandfathered Status
	No	Street Name	From	To								
15	5A	I-580	End of Richmond-San Rafael Bridge	Sir Francis Drake Blvd	E	C	F	E	A	E	E	No
14	5B	I-580	Sir Francis Drake Blvd	Bellam Blvd	B	F	E	E	D	E	E	Yes
3	6A	Novato Blvd	San Marin Drive	Eucalyptus Ave	A	A	B	C	A	B	D	No
24	6B	Novato Blvd	Grant Avenue	Diablo Ave	C	E	C	B	C	B	D	No
4	6C	South Novato Blvd	Sunset Parkway	US 101	A	A	A	A	A	B	D	No
6	7A	Bel Marin Keys Blvd	US 101	Commercial Blvd	C	C	B	C	B	B	D	Yes
22	8A	Sir Francis Drake Blvd	Willow Ave	Butterfield Road	F	F	D	F	D	C	D	Yes
9	8B	Sir Francis Drake Blvd	San Anselmo Ave	Red Hill Ave	E	E	C	C	C	C	D	Yes
23	8C	Sir Francis Drake Blvd	Toussin Ave	College Ave	F	F	C	D	D	D	D	Yes
12	8D	Sir Francis Drake Blvd	College Ave	Wolfe Grade	C	B	C	A	B	B	D	Yes
16	8E	Sir Francis Drake Blvd	US 101	Larkspur Landing Cir	F	C	F	E	C	D	D	Yes
10	9A	Red Hill Avenue	Sir Francis Drake Blvd	Hildale Drive	D	C	B	D	D	C	D	No
26	9B	2nd Street	Marquard Ave/ 4th St	US 101	NA	NA	NA	NA	C	C	D	No
27	9C	3rd Street	US 101	Marquard Ave / 4th St	NA	NA	NA	NA	C	C	D	No
20	10A	Bridgeway/Second St / Alexander Ave	Gate 5	Gate 6	C	B	B	C	D	C	D	No

Source: KHA (2013).

It should be noted that prior to the 2007 CMP, the methodology for monitoring LOS was conducted by using the volume to capacity (V/C ratio), as described in Table 2. Since then, the methodology has shifted from using traffic volumes to measuring the amount of time traveled through a segment, reflecting newer LOS calculation methods now recommended and performed by the Highway Capacity Manual printed in 2003. Table 6 identifies the years when the previous method of calculating LOS by travel time runs was used.

Table 7 below shows actions that should be taken on each segment to remedy deficient LOS, based on monitoring results. This table classifies the CMP segments into four categories depending on their grandfathered status and whether they are meeting the established LOS standard based on the monitoring. The table is organized as follows:

- Non-grandfathered roadway segments (13 in total) that meet the LOS standard and therefore no action is needed.
- Grandfathered roadway segments currently operating at acceptable levels of service (13 in total). These roadway segments should continue to be monitored and made subject to the requirements of the CMP. Improvement plans may not be necessary at this time but may be required in the future.
- Grandfathered roadway segments currently operating below the LOS standard. One segment is classified this way: Northbound US 101 from Tiburon Boulevard. Delay at this location is somewhat related to upstream traffic weaving conflicts between Tamalpais Avenue and Sir Francis Drake Boulevard. The segment contains a high-occupancy vehicle (HOV) lane that offers drivers an alternative to mixed-flow congestion created by single-occupant drivers. While no action is required, TAM may wish to monitor the congestion and determine if operational strategies such as ramp metering may be needed to remedy the condition.
- Non-grandfathered roadways that currently operate below the LOS standards. No segments fall into this category. Any roadway segments in this category should be highlighted for future evaluation, and then TAM should decide whether deficiency plans or improvement plans are required.

Given that no segments are in the final category, no jurisdiction is considered out of conformance at this time.

**Table 7: Actions Recommended by CMP Roadway Segment**

Segment Description				2012 Results	LOS Standard	Action
No	Street Name	From	To			
<b>Non-Grandfathered, LOS Standard Met</b>						
1A	Shoreline Hwy (SR 1)	US 101	Tennessee Valley	C	D	Within LOS Standard; No Action
1C	Shoreline Hwy (SR 1)	Sir Francis Drake Blvd	Pt. Reyes	A	D	Within LOS Standard; No Action
2A	State Route 37	US 101	Atherton Avenue	A	E	Within LOS Standard; No Action
3A	US 101	North of Golden Gate Bridge	Spencer Avenue	E	E	Within LOS Standard; No Action
4A	Tiburon Blvd (SR 131)	Redwood Frontage Road	Strawberry Drive	A	D	Within LOS Standard; No Action
5A	I-580	End of R-SR Bridge	Sir Francis Drake Blvd	E	E	Within LOS Standard; No Action
6A	Novato Blvd	San Marin Drive	Eucalyptus Ave	B	D	Within LOS Standard; No Action
6B	Novato Blvd	Grant Avenue	Diablo Ave	B	D	Within LOS Standard; No Action
6C	South Novato Blvd	Sunset Parkway	US 101	B	D	Within LOS Standard; No Action
9A	Red Hill Avenue	Sir Francis Drake Blvd	Hildale Drive	C	D	Within LOS Standard; No Action
9B	2nd Street	Marquard Ave/4th St	US 101	C	D	Within LOS Standard; No Action
9C	3rd Street	US 101	Marquard Ave/4th St	C	D	Within LOS Standard; No Action
10A	Bridgeway / Second St / Alexander Ave	Gate 5	Gate 6	C	D	Within LOS Standard; No Action
<b>Grandfathered, LOS Standard Met</b>						
1B	Shoreline Hwy (SR 1)	Northern Avenue	Almonte Blvd	B	D	Within LOS Standard; No Action
3C	US 101	Sir Francis Drake Blvd	I-580	D	E	Within LOS Standard; No Action
3D	US 101	I-580	Mission Avenue	D	E	Within LOS Standard; No Action
3E	US 101	Mission Avenue	N. San Pedro Road	E	E	Within LOS Standard; No Action

Segment Description				2012 Results	LOS Standard	Action
No	Street Name	From	To			
<b>Non-Grandfathered, LOS Standard Met</b>						
3F	US 101	Frietas Parkway	Lucas Valley Road	B	E	Within LOS Standard; No Action
3G	US 101	Atherton Ave	Sonoma County Line	E	E	Within LOS Standard; No Action
5B	I-580	Sir Francis Drake Blvd	Bellam Blvd	E	E	Within LOS Standard; No Action
7A	Bel Marin Keys Blvd	US 101	Commercial Blvd	B	D	Within LOS Standard; No Action
8A	Sir Francis Drake Blvd	Willow Ave	Butterfield Road	C	D	Within LOS Standard; No Action
8B	Sir Francis Drake Blvd	San Anselmo Ave	Red Hill Ave	C	D	Within LOS Standard; No Action
8C	Sir Francis Drake Blvd	Toussin Ave	College Ave	D	D	Within LOS Standard; No Action
8D	Sir Francis Drake Blvd	College Ave	Wolfe Grade	B	D	Within LOS Standard; No Action
8E	Sir Francis Drake Blvd	US 101	Larkspur Landing Cir	D	D	Within LOS Standard; No Action
<b>Grandfathered, LOS Standard Not Met (No Deficiency Plan required)</b>						
3B	US 101	Tiburon Blvd (SR 131)	Tamalpais Dr	F	E	Improvements Being Considered

### 3. System Performance

#### Purpose and Intent of Legislation

The California Government Code Section 65089(b)(2) requires each Congestion Management Agency to establish performance measures to evaluate current and future multimodal system performance (in addition to LOS presented in Chapter 2) for the movement of people and goods. Consistent with past CMPs, performance measures are included in this CMP and described in this chapter. The measures should not be confused with “standards,” as no level of performance is required. Rather, measures simply indicate the levels of performance at a given time.

The first part of this section highlights the current transit system in Marin County. The next section highlights bicycle and pedestrian programs. Lastly, four additional performance measures are provided (reported in this and prior CMPs):

- Peak-Hour Travel Time
- Person Throughput
- Jobs/Housing Balance
- Mode of Access to Work

The above performance measures help determine whether the goals of the CMP are being met: supporting mobility, air quality, land-use, and economic objectives. The measures are also used in the development of any necessary Capital Improvement Program, deficiency plans, and the land-use analysis program. The *2012 Transportation System Performance Monitoring Report* prepared by Kimley-Horn and Associates for TAM in March 2013 contains detailed information on the transportation system, and is a key source in describing these measures.

#### Current Transit Operations in Marin County

The transit network within Marin County comprises a variety of services. These include:

- General public transit bus service for both inter- and intra-county trips
- General public ferry service, serving trips between Marin County and San Francisco
- Specialized transit services aimed at serving the needs of the senior and disabled population in the County, including dial-a-ride, paratransit, and wheelchair accessible taxis
- Privately operated services, providing targeting service between specific locations, such as the service between Marin County and San Francisco International Airport

The Sonoma-Marín Area Rail Transit (SMART) service will likely be added as a CMP transit service. As of August 2013, construction has begun on the service’s Initial Operating Segment (IOS) between the cities of Santa Rosa in Sonoma County and San Rafael in Marin County. The IOS is expected to be completed in late 2015 or early 2016.

The following sections provide a brief description of the transit services provided for inter-county and intra-county transit travel. In addition, bus route information, headways, and overall transit ridership are summarized in each section.

### **Marin Transit**

Marin Transit is the agency responsible for local transit service within Marin County. Marin Transit has responsibility for local transit services and contracts with other operators for three types of fixed route services within the county: large bus fixed route, shuttle, and rural service. Contracted providers include Golden Gate Transit, MV Transportation, and Marin Airporter. Marin Transit also contracts with Whistlestop Wheels to provide paratransit and dial-a-ride service within Marin County.

Table 8 summarizes the regularly scheduled Marin Transit services. Marin Transit also operates the Marin Access Mobility Management Center, which is a one-call, transportation information and referral service, focused on meeting the mobility needs of Marin's older adults, disabled persons, and low-income residents.

Transit service provided within Marin County by Marin Transit via contractors includes:

- *Local Service.* Ten routes operate entirely within Marin County on weekdays, with limited weekend service, contracted through Golden Gate Transit. An additional ten routes are operated as school-focused service on school days only, as detailed below. Since the 2011 CMP, Marin Transit has ceased operations on local Route 52, replaced Route 19 with a school-focused route and a shuttle route, and replaced Route 51 with two school-focused routes and one shuttle route.
- *School Service.* Ten routes provide limited service on school days in Marin County, as well as select trips on Routes 17 and 23. Routes 113, 117, 125, 126, 127, and 139 have operated continuously since the 2011 CMP, while four new routes (115, 119, 151, and 154) have been added, and one route (114) has ceased operations.
- *Recreational Services.* A shuttle service, Route 66, operates between Muir Woods and Sausalito. A supplemental route (66F) provides intermediate service via Marin City. Shuttle schedules are adapted to weekend and seasonal recreational travel demand. Marin Transit contracts with Golden Gate Transit to operate Route 66, in partnership with the National Park Service between May and October.
- *West Marin Stagecoach.* Marin Transit contracts with MV Transportation to operate the West Marin Stagecoach with two shuttle service routes (Routes 61 and 68) in West Marin. The Stagecoach provides weekday and weekend service to area residents. Since the 2011 CMP, Marin Transit has ceased operations on the Route 62 shuttle.
- *Community Shuttle Service.* Marin Transit contracts with Marin Airporter to operate six shuttle bus routes providing limited service: Strawberry/Tiburon (Route 219); Marin City/College of Marin (Route 222); Santa Venetia/San Rafael (Route 233); Hamilton Theater/San Marin Drive in Novato (Route 251); Indian Valley Campus/San Rafael (Route 257); and San Rafael/Novato (Route 259). Routes 219, 251 and 257 are new shuttle routes that have been added since the previous CMP update. It should also be noted that Marin Airporter provides airport shuttle service between Marin County and San Francisco Airport as its primary business, separate from Marin Transit operations. In addition,

Sonoma Airporter provides airport shuttle service between Marin County and Oakland airport.

- *Marin Access Paratransit.* Marin Transit contracts with Whistlestop Wheels to provide paratransit services described later in this chapter. Whistlestop Wheels operates the Novato Health Express, a medical-only shuttle service for elderly and disabled residents in the Novato area provided in cooperation with Novato Community Hospital (a Sutter Health affiliate) and also the Hamilton Shuttle (which is not managed by Marin Transit).
- *Novato Dial-a-ride.* Marin Transit contracts with Whistlestop Wheels to provide a dial-a-ride shuttle bus service that provides curb-to-curb pick-up and drop-off service available to all residents in the Novato service area.

**Table 8: Marin Transit Routes/Peak Headways for Fixed-Route Service**

<i>As of August 2011</i>			<i>As of August 2013</i>		
<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>	<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>
17	Local: San Rafael to Marin City	30-60	17	Local: San Rafael to Sausalito	30
19	Local: Tiburon to Marin City	48-60	19	No longer in service - Replaced by routes 119 & 219	-
22	Local: San Rafael to Sausalito	24-30	22	Local: San Rafael to Marin City	30
23	Local: San Rafael to Manor (Fairfax)	4-30	23	Local: San Rafael to White Hill MS	60
			28	Local: San Rafael to Manor (Fairfax)	60 (weekend)
29	Local: San Rafael to San Anselmo	30-60	29	Local: San Rafael to Manor (Fairfax)	30-60
35	Local: San Rafael to Canal Area	6-20	35	Local: San Rafael to Canal Area	5-30
36	Local: San Rafael to Marin City	30	36	Local: San Rafael to Marin City	26-30
45	Local: San Rafael Kaiser Hospital North Gate	30	45	Local: San Rafael Kaiser Hospital North Gate	28-60
49	Local: San Rafael to Ignacio (Novato)	60	49	Local: San Rafael to Novato (Redwood Blvd & Olive Ave)	60
51	Local: San Marin to Novato (Ignacio)	60	51	No longer in service - Replaced by routes 151, 154, 251	-
52	Local: Novato to San Rafael	60	52	No longer in service	-
61	West Marin Stagecoach: Manzanita Park (Marin City) to Bolinas	160	61	West Marin Stagecoach: Donahue & Terners (Marin City) to Bolinas	160-205 (off-peak)
62	West Marin Stagecoach: San Rafael to Stinson Beach	120 (Tues/Thur/Sat)	62	No longer in service	-
68	West Marin Stagecoach: Inverness to Fairfax	180	68	West Marin Stagecoach: Inverness to San Rafael	75-185 (off-peak)

<i>As of August 2011</i>			<i>As of August 2013</i>		
<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>	<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>
66	Muir Woods Shuttle: Manzanita Park (Marin City) to Muir Woods	20-30 (weekends)	66/66F	Muir Woods Shuttle: Sausalito to Muir Woods	66: 10-20 (weekend) 66F: 25-65 (weekend)
71	Local: Novato to Marin City	30	71	Local: Novato to Marin City	26-34
113	School: Paradise Cay to Redwood HS	1 run (AM) 4 runs (PM)	113	School: Paradise Cay to Redwood HS	7:26 am, 2 runs 2:45 pm, 2 runs 3:30 pm, 2 runs
114	School: Redwood HS to San Rafael	Summer: 1 run (AM) 4 runs (PM)	114	No longer in service	-
			115	School: Sausalito Ferry to St. Hilary School	7:03am, 3:10pm
117	School: East Corte Madera to Hall MS	2 runs (AM) 2 runs (PM)	117	School: East Corte Madera to Hall MS	7:47 am, 2 runs 3:10 pm, 2 runs
			119	School: Tiburon to Redwood HS	6:58 am, 2 runs 2:45 pm, 2 runs 3:30 pm, 2 runs
125	School: San Anselmo Hub/Drake HS to Lagunitas	2 runs (PM)	125	School: San Anselmo Hub/Drake HS to Lagunitas	3:28 pm, 1 run
126	School: San Rafael to San Domenico School	2 runs (AM) 4 runs (PM)	126	School: San Rafael to San Domenico School	7:43 am, 2 runs
127	School: Sleepy Hollow to White Hill School	4 runs (AM) 2 runs (PM)	127	School: Sleepy Hollow to White Hill School	6:57 am, 4 runs 2:32 pm, 2 runs
139	School: Terra Linda HS to Lucas Valley	1 run (AM) 1 run (PM)	139	School: Terra Linda HS to Lucas Valley	7:12 am, 1 run 3:30 pm, 1 run
			151	School: Hamilton (Novato) to San Marin HS	6:20 am, 2 runs 2:08 pm, 2 runs
			154	School: Olive Ave & Olive Ct. (Novato) to San Marin HS/Sinaloa MS	7:31 am, 1 run 2:20 pm, 1 run
			219	Shuttle: Strawberry to Tiburon	23-32
222	Shuttle: Marin City to Marin General Hospital/College of Marin	60	222	Shuttle: Marin City to Marin General Hospital/College of Marin	60
233	Shuttle: Santa Venetia to San Rafael	60	233	Shuttle: Santa Venetia to San Rafael	60
			251	Shuttle: Hamilton Theater to San Carlos & San Marin (Novato)	60
			257	Shuttle: Indian Valley Campus to San Rafael	60
259	Shuttle: Marin Civic Center to Marinwood	60	259	Shuttle: San Rafael to Redwood & Olive (Novato)	60

Sources: Marin Transit website (2013). DKS (2011).

