2020 Regional Transportation Plan and Sustainable Communities Strategy

Performance Report

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Introduction

Performance management provides the opportunity to ensure efficient and effective investment of transportation funds by refocusing on established goals, increasing accountability and transparency, and improving project decision-making. MAP-21/FAST Act require States and MPOs to implement a performance-based approach in the scope of the statewide and metropolitan transportation planning process. In addition to federal performance-based planning, the State of California has articulated through statute, regulation, executive order, and legislative intent language, numerous state policies and goals for the transportation system, the environment, the economy, and social equity.

There are different applications of performance management – performance measures, performance targets, and performance monitoring indicators or metrics. Performance measures are used to model travel demand and allow the long-range forecasting of transportation network and system-level performance (e.g. Walk, bike, transit, and carpool mode share, corridor travel times by mode, percentage of population within 0.5 mile of a high frequency transit stop). Performance targets are numeric goals established to enable the quantifiable assessment of performance measures. Performance monitoring indicators or metrics include field data such as vehicle miles traveled, mode share, fatalities/injuries, transit access, change in agricultural land, and CO2 emissions.

Federal Performance Management Targets

The cornerstone of the federal highway program transformation is the transition to a performance and outcome-based program. MAP-21/FAST Act integrate performance into many federal transportation programs and contains several performance elements. States and MPOs will invest resources in projects to achieve individual targets that collectively will make progress toward national goals. Caltrans is required to set and report on progress towards four sets of performance management targets.

- Safety Performance Management (PM1): Fatalities and Injuries
- Pavement and Bridge Condition Performance Management (PM2): Infrastructure Condition
- System Performance Management (PM3): Freight movement, congestion, and reliability
- Transit Asset Management (TAM) and Public Transportation Agency Safety Plan (PTSAP): State of good repair and safety for transit

This report describes each federal performance metric, charts data collected to date, compares that data to currently adopted targets and describes how the RTP/SCS makes investments that support reaching those targets. For some targets, MPO's can either agree to support the Caltrans target or establish a numerical target specific to the MPO planning area. Since this federal process started in 2018, BCAG has supported all of Caltrans statewide targets for all performance metrics.

Safety Performance Management (PM1)

The federal goal under safety performance management (PM1) is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads. Table 1. Includes those targets prepared by the state, and supported by BCAG, for California for the year 2021.

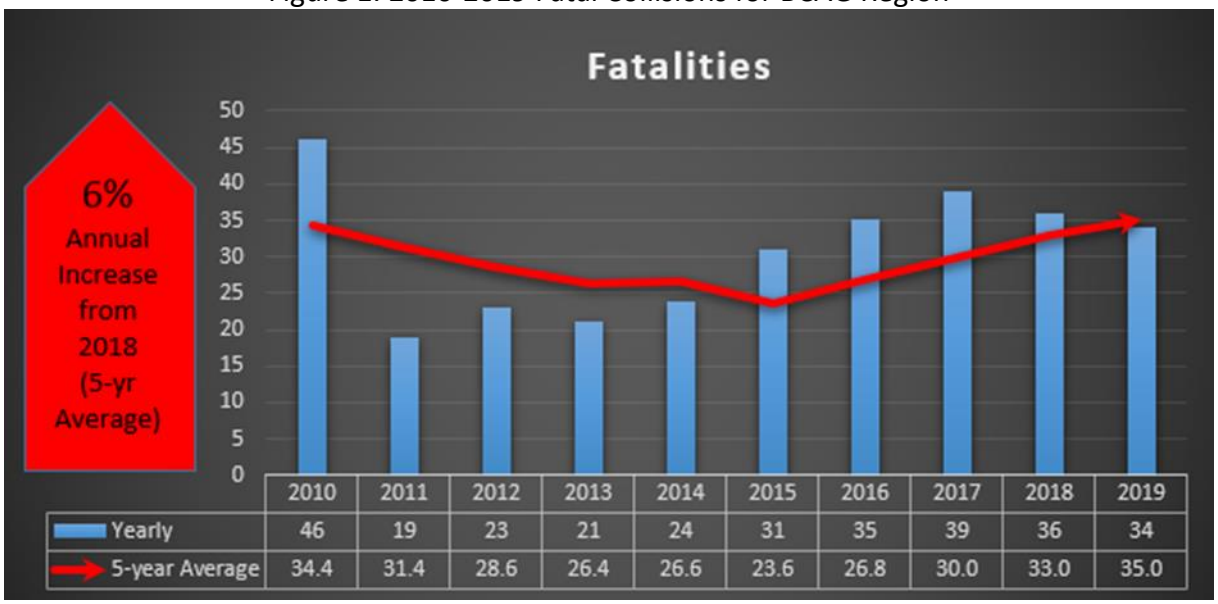
Table 1. Statewide Safety Performance Targets - Year 2021