### Golden Gate Transit

Golden Gate Transit operates transit services between Marin County and Sonoma, San Francisco, and Contra Costa Counties. Golden Gate Transit is one of three operating divisions of the Golden Gate Bridge, Highway and Transportation District.

Additional bus service provided directly by Golden Gate Transit connects Marin County to other parts of the region. Inter-county bus routes that operate partly inside Marin County are listed in Table 9, and include the following services:

- *Transbay Basic Service.* Basic service routes operate all day, seven days a week, providing wheelchair accessible trunk-line service between the Transbay Terminal and Civic Center in San Francisco or Richmond BART, and various suburban centers within Marin and Sonoma Counties. They provide the “backbone” service within Marin County and between Marin and neighboring counties. The seven routes are 10, 40/42, 70/71, 80, and 101.
- *Transbay Commute Service.* This service provides 17 routes that operate on weekdays except holidays. Most services connect residential neighborhoods within Marin County and the San Francisco Financial District and Civic Center employment centers during the AM and PM commute periods. Other service connects Sonoma County with Marin County and San Francisco. Commute service is generally operated in the peak direction during commute hours only, and is not run at all during the midday and off-peak periods. One Commute route, 73, has been discontinued since 2011.

**Table 9: Regional Golden Gate Bus Transit Routes and Peak Headways**

<i>As of August 2011</i>			<i>As of August 2013</i>		
<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>	<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>
2	Commute: SF to Marin Headlands	15-30	2	Commute: SF to Marin Headlands	15-36
4	Commute: Mill Valley to SF	9-10	4	Commute: Mill Valley to SF	5-15
8	Commute: Tiburon to SF	2 runs(AM) 1 run (PM)	8	Commute: Tiburon to SF	6:32 am; 7:23 am; 4:54 pm
10	Basic: Strawberry to SF	30-60	10	Basic: Strawberry to SF	29-57
18	Commute: College of Marin to SF	11-30	18	Commute: College of Marin to SF	14-33
24	Commute: Lagunitas to SF	8-30	24	Commute: Manor (Fairfax) to SF	5-25
27	Commute: Sleepy Hollow to SF	14-30	27	Commute: Sleepy Hollow to SF	5-33
38	Commute: Terra Linda to SF	30	38	Commute: Terra Linda to SF	24-32
40/42	Basic: San Rafael to Del Norte BART weekday	30-60	40/42	Basic: San Rafael to Del Norte BART weekday	19-43
42	Basic: San Rafael to Del Norte BART weekend	60	42	Basic: San Rafael to Del Norte BART weekend	60
44	Commute: Marinwood to SF	2 runs(AM) 2 runs (PM)	44	Commute: Marinwood to SF	60
54	Commute: San Marin to SF	9-30	54	Commute: San Marin to SF	10-33
56	Commute: Novato to SF	30	56	Commute: Novato to SF	18-33

<i>As of August 2011</i>			<i>As of August 2013</i>		
<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>	<b>Route #</b>	<b>Route Type: Description</b>	<b>Approx. Headways (minutes)</b>
58	Commute: SF to Novato	30	58	Commute: SF to Novato	25-33
70/71	Basic: Novato to SF	3-30	70/71	Basic: Novato to SF	4-30
72/72X	Commute: Santa Rosa to SF	10-30	72/72X	Commute: Santa Rosa to SF	6-30
73	Commute: Santa Rosa to SF	45-60	73	No longer in Service	-
74	Commute: Santa Rosa to SF	30	74	Commute: Cotati to SF	27-63
76	Commute: East Petaluma to SF	25-30	76	Commute: East Petaluma to SF	27-31
80	Basic: Santa Rosa to SF (evening)	60	80	Basic: Santa Rosa to SF	5:51 pm
92	Commute: Marin City to SF	30-60	92	Commute: Marin City to SF	60
93	Commute: GG Toll Plaza to SF Civic Center	10-30	93	Commute: GG Toll Plaza to SF Civic Center	10-30
97	Commute: Larkspur Ferry to SF	1 run (AM)	97	Commute: Larkspur Ferry to SF	7:55 am; 8:25 am
101	Basic: Santa Rosa to SF	30-60	101/101X	Basic: Santa Rosa to SF	34-60

Sources: Golden Gate Transit Website (2013). DKS (2011).

### **Ferry Services**

Three organizations provide Ferry service in Marin County:

- *Golden Gate Ferry Service.* The Golden Gate Bridge, Highway and Transportation District operates ferry services from Larkspur and Sausalito to San Francisco via conventional and high-speed ferries. Headways between the two destinations and San Francisco are 20 and 55 minutes during weekday commute periods.
- *Blue and Gold Fleet.* The Blue and Gold Fleet operates both commuter and recreational ferry service from Tiburon and Sausalito to Fisherman’s Wharf in San Francisco. Blue and Gold also provides recreational service between Angel Island and San Francisco, Oakland, and Vallejo.
- *Angel Island Tiburon Ferry.* The Angel Island Tiburon Ferry operates recreational service between Angel Island and Downtown Tiburon. Weekend (Saturday and Sunday) headways are one hour from April to October and 1-2 hours from November through March. Weekday headways are generally 1-3 hours between March and October, with ferries by reservation only from November through February.

### **Summary of Fixed Route Services and Boardings**

The transit routes managed by Marin Transit are routinely monitored for performance. The recent dedication of additional resources has led to an expansion of local transit service, which in turn has increased local boardings. These trends are illustrated in Table 10, which also shows ridership trends in Golden Gate Transit Bus and Ferry Operations.

As the table shows, demand for the basic and commuter bus services into and out of San Francisco has increased slightly in the last year after a pronounced decline during the recent recessionary period, and Golden Gate Transit has correspondingly maintained most of its bus services to meet the demand after previous service reductions. Ferry Service and Marin Transit local service have experienced increasing ridership the last two fiscal years. Finally, shuttle and West Marin Stagecoach services have continued to see significant increases in ridership.

**Table 10: Transit Ridership Trends in Marin County**

<i>Fiscal Year</i>	<i>Annual Revenue Hours</i>	<i>Annual Boardings</i>
<b>Golden Gate Basic and Commuter Service</b>		
2007-08	186,959	4,050,191
2008-09	185,589	3,918,720
2009-10	181,915	3,382,098
2010-11	175,945	3,398,098
2011-12	210,741	3,513,639
<b>Golden Gate Ferry Service</b>		
2007-08	9,854	1,980,010
2008-09	9,632	1,949,035
2009-10	9,583	1,922,095
2010-11	9,488	2,031,219
2011-12	13,498	2,195,414
<b>Marin Transit Sponsored Local Service</b>		
2007-08	113,554	3,259,037
2008-09	122,907	3,189,321
2009-10	121,875	3,085,480
2010-11	115,236	3,113,544
2011-12	114,076	3,119,765
<b>Marin Transit Shuttles and West Marin Routes (including Novato Dial-A-Ride)</b>		
2007-08	17,828	120,541
2008-09	21,558	141,899
2009-10	22,989	142,004
2010-11	21,964	153,993
2011-12	25,058	194,421

Sources: Marin Transit Staff reports (2013). KHA (2013). DKS (2011)

### **Specialized Transit Services**

Marin Access Paratransit. Marin Transit contracts with Whistlestop Wheels to provide local paratransit services that are available during the same hours and days of the week as comparable local and inter-county fixed-route, non-commute bus services. The service is a door-to-door ridesharing program that has approximately 40 lift-equipped vehicles available for use. Approximately 125,700 annual passenger trips are provided on Marin Access Paratransit service.

Inter-county paratransit service is provided seven days a week, under an agreement between Golden Gate Transit and Marin Transit. The inter-county service area includes Sonoma, San Francisco, and Contra Costa counties in addition to Marin County. Statistics for this service are included in Table 11. The demand for paratransit service has grown in recent years as more Marin County residents have become eligible for the service given the ongoing aging of the population, and as more medical providers and residents become aware of paratransit service.

**Table II: Marin Access Paratransit Performance Statistics, FY 2007 to FY 2012**

<i>Fiscal Year</i>	<i>Annual Revenue Hours</i>	<i>Annual Passenger Trips</i>
2007-08	45,390	99,064
2008-09	46,968	99,808
2009-10	48,322	105,669
2010-11	61,656	118,097
2011-12	56,024	125,652

Sources: Marin Transit Staff Reports (2013). DKS (2011).

Volunteer Driver. Marin Transit manages two Volunteer Driver programs for seniors who have difficulty using fixed route or paratransit services – 1) the Safe Transport and Reimbursement (STAR) Program operated by Whistlestop Wheels in Eastern Marin, and 2) the TripTrans West Marin Volunteer Driver Program operated by West Marin Senior Services in Western Marin. Both programs provide drivers with mileage reimbursements for their services. During the 2011-12 fiscal year, the volunteer driver program operated for 8,456 revenue hours and served 5,624 unlinked passengers during weekday service.

Catch-a-Ride. Marin Transit manages the Catch-A-Ride program, which allows eligible Marin County residents to receive a discounted ride in taxis and other licensed vehicles throughout Marin County. To be considered eligible for the program, participants must be a resident of Marin County and at least 80 years of age, at least 60 years of age and unable to drive, or be eligible for paratransit under the Americans with Disabilities Act. The program pays for the first \$14 of each one-way ride (\$18 for low income riders), with the fare based on the mileage of the trip, rather than the meter rate. Given the program’s launch in October 2012, full annual data are not yet available.

**Bicycle and Pedestrian Programs**

TAM and other jurisdictions within Marin County are committed to non-motorized transportation programs. This commitment extends to all levels of planning and funding, including a portion of TAM-administered Measure A transportation sales tax funds. Strategy 4 of the Measure A Strategic Plan specifically designates shares to help fund Safe Routes to Schools, Crossing Guards, and Safe Pathways to School programs. In addition, Strategy 3 funds are available for local transportation infrastructure projects, such as bicycle and pedestrian projects.

In 2010, Marin County voters passed Measure B, which increased the annual vehicle registration fee (VRF) by \$10 to provide an additional, dedicated local funding source for transportation improvements and programs within the County. Element 1 of the Measure B Strategic Plan designates 40 percent VRF funds toward the maintenance of local streets, including 5 percent for Class I bicycle and pedestrian pathway maintenance for municipalities that have adopted a Complete Streets policy. Element 3 of the Strategic Plan allocates 25 percent VRF funding toward reducing congestion and pollution, including school safety (School Crossing Guard Program) and congestion reduction (Safe Routes to Schools, Street Smarts and School Pool).

Marin County also participated in the Federally-funded Non-Motorized Transportation Pilot (NTPP) Program as one of four demonstration localities nationwide. This project, funded by Section 1807 of the Federally-authorized SAFETEA-LU legislation, became a national model by

providing a way to measure the performance and results of investments in the local bicycle/pedestrian system. Recently completed planning studies funded by the NTPP include:

- Mill Valley-Corte Madera Corridor Study
- Las Gallinas/Miller Creek Bike & Pedestrian Improvement Study
- San Quentin Area Bicycle and Pedestrian Access Study
- Tiburon Bay Trail Gap Closure Study
- Annual Countywide bicycle and pedestrian monitoring counts, most recently collected for TAM's *2012 Transportation System Monitoring Report*.

Highway projects in Marin County also consider bicycle and pedestrian needs in their design and construction. Active elements for bicycle and pedestrian needs are included in these recent projects:

- US 101 HOV Gap Closure Project through San Rafael (completed)
- US 101 Marin/Sonoma Narrows project (under construction)
- 580/101 Interchange (Bellam Boulevard and Francisco Boulevard E.) – Phase I completed.

Marin County benefits from funding by Regional Measure 2, passed by Bay Area voters in 2004. These projects include:

- Greenbrae Corridor Improvement Project
- Full funding of the Cal Park Hill Tunnel Project (completed)
- Design and Phase I construction of the Central Marin Ferry Connector Project across Sir Francis Drake Boulevard
- Safe Routes to Transit grant to San Rafael for a multi-use connector between Lincoln Hill Path and Downtown Transit Center (Puerto Suello Hill path completed, transit center connector in design)

Additional funding of bicycle and pedestrian improvements in Marin County are provided through targeted funding sources, including:

- Transportation Funds for Clean Air (TFCA)
- Transportation Development Act (TDA) Article 3
- Regional Bicycle Program Funds
- Measure A County 1/2-cent Sales Tax
- Measure B County \$10 Vehicle Registration Fee
- Additional Federal sources included but not limited to Federal Land Highway Funds; the Transportation, Community, and System Preservation Program; and the Recreational Trails Program.

As part of these programs, local jurisdiction staff identified some of the significant contributions to recent and underway local pedestrian and bicycle projects. Highlights are summarized on the following page. These include Measure A Safe Routes to School programs, such as Safe Pathway projects, education programs in schools, and crossing guards.

## ***Bicycle and Pedestrian Projects and Programs by Jurisdiction***

### Belvedere

- Ongoing ADA accessibility improvements to renovate walk path along San Rafael Avenue from Tiburon Boulevard to West Shore Road.
- Installed new bike racks in Tom Price Park and in front of City Hall.

### Corte Madera

- Re-established a Bicycle Pedestrian Advisory Committee made up of a Town Council Member and six bicycle and pedestrian advocates.
- Awarded a grant from the state Bicycle Transportation Account to construct a Class I Pathway from the High Canal Bridge along the canal to its intersection with Lakeside Drive. This project was proposed in the Town's current Bicycle Transportation Plan and is currently being designed for construction in the spring of 2014.
- The Town's 2013 Pavement Improvements Slurry Seal project (Measure A and B) is currently underway and will add Class III bikeway with sharrows as proposed in the Town's current Bicycle Transportation Plan.
- The Town's 2013 Pavement Improvement Overlays project will overlay and reconfigure Class III bike way and increase pavement path space on the uphill side of Corte Madera Avenue from near First Street to the southern Town border. The existing lanes will be narrowed and moved to the downhill side to increase the uphill path and sharrows will be added as proposed in the Town's Bicycle Transportation Plan. This project will begin construction in September 2013.
- Paradise Drive Bikeway Extension (Safe Pathways to School) project will be designed and constructed in coordination with other road improvements required of private projects currently in the development process.
- Countywide Intersection Improvements for Bicycles (NTPP; Bicycle Detection) will install devices at several traffic signals along primary routes in Town.
- 2013 Alto Tunnel Study – the Alto Tunnel corridor is located in the incorporated areas of Mill Valley and Corte Madera. The County of Marin is the lead agency on this multi-jurisdictional corridor study and works closely with staff from Mill Valley, Corte Madera, Transportation Authority of Marin, and County Parks & Open Space. Surveyors are currently working along the Alto Tunnel corridor conducting boundary and easement surveys for the County.
- Bayside Trail Improvements
- Tamalpais/Redwood/Corte Madera Ave Pavement Overlay and Street Improvements
- Safe Routes to Schools, which includes 2 ADA-accessibility ramps, sidewalk, and curb and gutter
- Tamalpais Drive Pedestrian/Bicycle Path to Low Canal Bridge Improvements, which includes installation of pedestrian/ bicycle pathway
- Mill Valley to Corte Madera Bicycle & Pedestrian Corridor Study: In September 2012, TAM approved a grant to Marin County to implement portions of Segments 2A and 2B along unincorporated Lomita Drive. Construction is expected in mid to late 2013.
- Sandra Marker Trail ADA Connection, which includes two ADA-accessible concrete ramps from William Avenue along the north side (Larkspur property) and Apache Road along the south side (Corte Madera property)

### Fairfax

- Fairfax Spine Project, awarded TFCA funding in FY 2011-12.
- Addition of a Class II (on-street, striped) bicycle lane on Sir Francis Drake Boulevard eastbound between Olema Road and Claus Drive. A contract was recently awarded and construction is anticipated to start September 2013.
- Sidewalk installation on west side of Pastori Avenue between Sir Francis Drake and Center Boulevard. This project provides a continuous sidewalk connection to existing sidewalk on Center Boulevard and beyond to Sir Francis Drake Boulevard, where is there is commercial retail development (completed 2011).