Measure	Target
Number of Fatalities	-2.9%
Rate of Fatalities per 100M Vehicle Miles of Travel (VMT)	-2.9%
Number of Serious Injuries	-1.3%
Rate of Serious Injuries per 100M VMT	-1.3%
Number of Non-Motorized Fatalities	-2.9%
Number of Non-Motorized Serious Injuries	-1.3%

Note: Targets are based on a 5-year rolling average for all roadways.

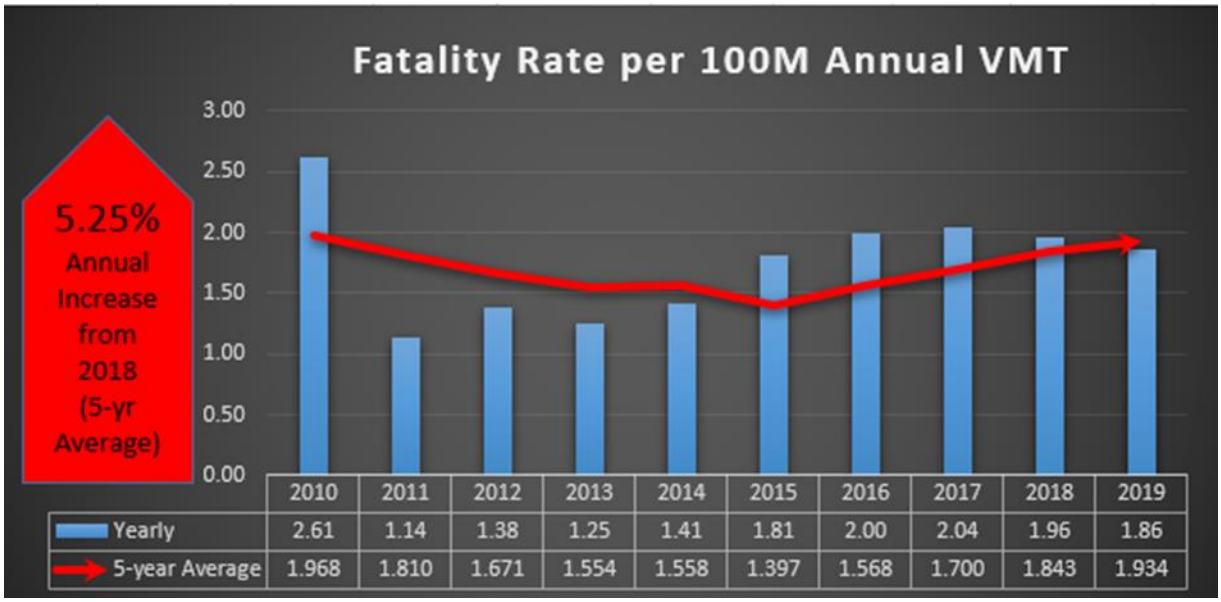
Over the last 10 years, an average of 31 people died in vehicle collisions on our region's roads and highways. The latest 5-year average (2019) shows a 6% annual increase from the previous year.

Figure 1. 2010-2019 Fatal Collisions for BCAG Region



The region's 2019 collision fatality rate has returned to highs not seen since 2010. The latest 5-year average (2019) shows an 5.25% annual increase from 2018.

Figure 2. 2010-2019 Fatality Rate per 100M Annual Vehicle VMT for BCAG Region

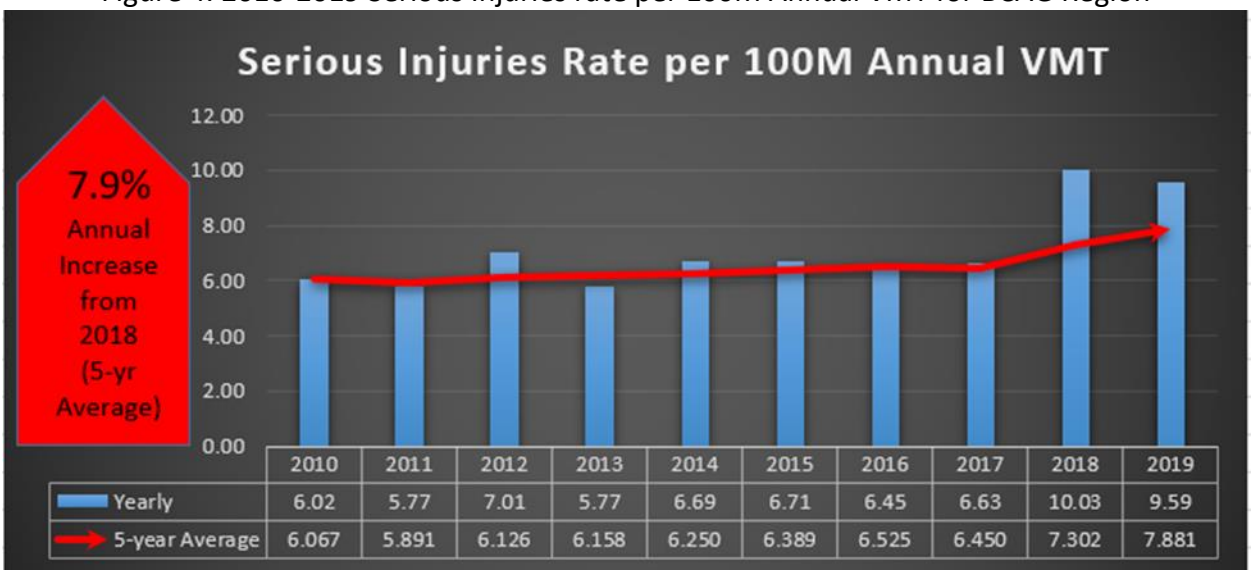


Between the years 2010 and 2017, the region averaged 110 annual serious injuries. In 2018, the region's serious injuries were at 184, double that of the 97 injuries 5 years prior (2013).

Figure 3. 2010-2019 Serious Injuries for BCAG Region

The 2018 and 2019 serious injury rates of 10.3 and 9.59 serious injuries per 100 million annual vehicle miles of travel (VMT) has a significant contribution to the latest 5-year average which shows a 7.9% annular increase from 2018.