### Larkspur

- The Bicycle/Pedestrian Route from Cal Park Hill to Sir Francis Drake Overcrossing was awarded to TFCA funding in FY 2011-12.
- Sandra Marker Trail and ADA Pathway Project (funding: SR2; completed)
- Multiuse Pathway between Doherty Drive and Heatherwood Park (funding: TAM; completed)
- Elm Avenue Stairway Project (funding: NTPP; completed)
- Post Street Stairway Project (funding: NTPP; completed)
- Citywide Signing & Striping (funding: Measure A; completed)

### Mill Valley

- Completed engineering design for the Safe Routes to School Cycle 9 project that involves traffic calming improvements at all 5 Mill Valley schools. The project involves construction of bulb-outs, a new crosswalk, ADA ramps, and pedestrian only signal phase at the intersection of Elm Avenue and E. Blithedale Ave (Park Elementary School); installation of rectangular rapid flashing beacons at the intersection of Miller Avenue and Almonte Blvd (High School); installation of speed feedback sign on Miller Avenue; installation of high visibility crosswalks, pavement markings, and signage at all other schools. Construction will take place summer 2014.
- Completed engineering design for the Transportation Enhancement project that involves the construction of sidewalk and bike path on Sycamore Avenue between Camino Alto and Bay Front Park. Construction will take place summer 2014.
- Completed engineering design for the Federal Safe Routes to School project that involves construction of multi-use path along east side of Camino Alto between Miller Avenue and Sycamore Avenue. Improvements also include installation of ADA ramps, high visibility crosswalks, signage, pavement markings, and bulb outs at the Miller/Camino Alto and Miller/Almonte intersections. Construction will take place summer 2014.
- Currently working on environmental review/funding/concept design for the Safe Routes to School program Cycle 10 project and the Highway Safety Improvement program (HSIP) cycle 5 project. The SR2S project involves construction of a bike lane on Miller Avenue between Almonte Blvd and Camino Alto and the HSIP project involves construction of bike lanes and sidewalk on Miller Avenue between Millwood Street and Sunnyside Ave. They are both part of the City-adopted Miller Avenue Streetscape Plan.
- 2013 Alto Tunnel Study – the Alto Tunnel corridor is in the incorporated areas of Mill Valley and Corte Madera. The County of Marin is the lead agency on this multi-jurisdictional corridor study and works closely with staff from Mill Valley, Corte Madera,

Transportation Authority of Marin, and County Parks & Open Space. Currently conducting boundary and easement surveys of the Alto Tunnel corridor.

- Completed a NTPP Project, which rehabilitated stairs off Mirabel Lane, off Molino Lane, off Marion Lane, off Alcatraz Lane, and off Magee Lane. This project also constructed new stairs off Molino Lane and off Wainwright Lane. Also completed construction of the 2007 Street Rehabilitation Project which included five ADA ramps at various intersections and installed 19 “Share The Road” pavement markers on Ashford Avenue.
- Pedestrian Safety Project that includes constructing sidewalk and ADA ramps on East Blithedale Ave. between East Ave. and Elm Ave., constructing sidewalk and ADA ramps on West Blithedale Ave. between Bigelow Ave. and Eldridge Avenue, and constructing sidewalk “bulb-outs” and ADA ramps at the intersection of Lomita Drive & Ashford Avenue.
- Strawberry Point School pedestrian improvements
- Various intersection improvements Citywide, including crosswalk striping

#### Novato

- Currently out to bid, the TDA funded Bel Marin Keys Pedestrian/Bicycle Path Rehabilitation project will repave approximately 2,600 lineal feet of class I bike path on the east side of US 101, between Hamilton Drive/Frosty Lane and Highway 37. The project may also include bollard path lighting, if the addition of the lighting bid alternate is within the budgeted amount for this project.
- A recent TFCA grant award will partially fund a Class I multi-use path along Nave Drive between Main Gate Drive and Bolling Circle providing safe access to Hamilton School and gymnasium and direct pedestrian connection from two active bus stops located at the Main Gate Drive and Bolling Circle intersections. Staff is currently determining appropriate additional funding prior to commencing preliminary design. Construction is anticipated for summer 2014.
- The Commuter Bike Connection project, funded by both Non Motorized Transportation Pilot Program and Transportation Enhancement funds was completed in December 2011, creating 3,200 lineal feet of new Class I bike path on the west side of Highway 101 from South Novato Boulevard to Enfrente Road.
- The Measure A Safe Pathways to Schools funded Indian Valley Road project was completed in late 2011, closing a sidewalk and Class II bike lane gap between Arthur Street and Hill Road.
- 2012 and 2013 Measure A local streets projects completed in Novato included installation of 70 new wheelchair ramps and approximately 18,000 square feet of uplifted sidewalk repair.
- Multiple street rehabilitation/improvements projects and SR2S-Cycle 7 projects completed since 2008 involved installation and/or replacement of 165 ADA compliant curb ramps, removal and replacement of about 20,000 square feet of street-tree-damaged concrete sidewalks, and replacement of multiple bicycle loops.
- Various intersection improvements Citywide.

#### Ross

- A new 4-foot wide decomposed granite pathway was installed on Shady Lane to provide safe travel for pedestrians, who formerly used a dirt path or the street.

- A new paved pedestrian pathway was installed along Sir Francis Drake Boulevard and the repaved road was restriped to increase curb area for bicycles.
- The Town adopted an expanded Bicycle and Pedestrian Master Plan and adopted a Complete Streets Resolution
- The Lagunitas Road bridge was reconstructed and now includes a wider pedestrian path that is separated from the roadway by a concrete railing. New sidewalk curb ramps were also installed in the area.
- “Narrow Bridge” warning signs were installed near the Shady Lane bridge and an ADA ramp was installed on the Shady Lane Bridge at Locust Avenue.
- An ADA ramp was installed at Ames Avenue to allow access to the Shady Lane pedestrian path, including a new crosswalk and pavement markings.
- A new guardrail and curb were installed on Sir Francis Drake Boulevard by the bridge.
- New curb ramps were installed and a new crossing painted at Bolinas Avenue and Shady Lane.
- The Town is working on plans for intersection improvements for the junction of Sir Francis Drake Boulevard and Lagunitas Road, right in front of Ross Town Hall and the Marin Art & Garden Center. The project will include a number of safety upgrades for an intersection frequently used by pedestrians.

#### San Anselmo

- Installed over 60 ADA curb ramps and installed/repaved sidewalks throughout San Anselmo on Saunders Avenue, Tamal Avenue, Park Drive, Yolanda Avenue, Alder Drive, Karl, Berlin, Brennfleck, Medway, Sir Francis Drake Boulevard, Scenic Road, San Anselmo Avenue, Tunestead, Ross, Bolinas, Crescent Road, Cedar, Woodland, Richmond, and Sunnyside.
- Class III bike improvements consisting of stencils and red curb.
- Installed sharrows on San Anselmo Avenue, Medway Road, Saunders Avenue, Park, Tamal, and Taylor.
- NTPP on Sir Francis Drake at Saunders and Madrone consisting of pedestrian warning systems in pavement and overhead lights (completed).
- Bicycle and pedestrian improvements at Greenfield / Butterfield intersection.
- Various intersection and signing/stripping improvements Townwide

#### San Rafael

- Terra Linda – North San Rafael Improvements, completed October 2012.
- Pedestrian improvements across the Grand Avenue Bridge are funded and currently under design as part of Phase 2 of the Francisco Boulevard East pedestrian project.
- San Rafael Transit Center access improvements.
- Completed pedestrian improvements on Happy Lane near Sun Valley Elementary School, on Woodland Avenue near Laurel Dell Elementary School and at various intersections along Canal Street.
- Working with property owner to install the Northgate Mall Promenade bike path along Las Gallinas Avenue (partially complete) and with Caltrans to install mixed use sidewalk along Bellam Boulevard and a portion of Francisco Boulevard East. Phase I of the Francisco Boulevard East portion is complete.

- Completed two NTPP projects to install over two miles of Class II and III facilities in North San Rafael.
- Continued work on the design of two NTPP Projects: 1) Puerto Suello Hill Path-Transit Center Connector and 2) the Mahon Creek Path-Transit Center Connector Project. For the first project, the Puerto Suello Hill path has been completed, while the transit center is under design. The Mahon Creek project is also under design.

#### Sausalito

- The Bridgeway-to-Ferry Landing Non-motorized Transportation Pilot Program (NTPP) Project was successfully constructed and accepted by the City in July 2012.
- City has designed, acquired environmental clearance for, and continues to work on right-of-way acquisition for the Filbert Steps NMTTP Project with assistance from the Marin County Department of Public Works.
- City was awarded STP/CMAQ funding administered by CalTrans for the Gate 6 Road/Bridgeway Intersection Improvements Project (CML 5098 (012)) to more safely and efficiently accommodate bicycle and pedestrian movements. Environmental scoping for the project was completed in January 2012 and the consultant selected has performed the preliminary investigation, developed alternative concepts to accomplish project objectives in coordination with City, Marin County and CalTrans. The City plans to issue the preliminary alternatives for public and stakeholder review in Fall 2013 and expects that design and construction will be completed in 2014.
- City was awarded a grant under the MTC OBAG (STP/CMAQ/TAP) to further develop plans to improve bicycle, pedestrian and motor vehicle safety and operations in the Bay Trail alignment of Alexander Avenue/South Street/Second Street and Richardson between the south City limits and Bridgeway to complement projects recently completed by the National Park Service and in planning by the Golden Gate Bridge, Highway and Transportation District on Alexander Avenue in the Golden Gate National Recreation Area. It is anticipated that the work covered by that grant will be initiated in calendar 2014 following executing of a Funding Agreement.
- City was awarded a TFCA grant to construct bicycle improvements along a segment of Humboldt Avenue between Anchor and Bay Streets. The Funding Agreement was executed in October 2012 and design of the improvements has been completed. Construction following permitting is expected to be completed by Spring 2014.
- Owing to the expiration of the NTPP, funds for replacement of existing public steps, stairs and paths in the City are inadequate. It is anticipated that removal of barriers to accessibility (based primarily on user counts) will take priority over other discretionary, non-grant funded projects of this kind over the next five years.
- The City supported the Golden Gate Bridge, Highway and Transportation District (District) in its successful Federal Transit Administration, Ferry Boat Discretionary Grant Program application for enhancement of the landside of Sausalito's ferry passenger terminal to complement improvements planned for the waterside float by the District. The grant (awarded in late 2012) and matching funds will result in up to \$4.25 million in improvements to areas of the City used by ferry patrons getting to the terminal or exiting ferries and heading to all points – almost all of these being improvements for pedestrians and bicyclists. It is anticipated that an agreement between the City and the District will be executed this calendar year and that environmental assessment, permitting and design development will be initiated in calendar 2014.

- The City recently completed replacement of its downtown public restroom building including provision of code-compliant path of travel improvements to better serve the large numbers of visitors the City hosts during peak summer tourist activity.
- Modifications to the Plaza Viña del Mar in downtown Sausalito to improve access for persons with impaired mobility will begin in September 2013.

#### Tiburon

- Completed Bay Trail Gap Closure Feasibility Study in May 2012. The project would close a key gap in the San Francisco Bay Trail System, as well as Town and Marin County local and regional bike and pedestrian circulation systems. Limits are from McKegey Green to Strawberry Drive, including portions of Tiburon Boulevard and Greenwood Beach Road/Greenwood Cove Drive. The project will require coordination between the Town, County, Caltrans, and ABAG (which funded the feasibility study).
- Completed various bicycle signing and striping improvements.
- Completed Del Mar School Safe Routes to School project
- Completed NTPP project to rehabilitate three pedestrian access ways (steps, lanes, and paths).

#### Marin County

- Marin Sonoma Narrows Frontage Road Class II Bicycle Lanes Gap Completion - this project will widen the shoulders on San Antonio Road/Frontage Road to install Class II bicycle lanes from just north of the existing South San Antonio Road/US 101 (where the widening included in the first phase of the Marin Sonoma Narrows contract ends) to the County Limit at the southern end of the existing historic San Antonio Creek bridge. The proposed Class II facility will then connect to the Class I bicycle facility being constructed on the north side of San Antonio Creek which will be constructed with another Marin Sonoma Narrows first phase contract. The County is coordinating with Caltrans on the bicycle facilities to be constructed as part of this project. TFCA funding was awarded for this project in FY 2012-13.
- Bel Marin Keys Boulevard Class 2 Bicycle Lanes (TFCA Funding, 2011-12)
- Miller Creek Road Class 2 Bicycle Lanes and Pedestrian Improvements (TFCA and Federal Transportation Enhancement Funding)
- Central Marin Ferry Connection (TAM) - two TFCA grants awarded in 2010-11 and 2011-12)
- Major Maintenance on Mill Valley-Sausalito Pathway (TDA Article 3, 2011)
- Marin-Sonoma Narrows Redwood Landfill Bicycle Pedestrian Facility (TDA Article 3, 2012)
- Bicycle Plan Update (TAM - TDA Article 3, 2012)
- Tam Junction Bicycle Access Improvements (TAM - TDA Article 3, 2013)
- Several Safe Routes/Safe Pathways to Schools Projects completed, including Lomita Drive, Las Gallinas Avenue, San Geronimo School, E. Strawberry Drive.
- Completed Marin Avenue and Evergreen sidewalk projects.
- Completed Tennessee Valley (now Charles McGlashan) Pathway project.
- Added/widened shoulders on several West Marin roads, including Pt. Reyes-Petaluma Road, Nicasio Valley Road, and Novato Boulevard.
- Completed an expanded numbered bicycle route signage program in west Marin.

- Continued coordination with Sonoma-Marín Area Rail Transit (SMART) on multiuse pathway planned as part of the future SMART rail system.
- Completed various bicycle signing and striping improvements.
- Completed bicycle parking projects in various locations Countywide.
- Completed Miller Creek/Las Gallinas Bicycle and Pedestrian Improvements Study (Marinwood)
- Completed San Quentin Bicycle and Pedestrian Access Study

In addition to the above projects, the TAM Board also recently approved TFCA funding allocations for the following multimodal projects in FY 2013-14:

- Golden Gate Transit: Bicycle racks on buses
- Marin County: Olive Avenue Class II Bicycle Lane Gap Closure
- Mill Valley: Miller Avenue Bicycle and Pedestrian Gap Closures
- San Anselmo – Electric Assist Utility Bicycle for Town Staff

Bicycle / pedestrian projects and project components are also funded through other local funds. Measure A Strategy 3.1, for which funding is allocated to major roads and related infrastructure, includes allocations for pedestrian and bicycle projects. Over the last six fiscal years, approximately 18.4 percent of Measure A Strategy 3.1 allocations have gone to pedestrian projects, 17.9 percent to bicycle projects, and 0.4 percent to public transit projects.

Measure A Strategic Plan's Strategy 4 includes several Safe Routes to Schools (SR2S) programs. The Marin SR2S program, one of the most successful in the country, is designed to reduce local congestion around schools by increasing the number of children walking, bicycling, taking transit, or carpooling to school. TAM's SR2S strategy includes:

- *Education and Encouragement programs* that offer events, contests and promotional materials to encourage children to walk and bicycle to school. Programs that support carpooling and transit use are also provided to the schools.
- *Crossing Guard program* that provides trained crossing guards at key intersections throughout Marin County. Use of crossing guards can lessen the reluctance parents may have in allowing their children to walk or bicycle to school.
- *Safe Pathways* is the capital improvement element of the SR2S program. It provides funding for engineering; environmental clearance; and construction of pathway, street crossing, and sidewalk improvements for better and safer access to schools.

### **Local Jurisdictions Bicycle Plans**

Marin County's local jurisdictions have adopted Bicycle or Bicycle/Pedestrian Master Plans with planned related infrastructure improvements. By reference, the Marin County CMP recognizes those plans and planned facilities. Individual bicycle and pedestrian improvements will be implemented as scheduled by local agencies, and as funding becomes available. Funding sources will vary, and include TFCA funds, as well as Measure A, Safe Routes to Schools, and other local funds.