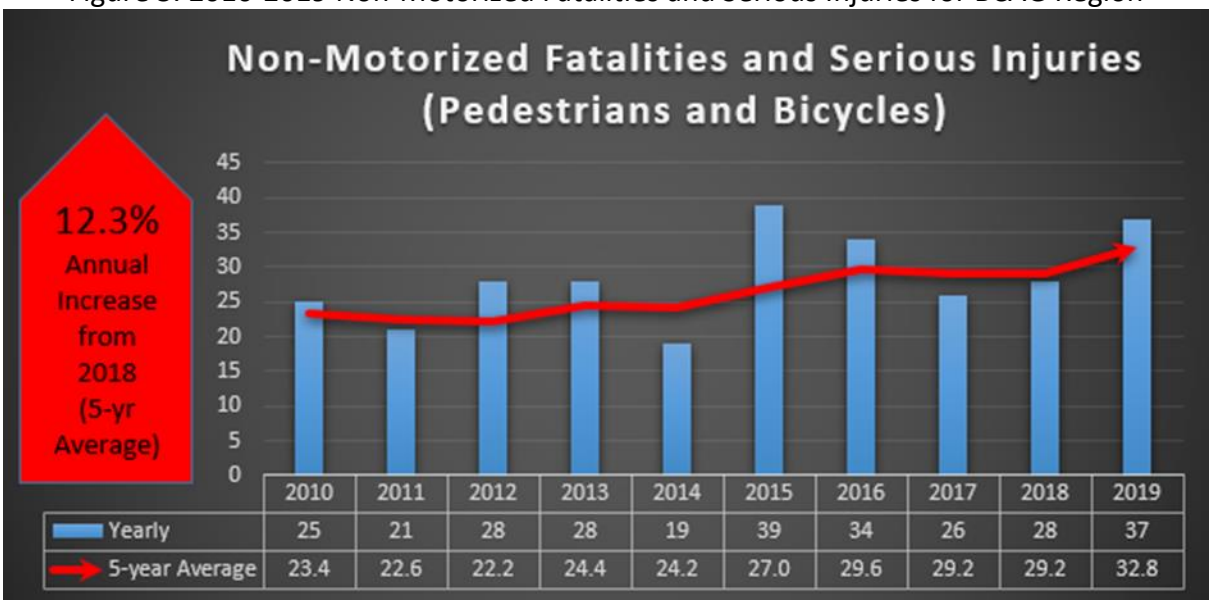
Figure 4. 2010-2019 Serious Injuries rate per 100M Annual VMT for BCAG Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Yearly	6.02	5.77	7.01	5.77	6.69	6.71	6.45	6.63	10.03	9.59
5-year Average	6.067	5.891	6.126	6.158	6.250	6.389	6.525	6.450	7.302	7.881

Over the last 10 years, an average of 28 people died or have been seriously injured as pedestrian or cyclist being involved in a vehicle collision. The latest 5-year average (2019) shows a 12.3% annual increase/decrease from the previous year.

Figure 5. 2010-2019 Non-Motorized Fatalities and Serious Injuries for BCAG Region



	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Yearly	25	21	28	28	19	39	34	26	28	37
5-year Average	23.4	22.6	22.2	24.4	24.2	27.0	29.6	29.2	29.2	32.8

$514 million of the projects identified in the 2020 RTP project list are safety related. Notable projects include State Route (SR) 70 passing lane segments which utilize $113.6 million in State Highway Operations and Protection Program (SHOPP) funds and the improvement of sixteen stop-controlled intersections within the Town of Paradise utilizing $1.23 million of Highway Safety Improvement Program (HSIP) funds.

Pavement and Bridge Condition Performance Management (PM2)

The federal goal under the pavement and bridge condition performance management (PM2) is to maintain the highway infrastructure asset system in a state of good repair. Table 2. Includes those targets prepared by the state, and supported by BCAG, for California for the year 2019.

Table 2. Statewide Infrastructure Condition Targets - Year 2019

Pavement and Bridge Performance Measures*	Baseline 2016/2017		2-Year Target (1/1/18 – 12/31/19)		4-Year Target (1/1/20 – 12/31/21)	
	Good	Poor	Good	Poor	Good	Poor
Pavement on the NHS (Non-Interstate)	25.5%	7.2%	28.2%	7.3%	29.9%	7.2%
Bridges on the NHS	66.5%	4.8%	69.1%	4.6%	70.5%	4.4%

**Applicable to the BCAG Region*

The Infrastructure Performance Measure Final Rule established performance measures for pavement and bridge conditions on the National Highway System (NHS). Caltrans set 2- and 4-year statewide targets on May 20, 2018. The statewide targets are based on Caltrans' long-range (10 year) Transportation Asset Management Plan and the 2017 State Highway System Management Plan. The plans take into consideration the availability of Senate Bill 1 funds over the target setting period and current estimated conditions of the NHS.

The local NHS consists of those roadways and bridges in Butte County that have been identified as part of the NHS and are not part of the State Highway System. These facilities are typically federally classified as "principal arterials". Tables 3 & 4 include the inventory of local NHS roadways and bridges.

Table 3. Local National Highway System – Roadways

Jurisdiction	Street Name	From Location	To Location
CHICO	BROADWAY ST	SHWY 32	SHASTA WAY
CHICO	COHASSET RD	ESPLANADE	EAST AVE
CHICO	CYPRESS ST	E 12TH ST	WOODLAND AVE
CHICO	E 20TH ST	PARK AVE	SHWY 99
CHICO	E PARK AVE	MIDWAY	SHWY 99
CHICO	EAST AVE	ESPLANADE	COHASSET RD
CHICO	ESPLANADE	MAIN ST	LASSEN AVE
CHICO	FAIR ST	E PARK AVE	20TH ST
CHICO	IVY ST	2ND ST	9TH-SHWY 32
CHICO	MAIN ST	PARK AVE	ESPLANADE
CHICO	MANGROVE AVE	VALLOMBROSA AVE	COHASSET RD
CHICO	MULBERRY ST	20TH ST	12TH ST
CHICO	OROVILLE AVE	MAIN ST	SHWY 32
CHICO	PARK AVE	MIDWAY	MAIN ST
CHICO	PINE ST	E 12TH ST	VALLAMBROSA AVE
CHICO	SHASTA WAY	BROADWAY ST	MAIN ST
CHICO	SKYWAY RD	SHWY 99	NOTRE DAME BLVD
CHICO	W EAST AVE	CUSSICK AVE	ESPLANADE
CHICO	WOODLAND AVE	PINE ST	CYPRESS ST
COUNTY	SKYWAY RD	.42M W/SKYWAY CROSSROAD	SKYWAY CROSSROAD
COUNTY	SKYWAY RD	COUTOLENC	PONDEROSA RD
COUNTY	SYCAMORE ST	KOFFORD RD	PALM LN
COUNTY	NEW SKYWAY	.08M E/PENTZ RD	COUTOLENC RD
GRIDLEY	SYCAMORE ST	PALM AVE	BIGGS GRIDLEY RD
GRIDLEY	SPRUCE ST	W BIGGS GRIDLEY RD	SHWY 99
GRIDLEY	W BIGGS GRIDLEY RD	SYCAMORE ST	PEACH ST
PARADISE	SKYWAY RD	SKYWAY CROSSROAD	PENTZ RD
PARADISE	CLARK RD	PEARSON RD	SKYWAY
PARADISE	NEW SKYWAY	PENTZ RD	.08M E/PENTZ RD

Source: Caltrans GIS Data Library (2018)

Table 4. Local National Highway System – Bridges

Jurisdiction	Street Name	Crossing	Location	Length	Deck Area (SqFt)
CHICO	PARK AVE	LITTLE CHICO CREEK	0.1 MI N OF 11TH ST	20.6	4004
CHICO	ESPLANADE	LINDO CHANNEL	0.15 MI N OF W 11TH AVE	56.1	11119
CHICO	MAIN ST	BIG CHICO CREEK	0.15 MI N OF 2ND ST	17	4263
CHICO	MANGROVE AVE	LINDO CHANNEL	BETWEEN E 10TH & COHASSET	46.9	9601
CHICO	MANGROVE AVE	BIG CHICO CREEK	BETWEEN 3RD & VALLOMBROSA AVE	16.5	5059
CHICO	PINE ST	LITTLE CHICO CREEK	BETWEEN HUMBOLDT AVE & 12TH ST	23.5	2917
CHICO	CYPRESS ST	LITTLE CHICO CREEK	BETWEEN HUMBOLDT AVE & 12TH ST	25.3	3122

Source: Caltrans GIS Data Library (2018)

Pavement: Baseline - Year 2016 pavement data for Butte County shows an estimated pavement condition of 7.3% Good and 12.6% Poor for the local component (non-state) portion of the NHS. In all, the Butte County region has 69 lane miles of locally maintained NHS pavement. The state average for local NHS pavement condition is 4.6% Good and 12.6% Poor. Table 5 includes county level data for Butte County, including data and targets for the Interstate and Non-Interstate pavement NHS.