## Performance Measures

Four additional performance measures described below allow TAM to further measure transportation system performance in Marin County. They are aggregate peak hour travel time, person throughout, jobs/housing Balance, and commute mode share.

### **Aggregate Peak Hour Travel Time**

This performance measure describes the time required to travel through selected corridors on a variety of modes during commute peak hours. Given that single-occupant, high-occupant, and transit vehicles travel at different speeds, aggregate travel time between two points for all modes effectively describes system performance. To determine peak-hour travel times by single-occupant and high-occupant vehicles, travel time runs would be required for two given days at the peak hour in the peak direction. Transit schedules have been used to determine travel times via buses. For the Marin CMP, aggregate travel times have been developed for four segments:

1. US 101 between the Sonoma County line and the San Rafael Transit Center
2. US 101 between the Golden Gate Bridge and the San Rafael Transit Center
3. Sir Francis Drake Boulevard between Butterfield Road and US 101
4. Red Hill Avenue from Sir Francis Drake Boulevard to the San Rafael Transit Center

Table 12 shows the results of the peak hour travel time monitoring. The samples for the AM peak hour were collected between 7:00 AM and 9:00 AM, and the samples for the PM peak hour were collected between 4:30 PM and 6:30 PM. Auto and HOV travel times generally remained the same or slightly increased.

With regard to the changes in bus travel times between 2010 and 2012, the *2012 Transportation System Monitoring Report* noted the following:

- Measurements along US 101 between San Rafael Transit Center and the Sonoma County line were made to Novato in 2012, while in 2010 measurements were made to Petaluma, which is approximately 12 miles further north.
- Bus travel times along US 101 between San Rafael Transit Center and Golden Gate Bridge were similar between 2010 and 2012, except in the northbound direction during the PM peak. Travel time in this corridor reduced from 88 minutes to 53 minutes, with both travel times measured from the Golden Gate Bridge toll plaza to the San Rafael Transit Center.
- Sir Francis Drake Boulevard bus travel times between Butterfield Road and US 101 increased slightly (5 seconds in southbound AM and northbound PM peak directions) from 2010 to 2012. In 2012, an additional bus route (Marin Transit Route 29) served the corridor that was unavailable in 2010. Route 29 provides service along Sir Francis Drake Boulevard in the northwest-bound direction in the AM peak.
- Red Hill Avenue bus travel times between Sir Francis Drake Boulevard and San Rafael Transit Center remained the same from 2010 to 2012.

**Table 12: Corridor Peak Hour Travel Time Monitoring Results**

Study Corridor			2010 (minutes)			2012 (minutes)		
			Auto	HOV	Bus	Auto	HOV	Bus
US 101 from San Rafael Transit Center to Sonoma County Line	AM	NB	15	N/A	44 <sup>A</sup>	16	N/A	25 <sup>AA</sup>
		SB	21	18	66 <sup>A</sup>	20	19	32 <sup>AA</sup>
	PM	NB	23	23	43 <sup>A</sup>	23	22	32 <sup>AA</sup>
		SB	15	N/A	61 <sup>A</sup>	17	N/A	29 <sup>AA</sup>
US 101 from San Rafael Transit Center to Golden Gate Bridge	AM	NB	11	N/A	45 <sup>B</sup>	14	N/A	39 <sup>B</sup>
		SB	12	11	45 <sup>C</sup>	13	12	49 <sup>C</sup>
	PM	NB	20	14	88 <sup>B</sup>	18	18	52 <sup>B</sup>
		SB	11	N/A	50 <sup>C</sup>	16	N/A	53 <sup>C</sup>
Sir Francis Drake Boulevard from Butterfield Rd. to US 101	AM	NWB	11	N/A	N/A	13	N/A	36 <sup>DD</sup>
		SEB	9	N/A	24 <sup>D</sup>	18	N/A	29 <sup>E</sup>
	PM	NWB	16	N/A	18 <sup>E</sup>	14	N/A	23 <sup>E</sup>
		SEB	18	N/A	N/A	16	N/A	N/A
Red Hill Avenue from Sir Francis Drake Boulevard to San Rafael Transit Center	AM	NWB	5	N/A	13 <sup>F</sup>	7	N/A	13 <sup>F</sup>
		SEB	5	N/A	13 <sup>F</sup>	8	N/A	13 <sup>F</sup>
	PM	NWB	9	N/A	13 <sup>F</sup>	9	N/A	13 <sup>F</sup>
		SEB	6	N/A	13 <sup>F</sup>	6	N/A	13 <sup>F</sup>

**Notes:** A = Estimated based on commute bus Route 70 & 80 between San Rafael Transit Center and Petaluma Depot.  
 B = Estimated based on commute bus Route 70 & 80 between San Rafael Transit Center and Golden Gate Bridge Toll Plaza.  
 C = Estimated based on commute bus Route 70 & 80 between San Rafael Transit Center and SF Civic Center (GG time is not Published)  
 D = Estimated based on commute bus Route 24 between Bank and US 101/Lucky Drive Bus Pad.  
 E = Estimated based on commute bus Route 24 between San Rafael Transit Center and US 101/Lucky Drive Bus Pad (Bank not a stop in NB PM).  
 F = Estimated based on commute bus Route 23 between San Rafael Transit Center and SFD/Center Street Hub instead of the Butterfield.  
 AA = Estimated based on commute bus Route 70 & 80 between San Rafael Transit Center and Novato-Redwood/Olive (Petaluma Depot Time is not published)  
 DD = Estimated based on commute bus Route 29 between Eliseo Drive and Fairfax-Broadway/Bolinas.

**Sources:** KHA (2013). DKS (2011)

**Person Throughput**

The person throughput performance measure identifies the number of people, rather than vehicles, who are able to move through a given corridor during commute peak periods. As a combination of vehicle occupancy and level of service, this measure acknowledges that transit service and HOV lanes can benefit corridor capacity. Roadway capacity is defined in terms of vehicles per hour. Well-utilized HOV lanes can contribute to roadway capacity, as they can carry more persons per lane than a mixed-flow lane. Similarly, buses are defined as additional roadway capacity.

Existing conditions for this measure are obtained through a regular monitoring process. Monitoring of this measure requires that the number of riders and the seats on buses in a peak hour in each direction be defined. It requires observing travel volumes, as well as the average vehicle occupancy on a given mixed-flow or HOV lane. The following CMP facilities were monitored in 2012 for this CMP update:

- US 101 at Golden Gate Bridge
- US 101 North of SR 131 (Tiburon Boulevard)
- US 101 from Manual T. Freitas Parkway to Lucas Valley Road
- US 101 from North of Atherton Avenue to the Sonoma County Line
- I-580 from Sir Francis Drake Boulevard to the Marin County Line
- SR-1 from Northern Avenue to Almonte Boulevard
- SR-1 from US-101 to Tennessee Valley Road

Table 13 compares the results of the person throughput monitoring for the PM peak hour period for 2010 and 2012. It should be noted that only two of the six locations monitored in 2010 were also monitored in 2012. In 2012, five new segments were additionally monitored. The 2012 monitoring results include HOV lane utilization for the two locations where HOV lanes currently exist.

#### ***Jobs/Housing (Employed Residents) Balance***

The performance measure considers the balance between projected employed residents and projected jobs within different planning areas of the county. Achieving a balance between jobs and housing within a community or area can help the regional transportation system by reducing the length of trips and traffic congestion. Table 14 lists the results of Bay Area jobs-housing balance projections as estimated in the current Marin Travel Model and ABAG / Plan Bay Area forecasts.

In 2010, Marin County saw a slight jobs-housing imbalance commensurate with the imbalance for the region, with approximately 4,000 more jobs than employed residents. By 2040, this imbalance is expected to shift in the opposite direction for the County, with approximately 7,400 more residents than jobs. These residents are not likely to work in Sonoma County, as that county is expected to have its own substantial net export of workers (27,400) in 2040. It is expected the most of the excess workers residing in Marin County in 2040 would commute to jobs in San Francisco, Alameda, and Napa Counties.

**Table 13: Person Throughput Monitoring Results – PM Peak Hour**

Segment	2010					2012				
	Transit Person	Auto Person: General	Auto Person: HOV Lane	Van Pool Person	Total Person	Transit Person	Auto Person: General	Auto Person: HOV Lane	Van Pool Person	Total Person
US 101 - NB (I-580 - Central San Rafael)	320	7,896	1,506	47	9,769	-	-	-	-	-
US 101 - NB (SR 131 - Paradise Dr.)	1,400	6,397	2,226	47	10,070	1,402	4,055	2,076	39	7,572
US 101 - NB (North of Atherton)	320	3,290	-	93	3,703	256	5,182	-	19	5,457
Sir Francis Drake Boulevard - NWB (East of Wolf Grade)	266	1,395	-	93	1,754	-	-	-	-	-
Sir Francis Drake Boulevard - NWB (North of Red Hill Rd)	304	2,285	-	0	2,589	-	-	-	-	-
Red Hill Avenue - NWB (East of SDF Boulevard)	228	2,094	-	0	2,322	-	-	-	-	-
US 101 - NB ( Golden Gate Bridge)	-	-	-	-	-	1,277	4,458	-	32	5,767
US 101 - NB (Manuel T. Freitas Parkway - Lucas Valley Road)	-	-	-	-	-	808	3,702	2,313	84	6,907
I - 580 - EB ( Sir Francis Drake Blvd - Marin County Line)	-	-	-	-	-	47	3,798	-	78	3,923
SR-I - WB ( Northern Avenue - Almonte Boulevard)	-	-	-	-	-	0	734	-	0	734
SR-I - WB ( US 101 - Tennessee Valley Road)	-	-	-	-	-	338	1,798	-	0	2,136

Source: KHA (2013). DKS (2011).

**Table 14: Bay Area Jobs/Housing Balance Projections**

<b>Category/County</b>	<b>2010</b>	<b>2040</b>	<b>% Change</b>
<b>Employed Residents</b>			
San Francisco	384,994	559,923	45.44%
San Mateo	310,293	445,591	43.60%
Santa Clara	738,391	1,158,405	56.88%
Alameda	674,895	891,473	32.09%
Contra Costa	462,499	579,757	25.35%
Solano	185,491	224,059	20.79%
Napa	61,904	69,450	12.19%
Sonoma	223,901	284,856	27.22%
<b>Marin</b>	<b>110,899</b>	<b>136,554</b>	<b>23.13%</b>
<b>Regional Total</b>	<b>3,153,267</b>	<b>4,350,068</b>	<b>37.95%</b>
<b>Total Jobs</b>			
San Francisco	550,363	759,515	38.00%
San Mateo	331,931	445,047	34.08%
Santa Clara	811,902	1,229,588	51.45%
Alameda	686,981	947,664	37.95%
Contra Costa	352,870	467,342	32.44%
Solano	179,933	179,933	0.00%
Napa	61,748	89,550	45.02%
Sonoma	177,617	257,449	44.95%
<b>Marin</b>	<b>114,864</b>	<b>129,144</b>	<b>12.43%</b>
<b>Regional Total</b>	<b>3,268,209</b>	<b>4,505,232</b>	<b>37.85%</b>
<b>Jobs/Residents Ratio</b>			
San Francisco	1.43	1.36	-5.11%
San Mateo	1.07	1.00	-6.63%
Santa Clara	1.10	1.06	-3.47%
Alameda	1.02	1.06	4.43%
Contra Costa	0.76	0.81	5.65%
Solano	0.97	0.80	-17.21%
Napa	1.00	1.29	29.27%
Sonoma	0.79	0.90	13.93%
<b>Marin</b>	<b>1.04</b>	<b>0.95</b>	<b>-8.69%</b>
<b>Regional Total</b>	<b>1.04</b>	<b>1.04</b>	<b>-0.08%</b>
<b>Import (Export) of Workers</b>			
San Francisco	165,369	199,592	-
San Mateo	21,638	-544	-
Santa Clara	73,511	71,183	-
Alameda	12,086	56,191	-
Contra Costa	-109,629	-112,415	-
Solano	-5,558	-44,126	-
Napa	-156	20,100	-
Sonoma	-46,284	-27,407	-
<b>Marin</b>	<b>3,965</b>	<b>-7,410</b>	-
<b>Regional Total</b>	<b>114,942</b>	<b>155,164</b>	-

Sources: Marin Travel Model, ABAG (2013)

### **Mode Shares for Work Travel**

For information purposes, data regarding the travel mode for work trips of Marin residents is included in this CMP. The percentage of modes chosen for traveling to work has been sampled from the research performed by the U.S. Bureau of the Census. The Census Bureau collects journey-to-work data via the American Community Survey (ACS), which samples about one percent of all households annually and publishes results in one-year, three-year and five-year rolling averages. Table 15 compares the surveyed commute mode shares in 2009 and 2011 among employed Marin County residents as reported by ACS. Both reported years represent three-year rolling averages. The 2009 results were previously reported in the 2011 CMP, and 2011 represents the latest available ACS survey.

The results indicate a decrease in the total number of employed residents in Marin County over the last two years, which is likely a lingering effect of the economic recession of the previous decade. Nevertheless, there has been an observable decline in the proportion of county residents driving alone to work, which is commensurate with increases to shares for carpooling, bicycling, walking, and working at home. The share of people commuting to work via public transportation has stabilized over the last two years. Approximately 24 percent more workers are walking to work in the last two years, and about 3,700 fewer workers are driving alone to work during the same period.

**Table 15: Journey-to-Work Transportation Mode Shares in Marin County**

<b>Mode</b>	<b>2007-2009 American Community Survey</b>		<b>2009-2011 American Community Survey</b>	
	<b>Number</b>	<b>Percent</b>	<b>Number</b>	<b>Percent</b>
Drive	83,135	67.9%	79,437	66.5%
Carpool	10,285	8.4%	10,512	8.8%
Public Transportation	10,407	8.5%	10,154	8.5%
Bicycle	1,592	1.3%	1,672	1.4%
Walk	3,551	2.9%	4,420	3.7%
Other	1,714	1.4%	1,195	1.0%
Work at Home	11,754	9.6%	12,065	10.1%
<b>Total</b>	<b>122,438</b>	<b>100%</b>	<b>119,454</b>	<b>100%</b>

Source: U.S. Bureau of the Census, Tables B08301, C08301, DP03 (2013)

## 4. Travel Demand Management

### Purpose and Intent of Legislation

CMPs are required by California Government Code section 65089(b)(3) to include a travel demand management (TDM) element for purposes of promoting alternative transportation methods to reduce traffic congestion. Assembly Bill (AB) 2419, which became effective January 1, 1997, amended the original state congestion management legislation by eliminating the requirement for a “trip reduction” component, leaving only the “travel demand” component. According to the 1997 CMP legislation, the TDM element should promote:

- Alternatives to the single-occupant automobile, e.g., carpools, vanpools, transit, and bicycles
- Increased use of park-and-ride lots
- Improvements in the balance between jobs and housing
- Other strategies for reducing vehicle trips, including flexible work hours, telecommuting, and parking management programs

In addition to the above strategies, a CMA must also consider parking cash-out programs as part of the development and update of its CMP’s travel demand element.

Local city and county governments are responsible for planning future land use and zoning patterns and for reviewing proposed development plans. During both long-range planning and development-review phases of local planning, local governments have opportunities to ensure that TDM measures are implemented. Although not required, local governments may also choose to support (through resolution or other means) regional TDM measures, including carpool lanes and ridesharing facilities and programs, which could be implemented by other agencies, such as TAM or MTC.

Peak-period travel speeds are anticipated to deteriorate on freeways and arterials in Marin County as new development occurs on a roadway system with little opportunity or funding available for major expansion. Along with improving roadway operations and improving local transit service in response to this forecasted growth in traffic, it is also important to implement TDM measures to improve the operating efficiency of the existing county transportation system. The TDM element of the CMP encourages an on-going process that promotes local and regional planning to reduce traffic congestion.

### Travel Demand Management in Marin County

The intent of this element is to summarize the greatest possible range of choices to Marin County and its eleven cities in implementing the overall goal of reduced peak-hour usage of single-occupant vehicles. The TDM measures proposed fall into four broad categories:

- Traffic operational improvements that improve traffic flow. These improvements could come through such diverse sources as increased ridesharing or minor modifications to the highway system.
- Transit improvements that attract more riders to transit systems.

- Traffic mitigation measures that are intended to reduce development- or planning area-generated traffic and administered through employer or developer requirements.
- Land-use planning and regulations that seek to limit demand for transportation or to mandate implementation of traffic mitigation techniques through the land-use planning or approval processes.

The above TDM categories overlap to some extent. For example, traffic mitigation measures may be required as part of development permit approval, and traffic mitigation may include greater use of public transit. The classification system focuses primarily on the entity responsible for implementation.

Traffic operational improvements generally are implemented by state highway and local public works departments; transit improvements are sponsored by Marin Transit; Golden Gate Transit is a sponsor as for TDM related investments like installing bike racks on buses; employers and developers implement traffic mitigation measures; and local planning agencies are generally responsible for land use planning and regulations. Effective traffic mitigation requires coordinated and systematic action by both the public and the private sectors.

TAM continues to expand its TDM and commute alternative efforts. A Vanpool Incentive Program has been established with financial support from the Bay Area Air Quality Management District's Transportation Fund for Clean Air (TFCA). Together with the completion of the US 101 Gap Closure Project between the cities of Corte Madera and San Rafael, this and other rideshare programs continue to promote the use of new, uninterrupted high-occupancy vehicle (HOV) lanes through Marin County.

Another recent TFCA-supported program is TAM's Emergency Ride Home (ERH) program, which was launched spring 2012. Under the program, those who use such commute alternatives will have access to free transportation home (via taxi) in the event of an unforeseen emergency. The ERH program has been marketed to employers throughout Marin County. The program is available to Marin employees whose employers have registered in the program. The program promotes and supports various alternatives to single-occupant vehicle (SOV) driving, including transit and ridesharing (carpool, vanpool, or other similar means), as well as bicycling and walking.

SchoolPool, a component of Safe Routes to Schools, is a ride matching program that addresses school-related congestion.

Currently, TAM is part of a three-county pilot collaboration with Sonoma and Contra Costa Counties to test Dynamic (or "real-time") Rideshare software. The pilot is supported by MTC Climate Initiative Grant Program funding.

Finally, TAM continues to coordinate rideshare marketing activities with MTC's Regional 511 Rideshare Program. In 2013, TAM is initiating new efforts to reduce vehicle trips and congestion, funded in part by Measure B, the vehicle registration fee adopted in 2010. Other TDM efforts in Marin County include:

- Transit information and promotion
- Driving management programs to support telework/telecommuting

- Promotion of car-sharing (both traditional and peer-to-peer) models in Marin
- Additional employer support, including small and medium size employers, leveraging 511.org Regional Ride Share resources that continue to provide quality services to employers
- General employer support for a strengthened transportation component within Marin County's Green Business Certification Program;
- Commuter Benefit Program promotion related to new State law SB 1339, including pre-tax employer/employee incentive encouragement such as programs that automatically fund monthly transit passes such as the Clipper Card.
- Promoting a TDM Tool Kit to assist employers develop their own TDM programs and policies.

**Air Quality Plan Consistency as Incorporated into Regional Transportation Plan (RTP)**

The Bay Area's Regional Transportation Plan (RTP) incorporates Transportation Control Measures (TCMs) contained in federal and state air quality plans to achieve and maintain standards for ozone and carbon monoxide. The statutes require that the Capital Improvement Program (CIP) of the CMP conform to transportation-related vehicle emission air quality mitigation measures. CMPs should promote the region's adopted TCMs for the federal and state clean air plans. The Marin CMP includes numerous project types and programs that are identified in the TCM plan.

Table 16 lists chapters of the Marin CMP that provide opportunities to address these TCMs. There are currently no unmet TCMs in the Bay Area's implementation plans for air quality.

The Bay Area Air Quality Management District (BAAQMD) adopted the latest Clean Air Plan in September 2010. The TCMs identified in the current plan are refined from prior TCMs to better define the actions and have also been expanded to include greenhouse gas emission mitigation actions.

**Table 16: 2010 Bay Area Clean Air Plan Transportation Control Measures (TCMs) in Marin CMP**

<i>TCM</i>	<i>Description</i>	<i>CMP Reference</i>
<b>A-1 Improve Local and Area wide Bus Service</b>	Improve transit by providing new Express Bus or Bus Rapid Transit on major travel corridors, funding the replacement of older and dirtier buses, and implementing Transit Priority Measures on key transit routes.	Chapter 7, Capital Improvement Program
<b>A-2 Improve Local and Regional Rail Service</b>	Improve rail service by sustaining and expanding local and regional rail services and by providing funds to maintain rail-cars, stations and other rail capital assets.	Chapter 7, Capital Improvement Program
<b>B -1 Implement Freeway Performance Initiative</b>	Improve the performance and efficiency of freeway and arterial systems through operational improvements, including the Freeway Performance Initiative, the Arterial Management Program, and the Freeway Service Patrol.	Chapter 7, Capital Improvement Program

<b>TCM</b>	<b>Description</b>	<b>CMP Reference</b>
<b>B-2 Improve Transit Efficiency and Use</b>	Improve transit efficiency and use through continued operation of 511 Transit, and full implementation of TransLink® payment system and the Transit Hub Signage Program.	Chapter 3, Performance Measures
<b>B-3 Bay Area Express Lane Network</b>	Introduce roadway pricing on Bay Area highways through the implementation of an express lane network, also known as a High Occupancy Toll (HOT) lane network.	Chapter7, Capital Improvement Program
<b>B-4 Goods movement Improvements and Emission Reduction Strategies</b>	Improve goods movement and reduce emissions from diesel equipment through implementation of the Bay Area's Trade Corridors Improvement Fund (TCIF) projects and various funding programs to replace or retrofit diesel equipment.	Chapter7, Capital Improvement Program
<b>C-1 Support Voluntary Employer-Based Trip Reduction Program</b>	Support voluntary employer trip reduction programs through the implementation of the 511 Regional Ride share Program and Congestion Management Agency ride share programs, the Spare the Air Program, encouraging cities to adopt transit benefit ordinances, and supporting Bay Area shuttle service providers.	Chapter 4, Travel demand Management
<b>C-2 Implement Safe Routes to Schools and Safe Routes to Transit</b>	Facilitate safe routes to schools and transit by providing funds and working with transportation agencies, local governments, schools, and communities to implement safe access for pedestrians and cyclists.	Chapter 7, Capital Improvement Program
<b>C-3 Promote Rideshare Services and Incentives</b>	Promote rideshare services and incentives through the implementation of the 511 Regional Rideshare Program and Congestion Management Agency rideshare programs including marketing ride share services, operating ride share information call center and website ,and providing van pool support services.	Chapter 4, Travel Demand Management
<b>C-4 Conduct Public Outreach and Education</b>	Educate the public about the air quality, environmental, and social benefits of carpooling, vanpooling, taking public transit, biking, walking, and telecommuting, through the Spare the Air and Climate Action Campaigns	Chapter 3, Performance Measures
<b>C-5 Promote Smart Driving/Speed Moderation</b>	Educate the public about the air quality and climate protection benefits of reducing high-speed driving and observing posted speed limits.	Chapter 3, Performance Measures
<b>D-1 Improve Bicycle Access and Facilities</b>	Expand bicycle facilities serving transit hubs employment sites, educational and cultural facilities, residential areas, shopping districts, and other activity centers.	Chapter 7, Capital Improvement Program
<b>D-2 Improve Pedestrian Access and Facilities</b>	Provide funding for projects to improve pedestrian access to transit hubs, employment sites, educational and cultural facilities, residential areas, shopping districts, and other activity centers.	Chapter 7, Capital Improvement Program
<b>D-3 Support Local Land Use Strategies</b>	Promote land use patterns, policies, and infrastructure investments that support mixed-use, transit-oriented development that reduce motor vehicle dependence and facilitate walking, bicycling and transit use.	Chapter 4, Travel demand Management

<b>TCM</b>	<b>Description</b>	<b>CMP Reference</b>
<b>E-1 Value Pricing Strategies</b>	Implement value pricing (congestion pricing) on Bay Bridge; consider expanding value pricing to other Bay Area toll bridges to manage travel demand during congested periods.	Not applicable to Marin County
<b>E-2 Parking Pricing and Management Strategies</b>	Promote policies to implement market-rate pricing of parking facilities, reduce parking requirements for new development projects, parking “cash-out”, unbundling of parking in leases, shared parking at mixed-use facilities, etc.	Chapter 4, Travel demand Management
<b>E-3 Implement Transportation Pricing Reform</b>	Develop a regional transportation pricing strategy that includes policy evaluation and implementation Pricing policies to be evaluated include gasoline taxes, bridge tolls, congestion pricing, parking pricing, HOT lanes, VMT or carbon fees, pay-as-you-drive insurance, etc.	Chapter 3, Performance Measures

Source: Bay Area Air Quality Management District (2010).

## **Additional Transportation Demand Management Activity**

### ***Station Area Planning***

TAM has provided funding and active participation in the development of a station area plans for the future Sonoma-Marín Area Transit (SMART) rail stations at Downtown San Rafael and Civic Center. In addition, TAM has collaborated locally on a Station Area Plan for the Larkspur SMART Station and Ferry Terminal.

### ***Pedestrian and Transit-Oriented Design Toolkit***

In 2007, TAM issued the TPLUS Pedestrian and Transit-Oriented Design Toolkit. This document contains several development strategies that can be used to achieve trip reduction. These include concepts on land use (density, intensity and mixed-use), urban design (site plans, building orientation and parking), improved connectivity (for local traffic, bicycles, pedestrian and transit), traffic management (traffic calming), street design (including paved roadways, sidewalks, landscaping and transit facilities), specific mobility needs for seniors and persons with disabilities, access to schools (transit, bicycle and pedestrian), educational programs, and parking guidance. The report contains “best practices” concepts that are most appropriate for application in Marin County.

### ***Reducing Vehicles Miles Traveled and Greenhouse Gas Emissions***

In its capacity as local Congestion Management Agency (CMA), TAM seeks opportunities for achieving congestion relief. These include roadway improvements, such as the carpool lane gap closure on US 101 through Corte Madera and San Rafael; facilitating transit improvements by committing funds collected through the 1/2-cent County sales tax for transportation; and supporting investments in bicycle and pedestrian facility improvements, such as the Cal-Park Hill Tunnel and Puerto Suello Hill/Lincoln Multi-use path. As the County CMA, TAM can consider additional opportunities for congestion relief which serve to meet air quality goals. These can include the following:

- Coordinate and/or support grant opportunities for alternative fuel development or electric vehicle purchase and its associated infrastructure.
- Coordinate bicycle/pedestrian facility development in Marin County that crosses local jurisdictional boundaries to achieve a greater benefit than a single jurisdictional entity may provide.
- Expand coordination opportunities with employers and employees to rideshare, telecommute, or implement other options to driving alone.

The above efforts can serve to reduce traffic congestion, as well as auto-generated greenhouse gas (GHG) emissions and overall vehicle miles traveled (VMT). In addition to these local measures, TAM continues to coordinate with state and regional efforts to reduce VMT and GHG emissions.

Senate Bill (SB) 375 links land use and transportation through the adoption of regional plans to reduce emissions throughout the state. MTC has incorporated these reductions into a Sustainable Communities Strategy, which together with the Regional Transportation Plan, comprise the recently-adopted *Plan Bay Area*. TAM staff continues to work with the regional agencies and local jurisdictions to share information and coordinate efforts relative to *Plan Bay Area*.

### ***School Rideshare Outreach***

TAM anticipates further decrease in school-related auto trips with continued implementation of the Greenways to School, SchoolPool, and related efforts under the Safe Routes to Schools program. Under the SchoolPool program, TAM has implemented websites for some schools to connect interested rideshare and carpool participants, with the focus on linking both students and commuters with common destinations.

## 5. Land Use Analysis

### Purpose and Intent of Legislation

Section 65089(b)(4) of the California Government Code requires that a CMP include a program to analyze the impacts of land use decisions made by local jurisdictions on the regional transportation system (both highways and transit).

The Land Use Analysis Program must include an estimate of the costs to mitigate impacts of development on the highway and transit systems. The legislation allows the cost of mitigating interregional travel (trips that do not begin in Marin County or trips that travel entirely through Marin County) to be excluded from the mitigation cost estimate. Public and private (developer) contributions to regional transportation improvements may be credited.

The legislation does not modify the role of local jurisdictions in making land use decisions and in determining the responsibilities of project proponents to mitigate those impacts. However, TAM has the authority to withhold gas tax subventions to local governments provided by Proposition III if a local jurisdiction fails to meet the requirements outlined in the Monitoring and Conformance chapter of the CMP (Chapter 8). Further guidance on the Land Use Analysis Program is found in the *Congestion Management Resource Handbook* (Caltrans, November 1990, pages 35-37).

The Land-Use Analysis Program is particularly important because it affects, or is affected by:

- The CMP Designated Transportation System and Roadway Level of Service Standards (see Chapters 1 and 2);
- Performance Measures (see Chapter 3);
- The Marin Travel Model (MTM), which can be used to analyze the impacts of land use changes on both highways and transit (see Chapter 6); and
- The Capital Improvement Program (see Chapter 7).

The intent of the Land Use Analysis Program is to improve the linkage between local land use decisions and regional transportation facility decisions; to better assess the impacts of development in one community on another; and to promote information sharing between local governments when the decisions made by one jurisdiction have an impact on another.

The Land Use Analysis Program for the Marin County CMP is a process designed to improve upon decisions about land use and the spending of funds on highway and transit improvements in the county. The process is intended to work in a positive, cooperative fashion that supports the needs of local, county, regional and state governments.

TAM acts as a resource to local governments in performing transportation analyses of land use changes on the CMP designated transportation network. The MTM is used to analyze the transportation effects of local general plan updates and amendments and other major development decisions. The California Environmental Quality Act (CEQA) provides a framework for such assessment. To avoid duplication, the Land Use Analysis Program is intended to make maximum use of the CEQA process.

Cities can develop and maintain their own transportation models for use in local forecasting or impact analysis. However, as discussed in Chapter 6, their models should be approved by TAM for consistency with countywide and regional transportation models. Currently, no cities in Marin County have their own multimodal model for local forecasting.

The Marin County CMP has established two separate information and analysis processes regarding determination of local land use impacts. Under Part A, local governments forward information on proposed major developments, major general plan updates or other amendments to TAM during the period when the local jurisdiction is reviewing the application. Part B requires participation in a biennial tracking update of projected land uses for use in modeling both traffic and transit impacts.

### **Land Use Analysis Program Part A: Major Development Projects and General Plan Updates**

In Part A, local governments inform TAM about any general plan updates or amendments, or major developments concurrent with the local governments' approval process. By analyzing general plan updates or amendments or major development proposals rather than by each individual development permit, cities and TAM can proactively take into account regional transportation impacts and needs, and also determine ways to finance transportation costs in advance of development proposals. According to TAM staff, as of August 2013 there are no major development proposals in the near-term horizon.

#### ***Threshold for Part A Analysis***

If a general plan update or amendment, or major development proposal is projected to generate a net increase of 100 vehicle trips during the PM (afternoon) peak hour, information is to be forwarded to TAM for comment and is subject to a CMP analysis. Local jurisdictions are responsible for determining which projects meet these criteria. The PM peak hour is most appropriate for this determination given that for most roadway segments, traffic levels of service are worse during the PM peak hour than during the AM peak hour. Examples of projects that typically meet the 100-trip threshold include 100 single-family homes, 150 apartment units, 5,000 square feet of retail space, or 40,000 square feet of office space.

#### ***Procedures for Part A Analysis***

The local jurisdiction reviewing the proposed land use development or proposing a change to their general plan should notify TAM of the impending action and prepare a traffic impact study (either a stand-alone study or part of an Environmental Impact Report) through a Notice of Preparation or similar process. In addition to the proposed land use change, the sponsor should submit information on potential highway network and transit system changes in their jurisdiction that could result from implementation through project or ordinance approvals, or changes to the circulation element policies or maps in their general plan.

Once TAM receives a project notice, TAM staff will prepare a response directing the applicant on what analysis is appropriate to fulfill CMP requirements. The TAM staff response should include a recommended approach to apply the travel model for use in the study. TAM usually recommends applying the county travel model under these specific situations:

- I. General plan updates and amendments are normally processed well before any construction takes place. This provides more time for transportation impacts to be analyzed and mitigation measures developed than would occur if the analysis took place closer to actual project construction.

2. Existing general plans have already been incorporated into the Year 2035 land uses for the countywide model, as well as for the MTC regional travel model. The TAM model is currently being updated to Year 2040 land uses consistent with Plan Bay Area projections. Thus, any land development project that conforms to the general plan should not materially alter the forecast results generated by computer analysis already completed or being completed for the CMP. Only changes in (or amendments to) existing general plans could cause significant change in the Year 2035 / 2040 model forecasts.
3. A city or the county may consider general plan updates or amendments no more than four times during any year according to state law. This reduces the possible model runs that would be required.
4. Most (but not all) general plan updates or amendments are for developments of significant size.