Table 5. California NHS Pavement Conditions

Jurisdiction	2016 Lane Miles (LM)	2016 Pavement Condition (%) Good(G)	Poor(P)	2 Year Pavement Condition Targets 2019 Lane Miles	% Target (G)	% Target (P)	4 Year Pavement Condition Targets 2021 Lane Miles	% Target (G)	% Target (P)	% Impact to Statewide Lane Miles
State Interstate NHS	14,159	47.9%	3.1%	14,159	45.1%	3.5%	14,159	44.5%	3.8%	25.2%
Non-Interstate NHS	22,490	43.5%	2.5%	22,490	47.1%	3.0%	22,490	49.4%	3.5%	40.1%
Other Non-Interstate NHS	54	16.7%	1.9%	54	16.7%	1.9%	54	16.7%	1.9%	0.1%
Local	19,373	4.6%	12.5%	19,447	6.4%	12.3%	19,614	7.5%	11.5%	34.5%
Butte (BCAG)	69	7.3%	12.6%	69	7.3%	12.6%	69	7.3%	12.6%	0.1%
Grand Total NHS	**56,075**	**30.4%**	**6.1%**	**56,150**	**32.4%**	**6.3%**	**56,317**	**33.5%**	**6.4%**	**100.0%**
2018 TAMP Total NHS	56,075	30.4%	6.1%							
Grand Total Non-Interstate NHS	**41,917**			**41,991**	**28.2%**	**7.3%**	**42,158**	**29.8%**	**7.2%**	
2018 TAMP Total Non-I NHS	41,917	25.5%	7.1%							
Grand Total Interstate NHS	**14,159**	**47.9%**	**3.1%**		**45.1%**	**3.5%**	**14,159**	**44.5%**	**3.8%**	

Note: 1) Highlighted yellow indicates the NHS Interstate and Non-Interstate NHS 2 and 4-Year Pavement Targets
2) Distributed missing Lane Miles from HPMS based on proportion of inventory owned. Excludes bridge lane miles and State Highway System lane miles.

Source: Caltrans Division of Transportation Asset Management – revised 08/23/2018

Bridge: Baseline - Year 2017 bridge data for Butte County shows an estimated bridge condition of 23.3% Good and 0% Poor for the local component (non-state) portion of the NHS. In all, the Butte County region has 7 bridges and 40,085 square feet of deck area of locally maintained NHS bridges. Table 6 includes county level data for Butte County, including data and targets for the Interstate and Non-Interstate bridges NHS.

Table 6. California NHS Bridge Conditions

Jurisdiction	Number of Bridges	Deck Area (SF)	2017 Bridge Health (%) Good(G)	Poor(P)	2 Year Bridge Condition Targets 2019 Deck Area	% Target (G)	% Target (P)	4 Year Bridge Condition Targets 2021 Deck Area	% Target (G)	% Target (P)	% Impact to Statewide Deck Area
State	9,196	210,774,774	69.4%	3.7%	210,774,774	72.1%	3.5%	210,774,774	73.4%	3.4%	90.0%
Local	1,629	23,511,109			23,503,769	42.1%	14.3%	23,506,522	44.3%	13.2%	10.0%
Butte (BCAG)	7	40,085	23.3%	0.0%	40,085	23.3%	0.0%	40,085	23.3%	0.0%	0.0%
Grand Total NHS Bridges	**10,825**	**234,285,883**	**66.5%**	**4.8%**	**234,278,543**	**69.1%**	**4.6%**	**234,281,296**	**70.5%**	**4.4%**	**100.0%**

Note: Highlighted yellow are the 2 and 4-Year NHS Bridge Targets

Source: Caltrans Division of Transportation Asset Management

$247.4 million of the projects identified in the 2020 RTP project list are directed towards the improvement of bridges and roadway surfaces in the region. This includes the utilization of Highway Bridge Program (HBP) funds to complete $99.4 million in improvements to bridges and Senate Bill 1 (SB 1) funds to complete $3.9 million in roadway rehabilitation projects.

System Performance Management (PM3)

The federal goal under system performance management (PM3) is to achieve a significant reduction in congestion on the National Highway System, improve the efficiency of the surface transportation system, improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, support regional economic development, reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

On January 18, 2017, the Federal Highway Administration (FHWA) published a final rule in the Federal Register (82 FR 5970) establishing performance measures that State Departments of Transportation (DOTs) and MPOs will use to report on the performance of the Interstate and Non-Interstate National Highway System (NHS) to carry out the National Highway Performance Program (NHPP) and traffic congestion and on-road mobile source emissions for the purpose of carrying out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program.