Future levels of service are based on the land use assumptions and corresponding travel demand forecasts based on current general plans. The information on noticing that should be forwarded to TAM includes:

- Precise location of the project(s) with map, including street access location;
- Proposed project land use(s) and number of dwelling units or square footage of development;
- Any available traffic studies, including trip generation rates assumed in determining whether the general plan update or amendment met the 100-trip threshold; and
- Expected occupancy of each land use in Year 2035 / 2040, with completion date and phasing.

The MTM is available to be used as part of the local development review process where appropriate. The local jurisdiction is responsible for determining future baseline traffic volumes, but may use the MTM for background or cumulative conditions analyses. The local jurisdiction remains responsible for identifying mitigations and funding any costs associated with a Negative Declaration or Environmental Impact Report for any project. It should be noted that the MTM is managed directly by TAM; therefore TAM must coordinate and manage any use of the model.

It may be appropriate for TAM to participate in a Part A land use analysis, especially if it involves using the MTM. If TAM participates in a Part A analysis, TAM would make modifications to its land use database contained in the model. A model run would include all highway and transit improvements (not just those on CMP designated facilities) for which funds seem reasonably secure, and also any improvements the applicant is willing to pay for as a condition of development approval. TAM would forward this information to the local agency, which would consider any level of service reduction in making their decision to approve or not to approve the development project / general plan amendment. In developing conditions for project approval, the local jurisdiction would then have the option of:

- Requiring additional mitigations from the developer, such as TDM measures (e.g., transit service, flex time, etc.), roadway improvements that would improve the LOS to the adopted standard, or other system improvements that would improve air quality as allowed by the CMP legislation;
- Delaying the project until a certain highway or transit project is constructed;

- Working closely with the TAM staff on development of a Deficiency Plan if it appears that a CMP system segment does not meet the adopted LOS standard; or
- Choosing not to implement any of the above measures and risk having the LOS not meet the adopted standard on certain roadway segments in a future year. In this case, the local government would risk losing the increment of gasoline taxes provided by Proposition III.

Once a study of the transportation impacts is completed, the local jurisdiction should send a draft copy to TAM for referral and comment. If the draft is prepared as part of an Environmental Impact Report, TAM concerns should be addressed in a final certification.

Once any remaining concerns expressed by TAM have been addressed and final documentation is completed, the local jurisdiction sends final project information and documentation to TAM as part of the Part A compliance.

### **Land Use Analysis Program Part B: Biennial Development Tracking**

Marin County maintains an inventory of proposed development projects, known as "PROPDEV." PROPDEV includes all projects with at least five residential units or at least 5,000 square feet of nonresidential use. The PROPDEV database file covers 40 items of information including location, project sponsor, acreage, zoning, square feet of building area, and status of development application. The most recent PROPDEV database was completed in June 2009.

Many projects in Marin County are generally too small to effectively analyze using the county model on an individual basis. As mentioned earlier in Part A, large projects requiring a city or county general plan update or amendment should be analyzed using the model. Participation in development tracking is simple and useful for three principal reasons:

- Local jurisdictions already are responsible for reporting information for all land use development;
- Compliance with Part B of the Land Use Analysis Program is easily attained by biennially submitting a complete account of all residential and commercial projects approved in the preceding submittal and reviewing the PROPDEV inventory for that jurisdiction; and
- Adjacent jurisdictions are able to account for nearby cumulative development more easily.

Once TAM has received updates on land use changes from the planning departments of each local government in Marin County, it should then biennially update the MTM with updated land use information.

In addition to land use changes, local governments are also responsible for advising TAM of planned changes to the roadway network and transit system based on their knowledge of developer mitigations, ordinance approvals, or changes to the circulation element of their general plan.

### **Additional Periodic Compliance**

In addition to the Part A and Part B program elements that demonstrate biennial compliance, local governments should report when periodic changes occur in two other special instances:

- Each jurisdiction should report changes to local traffic LOS standards, and confirm that they are consistent with or more restrictive than the LOS standards in the CMP.
- Each jurisdiction should inform TAM when any other changes to the transportation network have occurred or changed, or are programmed to occur or change within their local capital improvements program or budget, or in any administrative directives.

#### **Relationship of Land Use Analysis Program to CEQA**

Local governments continue to have lead agency responsibility under CEQA for performing Environmental Impact Reports and Negative Declarations and conducting transportation analyses supporting these documents. Local government should continue to propose and analyze mitigation strategies. TAM may comment through the CEQA process, keeping local governments informed as to the adequacy of the analysis and approving any transportation models used as part of the analysis. TAM may also provide local governments with information on cumulative impacts.

### **Impacts of Non-Compliance**

In the future, if any Marin County jurisdiction does not comply with each of these CMP requirements by December 2013 (when TAM makes any necessary non-conformance determination for each jurisdiction), that jurisdiction is found in non-conformance and may risk:

- Losing an increment in its gasoline tax subvention funds; and/or
- Not having projects programmed in the Regional Transportation Improvement Program (RTIP)

## 6. Travel Demand Model

### Purpose and Intent of Legislation

California Government Code Section 65089(c) requires that every CMA, in consultation with the regional transportation planning agency (MTC in the Bay Area), cities, and the county, develop a uniform database on traffic impacts for use in a countywide travel demand model. The State statute also requires the countywide model to be the basis for transportation models used for county sub-areas and cities, and that all models are consistent with the modeling methodology and databases used by the regional transportation planning agency. The CMA also approves sub-county area transportation models and models used by local jurisdictions for land-use impact analysis, if local jurisdictions decide to develop them. In Marin County, the Marin Travel Model (MTM) is routinely updated as part of the consistency determination process with MTC.

The purpose of the travel demand model requirement is to guide the CMA decision-making process in identifying the most effective balance of transportation programs and projects that maintain LOS standards, which includes:

1. Consideration of the benefits of transit service and TDM programs, and
2. The need for projects that improve congestion on the CMP designated network.

The modeling requirement is also intended to assist local agencies in assessing the impact of new development on the transportation system. TAM needs to consider the nature of the analysis, functions of specific analytical tools, and its available resources when deciding how to fulfill this requirement of the statute.

### Local Agency Requirements

At this time, there are no specific requirements of local agencies, other than supplying the base year land use information that is noted in the land use analysis chapter (Chapter 5). TAM expects to continue operating and refining its own countywide model, although cities may also create and use their own model subject to the above legislative requirements.

### Travel Demand Forecast Overview

A distinct and measurable relationship between travel demand, land use patterns, and transportation systems is the basis for modern transportation planning practice. Transportation models have been developed as the best tools available to quantify this relationship; however, it is complex. Research on more effective transportation modeling continues to evolve.

CMP legislation requires consistency with the regional travel model. This CMP chapter summarizes the MTM performance and its consistency with the MTC Travel Demand Model guidelines for CMPs. The last conformity evaluation of the MTM was completed in 2011 and remains current as of this CMP update. The MTM is currently being updated for the next conformity evaluation due to MTC in October 2013.

### Existing and Past Programs

Bay Area travel demand modeling has been characterized by extensive travel behavior studies and model development by MTC, the recognized Metropolitan Planning Organization and regional transportation planning agency for the Bay Area, in cooperation with the Association of Bay Area Governments (ABAG). Since the early 1970's, MTC has had the responsibility and also funding at

the Federal level to develop models of travel behavior. Marin County, in developing its own travel demand model (MTM), has built on information and logic from the MTC model.

MTC is required to review any sub-regional model for consistency with the MTC model. TAM staff assists with any model revisions. The remainder of this chapter contains the MTC checklist and responses for model consistency.

MTC's goal is to establish a regionally consistent model "set" for application by MTC and the CMAs within the nine-county Bay Area. The Bay Area Partnership recently issued a report on modeling consistency issues. This report recommended that MTC develop and the CMAs incorporate a consistent set of model components on desktop computers (termed BAYCAST). For immediate use for this CMP, the study recommended that the current MTC checklist format be used, with specific tolerances. This current MTC checklist incorporates results of testing those tolerances, as well as additional analyses. Perhaps most important to TAM, the report found that, "...the Marin and San Mateo CMA model systems are the closest to the MTC model system. They use the same trip generation, mode split and assignment algorithms." Differences have been cited in Marin's use of "...finer network and zonal detail..." and "...locally calibrated friction factor curves..." and the need to use its "...own equations to derive additional demographic detail not provided in ...ABAG forecasts." However, these differences did not detract from the consistency assessment.

Land use forecasts for Marin County jurisdictions currently are consistent with ABAG's *Projections 2009*. Under the current model update due October 2013 to MTC, the MTM will be updated to the *Plan Bay Area* land use projections for Year 2040. *Plan Bay Area* is the combined Regional Transportation Plan and Sustainable Communities Strategy for the Bay Area. In measures including households, population, jobs, and employed residents, the changes in the model update will be within the MTC criteria for sub-regional model consistency. Thus, Marin County will continue to fall within the model consistency checklist.

### **MTC Modeling Consistency**

MTC's goal is to establish regionally consistent model "sets" for application by MTC and the CMAs. In the winter of 2010/2011, MTC replaced the modeling tool – named *BAYCAST-90* – that had been in place, with relatively minor modifications, for the past two decades with a more sophisticated, so-called "activity-based" model – named *Travel Model One*. This change required a broad re-thinking of these guidelines as they now require a framework in which trip-based and activity-based models can be aligned. The approach remains the same: a checklist is used to adjudge consistency across model components.

### **Checklist**

MTC requires local CMAs to submit a checklist for model consistency. This Checklist guides CMAs through their model development and consistency review process by providing an inventory of specific products to be developed and submitted to MTC, and by describing standard practices and assumptions to be followed. The Checklist items are highlighted in this chapter.

Because of the complexity of the topic, the checklist may need additional detailed information to explain differences in methodologies or data. Significant differences will be resolved between MTC and the CMA, taking advantage of the Regional Model Working Group. Standard formats for model comparisons will be developed by MTC for use in future guidelines. With regard to the MTM, no difference in data occurs that requires resolution.

### **Update Process**

TAM model forecasts must be updated every two years to be consistent with MTC's forecasts. Alternative approaches to fully rerunning the entire model are available, including incremental approaches that apply factors to demographic inputs or to trip tables. Similarly, the horizon year must be the same as the TIP horizon year; however, interpolation and extrapolation approaches are acceptable, with appropriate attention to network changes. These alternative approaches should be reviewed with MTC. The MTM is routinely updated to reflect new development and transportation projects within Marin County.

### **Marin Travel Model Conformity to MTC Model Data**

The MTM conforms to MTC consistency guidelines. The conformity between the MTM and MTC forecasting was established in 2011. The next model conformity check is due to MTC in October 2013, and TAM is updating the MTM model as part of that process. Below is a list of MTC Checklist requirements and how MTM is meeting or will meet them.

1. Requirement: Unless otherwise specified, the MTC model sets referred to below will be defined as those in use on October 1st of the year preceding the CMP update. The model data sets used by MTC in October 2011 have been those associated with the adopted RTP at that time. The MTM will be updated to more recent MTC data inputs from 2012 to meet the October 2013 requirement. The MTC model trip tables are developed by factoring up the 2005 base year from ABAG's Projections 2007 to a 2009 base year. The current MTM model update will include the most recent *Plan Bay Area* forecasts. In addition, major completed projects that affect travel in Marin County are included in both MTC and MTM travel models.
2. Requirement: Describe the model, and its relationship to the MTC model. If the model is based on MTC's model, describe any adjustments to model constants, coefficients, k-factor or friction factor re-estimation, market segmentation, trip purposes, etc.. TAM operates and updates its own countywide travel demand model using information and logic from the MTC model. For the CMP 2013, the Marin Travel Model (MTM) contains 117 traffic analysis zones (TAZs) within the county, 83 TAZs for San Francisco, 69 TAZs for Sonoma, and 24 TAZs corresponding with MTC "super-districts" representing other Bay Area counties. Each of these zones and districts is connected to the others with a network of road and transit lines. Travel models use specialized software to predict AM and PM peak hour travel between these zones, and estimate Average Daily Traffic.

The MTM is a "focused" model, meaning that the network contains different structures inside and outside the focus area. The inside or focused counties for the MTM are San Francisco, Marin, and Sonoma Counties. Other Bay Area counties are outside the focused area. The main difference is that the more detailed MTC network structure is included in focused areas, while a skeleton roadway network is structured outside. Because the network outside the focused areas is reduced, the speeds on the skeleton roadway network in other Bay Area counties are fixed (not variable depending on capacity). Therefore, traffic volumes do not represent actual traffic volumes on these "unfocused" roadway links.

To further ensure regional consistency, the MTM uses a technique referred to as "balancing." This is done to guarantee that trip-end estimates and forecasts and trip flows between counties are roughly equal, whether provided by the MTC regional model or the MTM.

The MTM mode-choice procedure occurs after the person-trip generation and trip-distribution steps. It includes a detailed mode-choice analysis that predicts transit-person trips, 2-person vehicle-person trips, 3+ person vehicle-person trips, or drive alone vehicle-person trips for home-based-work trips. More simple formulas are used to predict all other trip purposes and modes, including home-based shopping trips, home-based social-recreational trips, home-based school trips, and non-home-based trips as well as walking and bicycle trips.

3. Requirement: Use exact Association of Bay Area Governments (ABAG) data for other Bay Area counties, and control totals (within one percent) for the county for population, households, jobs, and employed residents. Congestion Management Agencies may reallocate growth forecasts within their own county in consultation with cities, MTC, and ABAG. The latest set of ABAG's Projections must be used for all new demographic databases developed for baseline travel demand forecasting purposes after August 1 of the year preceding the CMP update. Future year forecasts should address the latest available ABAG Projection series. MTC, in consultation with the Modeling Coordination Working Group, will develop factors that may be used to achieve consistency with the most recent ABAG demographics. Congestion Management Agencies may also, of course, analyze alternative land use scenarios in addition to these forecasts. If a land use based model is utilized, production and attraction comparisons will be made with the MTC model.

The MTM has been continually updated for consistency with the most recent MTC data sets available, which are originally based on ABAG Projections 2007 land use data. The current MTM was adjusted in 2010 to reflect ABAG Projections 2009, and the 2013 MTM update is incorporating the latest ABAG projections as incorporated in *Plan Bay Area*. Sometimes, land use data is unavailable from local jurisdictions, forcing estimates based on past data or overall growth in the area. This requires TAM to adjust its input while better data are acquired. The overall land use attributes for Marin County as a whole are consistent with ABAG. The difference between the MTM and ABAG 2009 estimates is one percent or less for all the land use categories, and the same difference is anticipated once the current MTM is updated to *Plan Bay Area* land use forecasts. Land use data outside of Marin is based on land use forecast assumptions as provided by MTC.

Future year allocations by census tract provided by ABAG have been similarly refined. For this reason, individual census tracts do not contain land use attributes identical to MTC and ABAG, but the overall county total for 2035 is consistent with the agencies and expected to remain so with 2040 county totals under *Plan Bay Area*.

4. Requirement: Use MTC's auto operating costs, transit fares, and bridge tolls. The MTM has made adjustments for the following regional pricing assumptions which are consistent with MTC requirements. The 2013 MTM update will conform to MTC's more recent pricing from their Travel Model One model.
  - **Bridge Tolls.** This assumes the \$6.00 Golden Gate Bridge toll and \$5.00 Richmond-San Rafael Bridge peak hour toll, adjusted to 1979 dollars. These tolls reflect the 2009 base year amounts. The 2013 MTM update will reflect adjustments to 2010 dollars.

- **Auto Parking Costs.** Auto parking costs have been adjusted to the 1979 cost of living index as published by MTC. The 2013 MTM update will reflect adjustments to 2010 dollars.
- **Auto Operating Costs.** An auto operating cost that conforms to the MTC guidance (which is measured in 1979 dollars as 13.12 cents per mile). The 2013 MTM update will reflect adjustments to 2010 dollars, with a value of 29.2 cents per mile.

5. Requirement: Use MTC's regional highway and transit network assumptions for other Bay Area counties. Congestion Management Agencies should include more detailed network definition relevant to their own county in addition to the regional highway and transit networks. For the CMP horizon year, to be compared with the TIP interim year, regionally significant network changes in the base case scenario shall be limited to the current Transportation Improvement Program (TIP) for projects subject to inclusion in the TIP.