Caltrans set 2- and 4-year statewide targets on May 20, 2018. The statewide targets were established based on an iterative process and coordination between Caltrans, MPOs, CALCOG, and the California State Transportation Agency. In developing the statewide targets, Caltrans coordinated with the MPO's through the utilization of a Technical Advisory Group (TAG). The TAG participated in several workshops and other key stakeholder meetings.

PM3 contains six specific measures, only two of which are applicable to the BCAG region – see Table 7 below.

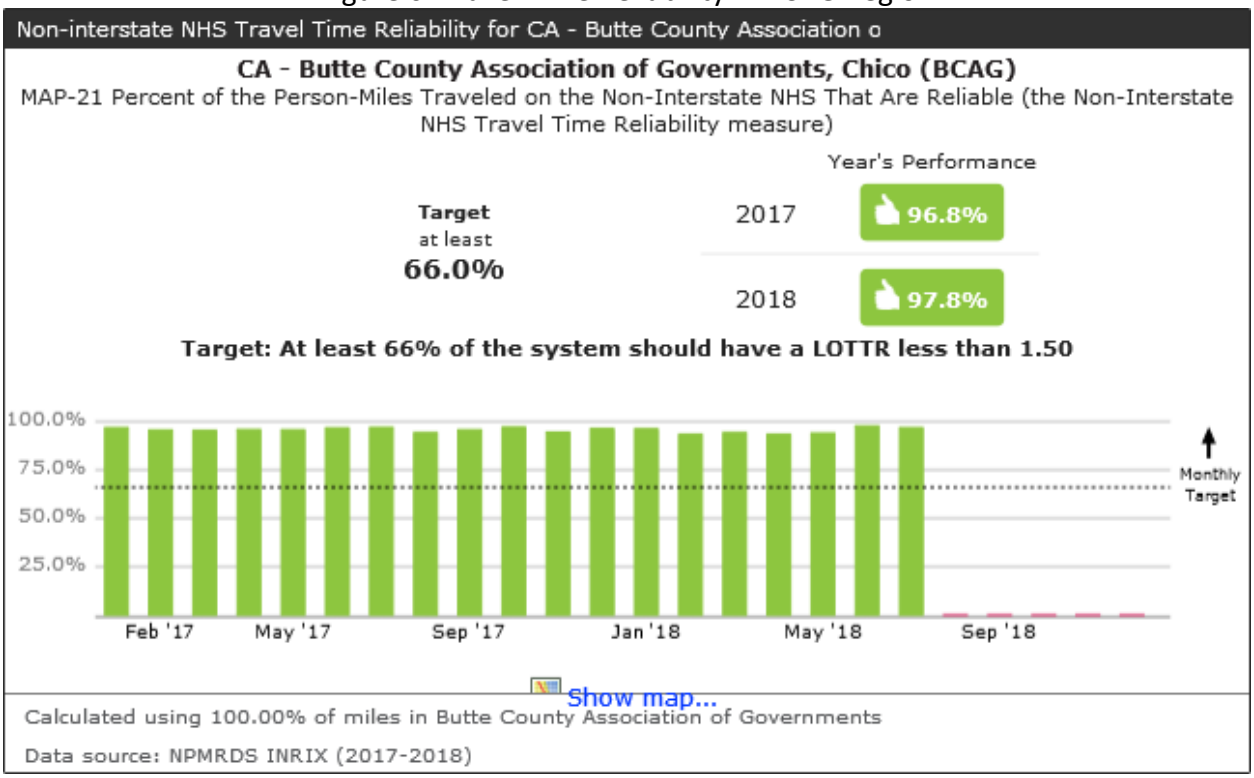
Table 7. Statewide System Performance Targets - Year 2019