The MTM was first developed in 1987 and was revalidated for 2005. The MTM uses the MTC model structure in terms of facility types and numbers of lanes for Marin County. Some additional detail in the roadway network has been added where appropriate within Marin County. The MTM includes representations of these major roadway gateways into and out of Marin County:

- Highway 101 – (Golden Gate Bridge) San Francisco
- Interstate 580 – (Richmond/San Rafael Bridge) Contra Costa County
- Highway 37 – Sonoma County
- Highway 101 – Sonoma County
- Highway 1 – Sonoma County

In addition, the MTM assumes ferry connections from Larkspur, Tiburon, and Sausalito to San Francisco. Lastly, the SMART commuter rail project is included in the future year model networks. Because this is a focused model, the East Bay and South Bay highway networks are much less detailed than in the MTC model. A skeleton network in these locations significantly reduces run time for the model, and enables the model to be small enough to be operated on desktop computers. This network reduction is considered to have a negligible impact to congestion in Marin County.

6. Requirement: Use MTC auto ownership models or forecasts, or submit alternative models to MTC for review and comment. The MTM uses MTC and ABAG information on auto ownership to establish mode split. More specifically, MTM uses auto ownership information consistent with the MTC model inputs from the MTCFCAST model. MTM uses average auto ownership rates rather than households stratified by auto ownership.
7. Requirement: Use the BAYCAST person trip generation models for home-based work and non-work, and non-home based trips, or submit alternative models to MTC for review and comment. Results may be adjusted sub-regionally through calibration or modal constant adjustments.

The MTM uses household size and income quartile cross-classification modeling. The MTM then revises the results using adjustment factors designed to replicate actual MTC trip generation patterns between counties into the model. In this way, aggregate trip generation by

county is also consistent with the MTC model. The difference in trip productions or attractions (by type of trip) between the MTM and MTC model is never greater than one percent.

8. Requirement: Work trip distribution models must be calibrated to the 2000 Census Journey-to-Work commuter matrices. Trip distribution results must be balanced to productions, and attraction-balancing problems should be discussed with MTC.

The MTM uses MTC trip distribution patterns between counties. By doing so, aggregate trip distribution by county is completely consistent with the MTC model. With this technique, the MTM has achieved a closer trip distribution match with the MTC model than is normally expected with a focused model structure. The difference between the two models is less than one percent for all interpolated county-to-county trips projected for the 2009 and 2035 model years. This difference is expected to remain the same with the completion of the 2013 MTM update, which pushes the horizon year to 2040 consistent with Plan Bay Area.

9. Requirement: If a logit mode choice model is to be used, MTC's BAYCAST should be used, or submit alternative methodology for MTC review.

The MTM mode choice analysis is consistent with MTC methodology. For home-based work trips, the MTM contains a Home-Based Work Mode Choice Model that predicts work trips, dividing them into drive alone, 2-person, 3+ person and transit trips. The MTM assigns non-work trips to auto and transit, with auto occupancies inputted at this stage.

10. Requirement: Use capacity restraint assignment for peak hour (or period) traffic assignments, or submit alternative methodology for MTC review.

The MTM provides AM peak, PM peak, non-peak, average daily traffic, traffic and transit assignments similar to MTC's methodology, with the same AM and PM time-of-day properties used by MTC.

### **Relationship to Marin County Capital Improvement Program**

The current 2011 CMP 2035 horizon year for the MTM includes all relevant projects listed in the State Transportation Improvement Program (STIP). These projects are incorporated into the 2035 base network in the MTM. The MTM update to the 2040 horizon year will continue to include all relevant STIP projects in the future.

The MTM is used for assessing the impacts of capital improvements. CMP statutes stipulate three criteria for projects selected for the Capital Improvement Program (CIP):

- Projects must maintain or improve the traffic level-of-service and transit performance standards,
- Project land use impacts must be mitigated, and
- Projects must conform to vehicle emissions and air quality mitigation measures

Toward that end, MTM results are typically used in evaluating relevant projects in the CIP chapter (Chapter 7), in preparing a project list for Regional Transportation Improvement Program consideration by MTC and also for developing and programming any supplementary revenue sources.

## **7. Capital Improvement Program (CIP)**

### **Purpose and Intent of Legislation**

CMPs are required by California Government Code Section 65089(b)(5) to include a seven-year Capital Improvement Program (CIP) to maintain or improve the performance of the multimodal system for the movement of people and goods and to mitigate regional transportation impacts identified through the Land use Analysis Program. Capital improvement projects must conform to transportation-related vehicle emissions and air quality mitigation measures. In the Bay Area, such transportation control measures (TCMs) are contained in the *Bay Area 2010 Clean Air Plan*.

### **Relationship to Regional Transportation Plan (RTP)**

MTC adopted the current RTP, *Plan Bay Area*, in July 2013. The action elements and projects for the CMP's CIP should be consistent with the assumptions, goals, policies, actions and projects identified in the RTP. The RTP is the basic statement of transportation policy expressed by MTC. Given the established interdependence of transportation planning and land use planning, MTC made a significant effort to adopt policies that complement and support programs of Federal, State, and regional agencies.

### **Relationship to Regional Transportation Improvement Program (RTIP)**

The Transportation Authority of Marin's CIP is the basis for determining which projects are included in the Regional Transportation Improvement Program (RTIP). Inclusion of a project in the RTIP is the first step in obtaining a funding commitment from the State. Projects that MTC includes in the RTIP are then recommended to the California Transportation Commission (CTC) for inclusion in the State Transportation Improvement Program (STIP). If the CTC includes a project in the STIP, it has approved the project for the necessary environmental studies and project design, which ultimately leads to a final decision on whether a project is implemented.

Projects that are to be included in the RTIP must be first included in TAM's CIP. However, it should be noted that MTC is responsible for assembling the RTIP, and also, the RTIP is a funding-constrained document. This CIP is developed with information from the current RTIP, which MTC adopted in December 2011 and the CTC adopted (as part of its STIP) in March 2012. MTC further updated the RTIP project list in May 2012. The dynamic nature of funding requires minor amendments to the plan several times a year.

### **Relationship to Air Quality Attainment Plans**

The TAM CIP project list must show consistency to air quality attainment plans. The Bay Area 2010 Clean Air Plan, prepared by the Bay Area Air Quality Management District, is the current adopted plan. Various TCMs have been adopted as a part of this plan. MTC gives priority to those proposed projects that support or help implement any of the TCMs (see TDM Chapter 4 for a listing and discussion of TCMs). Examples of such projects include high occupancy vehicle (HOV) lanes and ramp meter bypass lanes for HOVs.

### **Project Funding Identified in TAM Measure A Strategic Plan**

Marin County voters passed Measure A, the County's 1/2-cent transportation sales tax, in 2004. A Strategic Plan for this measure was developed that outlines how collected funds will be spent. This plan is routinely updated to reflect current agency strategies. As many projects are also funded partially through Measure A revenues, the relationship of the CIP to this Strategic Plan is important.

The Strategic Plan discusses strategies in four areas. Each strategy and key capital improvements are described as follows:

- **Strategy 1:** Develop a seamless local bus transit system that improves mobility and serves community needs including special transit for seniors and the disabled (paratransit services). This strategy includes transit capital investments.
- **Strategy 2:** Fully fund and ensure the accelerated completion of the Highway 101 Carpool Lane Gap Closure Project through San Rafael. This strategy is a capital improvement project that is effectively completed.
- **Strategy 3:** Maintain, improve and manage Marin County’s local transportation infrastructure, including roads, bikeways, sidewalks, and pathways. This category includes capital improvements for local and regional streets, roads and paths.
- **Strategy 4:** Reduce school-related congestion and provide safer access to schools. This category includes capital projects related to safe routes and safe pathways to schools.

The Strategic Plan includes proposed allocations for each strategy through Fiscal Year 2024/2025. Within this plan of revenues and expenditures, key capital projects between 2012 and 2020 have been identified and are summarized in Table 17.

**Table 17: Marin County Measure A Strategic Plan Capital Projects**

Strategy	FY 2012/13	FY 2013/14	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
<b>Strategy 1: Local Bus Transit</b>								
Sub-strategy 1.1: Local Bus Transit System	\$7,708,724	\$8,014,876	\$7,629,000	\$7,843,225	\$8,062,806	\$8,287,876	\$8,518,573	\$8,755,037
Sub-strategy 1.2: Rural Bus Transit System	\$1,237,561	\$1,056,618	\$618,568	\$635,937	\$653,741	\$671,990	\$690,695	\$709,868
Sub-strategy 1.3: Special Needs Transit Service	\$1,875,095	\$1,949,564	\$1,855,703	\$1,907,811	\$1,961,223	\$2,015,970	\$2,072,085	\$2,129,604
Sub-strategy 1.4: Bus Transit Facilities	\$1,314,494	\$2,710,364	\$1,237,135	\$1,271,874	\$1,307,482	\$1,343,980	\$1,381,390	\$1,419,736
<b>Strategy 2: US 101 Gap Closure*</b>								
<b>Strategy 3: Local Infrastructure</b>								

Strategy	FY 2012/13	FY 2013/14	FY 2014/15	FY 2015/16	FY 2016/17	FY 2017/18	FY 2018/19	FY 2019/20
Sub-strategy 3.1: Major Roads	\$1,996,278	\$2,550,000	\$3,162,000	\$5,228,935	\$13,636,212	\$7,500,000	\$7,045,772	\$2,609,147
Sub-strategy 3.2: Local Roads for All Modes	\$2,671,610	\$2,594,662	\$2,669,507	\$2,746,222	\$2,824,856	\$2,905,456	\$2,988,070	\$3,072,750
<b>Strategy 4: School Access</b>								
Sub-strategy 4.1: Safe Routes to School	\$575,000	\$575,000	\$590,000	\$260,000	\$600,000	\$610,000	\$620,000	\$630,000
Sub-strategy 4.2: Crossing Guards	\$840,000	\$975,000	\$910,000	\$845,000	\$1,015,000	\$880,000	\$905,000	\$1,015,000
Sub-strategy 4.3: Safe Pathways	\$617,271	\$621,386	\$75,000	\$1,230,458	\$75,000	\$1,312,595	\$75,000	\$1,399,899

Note: \*US 101 Gap Closure completed; thus, no more allocations under Strategy 2.

Source: Transportation Authority of Marin, Strategic Plan, May 2013.

### Marin-Sonoma Narrows Project and Funding

The Marin-Sonoma Narrows (MSN) section of US 101 is a nationally and regionally significant highway linking the San Francisco Bay Area and Oregon. It is also the only continuous north/south route through Marin County. The State designated the Narrows as an Inter-Regional Route of Significance, and US 101 is listed as a Focus Route in California's 1998 Interregional Transportation Strategic Plan. As a result of these various designations, the MSN Project has received State discretionary funding on four separate occasions.

The existing segment (monitored Segment 3G) of US 101 through the Narrows has two lanes in each direction, has sections that do not meet current freeway standards (including expressway sections with at-grade intersections) and consistently maintains a poor LOS in many sections. The MSN Project consists of widening approximately 17 miles of US 101 from four to six lanes by adding one high-occupancy vehicle (HOV) lane in each direction; creating a controlled access freeway section through the historic "Narrows," and upgrading the highway to current freeway standards from State Route (SR) 37 in Novato to Old Redwood Highway in Petaluma.

Project funding was awarded in prior years. In May 2008, the CTC awarded \$66.04 million in Inter-regional Transportation Improvement Program (ITIP) funding to the project. This increases available funding to nearly \$280 million out of an estimated \$745 million total project cost for a Phase I Project when combined with the \$82.4 million in Proposition 1B Corridor Mobility Improvement Account (CMIA) funds, \$52 Million in STIP funds, and previously committed Federal, State, and regional funding.

TAM, the Sonoma County Transportation Authority (SCTA), and Caltrans have developed four individual projects which make up the Phase I Project. Three Marin County projects are:

- **HOV Lanes in Novato** - HOV lanes have been added through median widening. This includes northbound HOV lanes from SR 37 to north of Atherton Boulevard and southbound HOV lanes from SR 37 to Rowland Boulevard. Both lanes were constructed and opened to traffic in August 2012.
- **Southerly Interchange** – a new interchange, adding on to the existing Redwood Landfill overcrossing, and supporting frontage roads will be built to serve San Antonio Road, enabling the closure of uncontrolled access points.
- **San Antonio Curve Correction** – the mainline highway curve across the Marin/Sonoma county line at San Antonio Creek will be reconstructed to lower the existing highway grade just north of the creek in order to improve sight distances. A new US101 bridge over San Antonio Creek is included. The highway will be raised upward to prevent future freeway closures due to periodic flooding.

A final early project is the construction of a new interchange and supporting frontage roads to serve Petaluma Boulevard South and closes uncontrolled access points. This project is being combined with a project to reconstruct the Petaluma River Bridge, including widening for high-occupancy vehicle lanes. A continuous bike route is planned through all four projects of MSN Phase I by utilizing a combination of Class I (off-street path) and II (on-street, striped) bicycle facilities.

**Recent Project Funding Identified in California Transportation Commission Programs**

The California Transportation Commission manages several funding programs, including the State Transportation Improvement Program (STIP), funds from Propositions 1B and 116, and the State Highway Operations and Protection Program (SHOPP). The State Transportation Improvement Program (STIP) lists include allocations for each of California’s counties. The share for Marin County includes both general program and specific project amounts. The most recently adopted California Transportation Commission allocations for Marin County projects are shown in Table 18. The most recent STIP (adopted in March 2012) has allocations from Fiscal Year 2012/13 until Fiscal Year 2016/17.

**Table 18: State Transportation Improvement Program Projects in Marin County**

Project	Program Amount	FY 2012/13	FY 2013/14	FY 2014/15	FY 2015/16	FY 2016/17
San Francisco, Doyle Drive Extension	\$4,000	\$4,000				
Marin-Sonoma Narrows: San Antonio Road Mitigation	\$3,205			\$3,205		

Planning, Programming and Monitoring (MTC)	\$113	\$21	\$22	\$23	\$23	\$24
Planning, Programming and Monitoring (TAM)	\$605	\$239	\$200			\$166
Route 101, Bus Stop Improvements	\$1,823	\$1,823				
Sir Francis Drake Boulevard Bicycle Improvements	\$35	\$35				
San Francisco, Doyle Drive Extension, Phase 2	\$4,000			\$4,000		
Bus Stop Improvements (10S-037)	\$1,923	\$1,923				
Miller Creek Road Bicycle Lanes, Route 101 – Pacheco Hill	\$407	\$45			\$362	

Note: Funds are in \$1,000's; Source: California Transportation Commission, March 2012.

Marin County originally received funds through the adoption of Proposition 1B in 2006. This proposition created the Corridor Mobility Improvement Account (CMIA). In the original 2007 adopted program, CMIA funds were key funding sources to help complete three major projects in Marin County:

- The widening of westbound Interstate 580 westbound to northbound US 101 connector in San Rafael (completed in 2010). The completion eased congestion for traffic traveling to and from the East Bay via the Richmond-San Rafael Bridge.
- The construction of HOV lanes within Novato (part of the Marin-Sonoma Narrows project) has received CMIA funds, a project was completed in 2012.
- The construction of interchanges and partial HOV lanes between Novato and Petaluma (also part of the Marin-Sonoma Narrows project) was scheduled to receive CMIA funding in 2012.

The State Highway Operations and Protection Program (SHOPP) lists 15 projects in Marin County as part of the most recent project list developed in 2012. The project list is shown in Table 19. The projects primarily consist of roadway safety improvements and projects addressing storm damage, including culvert replacement, drainage system upgrades, embankment and slope reconstruction, retaining wall construction, and bridge railing replacement.

**Table 19: State Highway Operations and Protection Program (SHOPP) Projects**

<i>Route and Location</i>	<i>Description</i>	<i>Amount</i>	<i>Project Year</i>
SR 1: Near Marin City, from Ross Drive to Tennessee Avenue	Replace culverts and upgrade drainage system	\$1,720	2012/13
SR 1: In Mill Valley, at Ash Street	Rock slope protection	\$920	2012/13
SR 1: Near Stinson Beach, 0.2 mile north of Dipsea Trail	Construct tie-back wall	\$3,240	2012/13
SR 1: Near Mill Valley, at 0.1 mile north of Loring Avenue	Install anchored wire mesh	\$1,317	2012/13
SR 1: Near Olema, 1.8 miles south of Olema	Reconstruct embankment and replace culvert	\$2,030	2012/13
SR 1: Near Point Reyes Station, at Petaluma Road	Reconstruct slope with retaining wall	\$2,320	2012/13
SR 1: Near Marshall, 1.5 miles south of Marshall Petaluma Road	Replace culvert and install rock slope protection	\$2,820	2012/13

<b>Route and Location</b>	<b>Description</b>	<b>Amount</b>	<b>Project Year</b>
SR 1: Near Muir Beach, 0.3 mile north of Seacape Drive	Construct tie-back wall	\$8,935	2012/13
SR 1: Near Muir Beach, 0.2 mile north of Cold Stream Fire Road	Construct tie-back wall	\$9,167	2012/13
SR 1: Near Slide Ranch, 2.1 miles north of Muir Woods Road	Construct soldier pile wall with tieback	\$12,787	2012/13
SR 1: Near Muir Beach, at Cold Stream Road	Construct retaining wall	\$3,010	2012/13
SR 1: Near Bloomfield, at Estero Americano Bridge No. 27	Replace bridge	\$10,042	2015/16
US 101: In Marin County at Various Locations	Upgrade bridge rail	\$8,734	2014/15
US 101: In San Rafael, at Freitas Parkway Overcrossing No. 27-0080, Lucas Valley Road Undercrossing No. 27-0059 and North San Pedro Road Undercrossing No. 27-0014S	Replace bridge railings and rehabilitate deck	\$2,780	2014/15
I -580: Near Greenbrae, at Sir Francis Drake Boulevard Overcrossing No. 27-0074, at Bellam Boulevard Undercrossing No. 27-0073L	Upgrade bridge rail	\$3,384	2014/15

Note: Funds are in \$1,000's

Source: Caltrans State Highway Operations and Protection Program (SHOPP), 2012.

### **Recent Project Funding Identified in Regional Transportation Improvement Program (RTIP)**

Additional transportation projects are also ongoing in Marin County. Many have been recognized in the *Regional Transportation Improvement Program (RTIP)*, updated by MTC in May 2012. The listing of RTIP projects are shown in Table 20. In addition to these identified funding programs, additional capital transportation investments are made from time to time. These often involve funding from local sources (such as development fees or development agreements) or from specialized funding made available but not incorporated into multi-year funding documents.

**Table 20: Regional Transportation Improvement Program (RTIP) Projects**

<b>RTP ID</b>	<b>Project/Program</b>	<b>Total Project Cost</b>	<b>Committed Funds</b>	<b>Discretionary Funds</b>
21306	Improve interchange at U.S. 101/Lucas Valley Road - project development	\$ 3	\$ -	\$ 3
21325	Improve U.S. 101 Greenbrae/Twin Cities Corridor (includes modifying access ramps, new bus stops, improving transit stops and facilities, and adding pedestrian/bicycle facilities)	\$ 181	\$ 49	\$ 132
98154	Implement Marin Sonoma Narrows Stage I (Marin County)	\$ 222	\$ 222	\$ -
98179	Improve U.S. 101/Tiburon Boulevard interchange - project development	\$ 2	\$ -	\$ 2
230105	Replace Pacific Way Bridge	\$ 8	\$ 1	\$ 7
230252	Improve local transit frequencies and service spans in Marin County	\$ 5	\$ -	\$ 5
230422	Install traffic signal and modify roadway at the intersection of Anderson Drive/East Sir Francis Drake Boulevard	\$ 6	\$ -	\$ 6

<b>RTP ID</b>	<b>Project/Program</b>	<b>Total Project Cost</b>	<b>Committed Funds</b>	<b>Discretionary Funds</b>
230694	Local street and roads operations and maintenance	\$ 204	\$ 88	\$ 116
240005	Implement local air quality and climate protection strategies countywide	\$ 24	\$ -	\$ 24
240034	Construct Golden Gate Multi-modal transfer facility at Larkspur Ferry Terminal	\$ 4	\$ -	\$ 4
240039	Widen Novato Boulevard between Diablo Avenue and Grant Avenue	\$ 20	\$ -	\$ 20
240041	Improve Downtown Novato Transit Facility	\$ 4	\$ -	\$ 4
240043	Expand Marin Transit's Automated Vehicle Location (AVL) and real time system	\$ 1	\$ -	\$ 1
240044	Construct multi-modal transit hubs/green mobility hubs	\$ 6	\$ -	\$ 6
240045	Enhance facilities for Muir Woods Shuttle and West Marin Stagecoach	\$ 1.4	\$ 0.1	\$ 1.3
240078	Implement new technologies to manage transit systems	\$ 2	\$ -	\$ 2
240456	Improve the intersection at Sir Francis Drake Boulevard/Red Hill Avenue/Center Boulevard (known as "The Hub") - project development	\$ 1	\$ -	\$ 1
240552	Construct multi-use pathway connecting Cal Park tunnel and the Ferry Terminal in Larkspur	\$ 15	\$ 14	\$ 2
240644	Implement senior mobility program countywide (includes free transit passes for seniors, safe routes, subsidized rides and volunteer ride program)	\$ 26	\$ -	\$ 26
240660	Improve local arterials parallel to U.S. 101 and I-580	\$ 43	\$ -	\$ 43
240662	Implementation of Station Area Plans in anticipation of SMART	\$ 29	\$ -	\$ 29
240678	Implement bicycle and pedestrian improvements countywide including Safe Routes to School elements	\$ 123	\$ 15	\$ 108
240691	Marin Sonoma Narrows HOV Lane and corridor improvements	\$ 109	\$ -	\$ 109
240712	Implement regional planning policies	\$ 22	\$ -	\$ 22
240713	Evaluate multi-modal options including trolley, Ross Valley to San Rafael	\$ 1	\$ -	\$ 1
240714	Improve Major Roads and related Infrastructure	\$ 59	\$ -	\$ 59
240715	Implement One Bay Area Grant Pilot Priority Conservation Area improvements	\$ 1	\$ -	\$ 1
240723	Transit operations and maintenance	\$ 242	\$ -	\$ 242
240724	Transit Capital	\$ 25	\$ -	\$ 25
240729	US 101 Gap Closure San Rafael	\$31	-	\$31

Note: Amounts shown in millions of year-of-expenditure dollars.

Source: Plan Bay Area, Metropolitan Transportation Commission RTIP, May 2012

### **Project Funding Identified in TAM Measure B Vehicle Registration Fee Strategic Plan**

Since the 2011 CMP, a new transportation funding source has become available to Marin County. In November 2010, County voters passed Measure B, which increased the annual vehicle registration fee (VRF) by \$10 to fund transportation improvements. Collection of the \$10 VRF began in May 2011. In July 2011 the TAM Board adopted the VRF Strategic Plan, as required by the VRF Expenditure Plan, to explain how the funds will be distributed and to describe the oversight process. The VRF Strategic Plan serves as the programming document for the programs and projects that are contained in the three elements defined in the Expenditure Plan.

The Measure B Expenditure Plan identifies the following three elements for which collected Measure B funds are programmed:

- **Element 1** is used to maintain and improve local streets and Class I pathways, including, but not limited to, road maintenance, new facilities, safety improvements, emergency pothole repair, crosswalk and accessibility enhancements, intersection control, drainage improvements, streetscape improvements, and Class I bicycle and pedestrian pathway maintenance and improvements. Element 1 is divided into two sub-elements: Element 1.1 for local streets for all users and Element 1.2 for Class I bicycle and pedestrian pathways.
- **Element 2** is used to implement a Mobility Management Program that implements mobility options for seniors and persons with disabilities, supports and enhances paratransit (e.g. Whistlestop Wheels), creates a “Paratransit Plus” program to serve older seniors who may not qualify for service under the Americans With Disabilities Act, and implements other innovative programs to provide mobility to seniors as an alternative to driving.
- **Element 3** is used to implement three core strategies and programs, including: 1) School Safety and Congestion Reduction; 2) Local Marin County Commute Alternatives to enhance or expand existing employer and employee based alternative programs to reduce single occupancy commuting; and 3) Alternative Fuel Infrastructure and Promotion to support the development of alternative fuel infrastructure, vehicles, and education programs.

The Measure B VRF Strategic Plan includes proposed allocations for each element through Fiscal Year 2020/2021. These allocation amounts are summarized in Table 21.

**Table 21: Marin County Measure B Strategic Plan Capital Projects**

<i>Element</i>	<i>FY 2012/13</i>	<i>FY 2013/14</i>	<i>FY 2014/15</i>	<i>FY 2015/16</i>	<i>FY 2016/17</i>	<i>FY 2017/18</i>	<i>FY 2018/19</i>	<i>FY 2019/20</i>
<b>Element 1: Local Streets</b>								
Element 1.1: Local Streets	-	\$ 2,241,873			\$ 2,192,400			\$ 2,192,400
Element 1.2: Bike/Ped Pathways		\$100,000	\$104,400	\$104,400	\$104,400	\$104,400	\$104,400	\$104,400
<b>Element 2: Transit for Senior and Disabled</b>								
Element 2.2: Transit for Senior and Disabled		\$777,578	\$808,178	\$730,800	\$730,800	\$730,800	\$730,800	\$730,800
<b>Element 3: School Safety and Congestion</b>								
Element 3.1: School Safety and Congestion– Crossing Guard	\$165,625	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Element 3.1: School Safety and Congestion– Street Smart	\$50,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000	\$25,000
Element 3.2: Commute Alternatives	\$218,762	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Element 3.3: Alternative Fuel Promotion	\$499,338	\$197,000	\$197,000	\$197,000	\$197,000	\$197,000	\$197,000	\$197,000

Source: 10-Year Measure B Vehicle Registration Fee Revenue and Programming Summary, Transportation Authority of Marin, 2013.

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### **Project Funding Identified in Local Jurisdictions' Bicycle Plans**

Marin County's local jurisdictions have adopted Bicycle or Bicycle/Pedestrian Master Plans with planned related infrastructure improvements. By reference, the Marin County CMP recognizes those plans and planned facilities. Individual bicycle and pedestrian improvements will be implemented as scheduled by local agencies, and as funding becomes available. Funding sources will vary, and include TFCA funds, as well as Measure A, Safe Routes to Schools, and other local funds.

## 8. Deficiency Plan Procedures

### Purpose and Intent of Legislation

California Government Code Sections 65089.3, 65089.4, and 65089.5 govern the conformance process. These sections require that TAM determine every two years whether Marin County and cities and towns within the county conform to the requirements of the CMP based on information obtained through monitoring.

If TAM believes that a local government is not conforming to CMP requirements, it must then hold a noticed public hearing to determine areas of nonconformance. If after the public hearing TAM still believes that the local government is not conforming to CMP requirements, it must provide written notice to the local government citing the specific instances of nonconformance. The local government then has 90 days to remedy the instances of nonconformance. If after 90 days the local government has not remedied the nonconformance instances, TAM will make a finding of nonconformance and notify the State Controller to withhold certain gas tax subvention funds.

### Local Government Conformance Requirements

CMP legislation has established the following requirements of a conformance determination for local jurisdictions:

- Maintain the highway LOS standards outlined in the CMP (Chapter 2).
- Participate in adoption and implementation of a deficiency plan when highway and roadway LOS standards are not maintained on portions of the designated system.
- Participate in a program to analyze the impact of land use decisions, including the estimate of the costs associated with mitigating these impacts. Specific requirements and recommendations are outlined in the Land Use Analysis Program element of the CMP (Chapter 5).

If either Marin County or cities and towns within the county do not meet each of these CMP requirements when TAM is scheduled to make its conformance determination for each jurisdiction (“Jurisdiction” referring to the local government that has the greatest segment distance within its boundaries per CMP definition), the jurisdiction is found in nonconformance and may risk losing an increment in its gasoline tax subvention funds and not having projects programmed in the Regional Transportation Improvement Program (RTIP).

### Local Government Monitoring Requirements

TAM must take active steps to ensure that Marin County and each city and town in Marin County at least biennially conform to each requirement of the CMP legislation. Monitoring must be done for several reasons:

- Congestion is projected to increase, which will waste valuable time and add to the transportation costs of goods and services.
- Congestion causes energy to be wasted and contributes to worsening of air quality.
- Coordinated growth management and transportation planning is essential to minimizing both travel time and costs.

The CMP legislation specifies that jurisdictions that do not demonstrate that they conform to the requirements are to lose street and highway subvention money. Many jurisdictions use this money for maintenance of existing streets and roads so as not to neglect their transportation infrastructure.

Outlined below are the major actions that may be required by each jurisdiction to ensure CMP conformance. TAM currently performs all required LOS monitoring.

### ***Maintaining Highway Level of Service Standards***

TAM biennially monitors level of service on segments of CMP designated routes within Marin County and its jurisdictions. Where a segment falls within two or more jurisdictions, the jurisdiction responsible for the segment is the jurisdiction with the greatest segment mileage. The monitoring program occurs during the PM peak period (4:30 PM to 6:30 PM). The traffic counts also should be taken in the spring (April or May), with counts at fall periods acceptable when needed (September or October). Consistent with this, the 2013 CMP update includes counts done in October and November 2012. The LOS analysis is to be based on these counts consistent with the LOS methods outlined in the highway LOS standards (Chapter 2).

Transportation improvements or changed economic conditions may result in changes in LOS over consecutive monitoring cycles. If LOS is determined to be A, B, or C for any year that is monitored, the monitoring frequency could be reduced to every other CMP (four years), until such time as the segment is found to operate at LOS D or worse. Any segment determined to operate at LOS D should then be monitored for each CMP (two year intervals). Grandfathered facilities that currently operate at LOS F do not have to be improved, but nevertheless their conditions should be monitored with each CMP.

### ***Participation in Required Deficiency Plans***

Where roadway facilities experience congestion worse than the roadway LOS standards established in Chapter 2, the congestion should be monitored annually until the congestion eases. If the LOS standard is exceeded for two CMP cycles, the roadway is then considered potentially deficient. A determination to see whether a Deficiency Plan is required once the exempted trips allowed in state legislation are assumed not to exist.

If TAM determines that a segment that has not been grandfathered does not meet the adopted LOS standards (D for principal arterial roadways; E for freeways), then that jurisdiction must:

- Immediately propose and designate funds for measures that improve the LOS to meet or be better than the adopted LOS standard which TAM would then incorporate into the CIP, or
- Create a “deficiency plan” in accordance with CMP requirements. A deficiency plan requires the local government to:
  1. Analyze the cause of the deficiency **and** define improvements to the facility that maintain the LOS standard, **or**
  2. Define improvements that have a measurable improvement on the transportation system’s LOS or substantial air quality benefit **and** determine the cost of the improvements.

TAM has published guidelines governing specific issues related to Deficiency Plan preparation on its website. For all deficient facilities (including those that are grandfathered), TAM and its partnering agencies should develop an “operational plan” to minimize congestion on these facilities. Operational plans are envisioned as a description of capital projects, multi-modal programs, and/or roadway management techniques that a local jurisdiction intends to advocate for implementation by that jurisdiction or others (such as Caltrans for State facilities).

All incorporated cities and towns in Marin County, along with unincorporated County areas, are in conformance at this time. Therefore, no deficiency plans will be required by this CMP.

### ***Maintaining Program to Analyze Impacts from Land Use Decisions***

Land use impact analysis monitoring requirements are detailed in the Land Use Analysis Program (Chapter 5). There are two general requirements:

- For any general plan update or amendment or major development proposal that would result in a net increase of 100 or more PM peak hour vehicle trips, local governments are to forward information on the application to TAM and run the county model to obtain transportation impact information related to the amendment/development. The jurisdiction is responsible for conducting the model run if requested by TAM, which could be performed: (1) by the jurisdiction, (2) by a consultant hired by the jurisdiction, or (3) by TAM (only if staff is available to do the work). The jurisdiction requesting the model run reimburses the County for the cost of the model run. Model results are useful to cities and the County as part of their current review and approval processes, especially for purposes of defining the necessary mitigation measures.
- Each jurisdiction is to be responsible for preparing and transmitting land use data to TAM for use in the MTM, as well as tracking land use buildout through issuance of planning and building permits. This requirement ties in with the existing property development (“PROPDEV”) database that local governments are already using, as well as the County Community Development Agency’s Countywide Land Use Database. TAM biennially runs the MTM in order to update future year LOS information in the CMP. Local governments can find this information useful when updating the land use and circulation elements of their general plans.

## 9. Study References

- 2012 Transportation System Monitoring Report for Transportation Authority of Marin, Kimley-Horn and Associates (Final, March 2013).
- Congestion Management Program Update for Transportation Authority of Marin, DKS Associates, 2011.