System Performance Measure*	Baseline 2017	2-Year Target	4-Year Target
Percent of Reliable Person-Miles Traveled on the Non-Interstate NHS	64.6%	65.1% (+0.5%)	65.6% (+1%)
Total Emissions Reductions by Applicable Pollutants under the CMAQ Program			
VOC (kg/day)	951.83	961.35 (+1%)	970.87 (+2%)
CO (kg/day)	6,863.26	6,931.9 (+1%)	7,000.54 (+2%)
NOx (kg/day)	1,753.36	1,770.89 (+1%)	1,788.43 (+2%)
PM10 (kg/day)	2,431.21	2,445.52 (+1%)	2,479.83 (+2%)
PM2.5 (kg/day)	904.25	913.29 (+1%)	922.34 (+2%)

**Applicable to BCAG Region*

Percent of Reliable Person Miles Traveled on the Non-Interstate NHS: A key product developed by Caltrans and their consultants was a MAP-21 application within the National Performance Management Research Data Set (NPMRDS) Analytics tool. The tool allows MPOs to determine the overall Level of Travel Time Reliability (LOTTR) within their regions. The data for Travel Time Reliability in the BCAG region for year 2017/18 is shown in Figure 6.

Figure 6. Travel Time Reliability in BCAG Region



The data for each regions' non-interstate NHS was aggregated to the statewide level and used to establish the 2- and 4-year targets.

Total Emissions Reductions by Applicable Pollutants under the CMAQ Program: Caltrans utilized the CMAQ Public Access System (https://fhwaapps.fhwa.dot.gov/cmaq_pub/) in establishing the Baseline 2017 pollutant numbers for target setting purposes and aggregated all data available in the system to the statewide level and used in establishing 2- and 4-year targets. As of April 2020, four projects are included for the Butte County region which are listed in Table 8.

Table 8. Projects Included in CMAQ Performance Plan for Butte County 2018-2020 Period

YEAR	PROJECT TITLE	PROJECT DESCRIPTION	VOC (kg/day)	CO (kg/day)	NOx (kg/day)	PM10 (Kg/Day)	PM2.5 (Kg/Day)
2018	Chico - SR 99 Bikeway Phase 4 Improvements	Safety Program		12.43	0.38	0.135	
2018	Biggs - Safe Routes to Schools Program	Safety Program			0.03		
2018	Chico - SR 99 Corridor Bikeway Phase 5 - 20th Street Crossing	Safety Program		12.43	0.384	0.135	
2018	Paradise - Pearson Rd SR2S Connectivity Project - CMAQ	Congestion Reduction			0.04	0.02	
	Total Emission Benefits		0	24.86	0.834	0.29	0

$308.6 million of the projects identified in the 2020 RTP project list are directed towards the reduction of congestion and vehicle emissions and improving the reliability of the transportation system in the region. This includes $77.22 million in transit projects, $83.2 million in bike and pedestrian projects, $206.56 million in capacity increasing projects, and $566.9 million towards improving maintenance, operations, and safety.

Transit Asset Management (TAM) and Public Transportation Agency Safety Plan (PTSAP)

The federal goal under transit asset management (TAM) is to provide a cost-effective, systematic, interruption free pattern of transit operation. Table 9. Includes those targets prepared by Butte Regional Transit (BRT), the transit operator for the Butte County region, for the 2020/21 fiscal year and Table 10. contains the progress made towards achieving the targets.

Table 9. Transit Asset Management Regional Performance Targets 2020-2021

Asset Class	Performance Measure	Target
Rolling Stock	**Age** - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	**15**
All revenue vehicles		
Equipment	**Age** - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	**1**
Non-revenue vehicles		
Facilities	**Condition** - % of facilities with a condition rating below 3.0 on the FTA Transit Economic Requirements Model (TERM) Scale	**1**
All buildings or structures		

Table 10. Transit Asset Management Regional Condition Summary 2020-2021

Asset Category	Count	Avg Age	Avg TERM Condition	Avg Value	% At or Past ULB
Equipment	22	2.4	N/A	$21,789.54	0.00%
Facilities	3	4.3	4.333333333	$12,833,333.33	0.00%
Rolling Stock	58	5.6	N/A	$329,948.28	39%

BRT and the Federal Transit Administration (FTA) have adopted the principles and methods of System Safety and of Safety Management Systems (SMS) as the basis for enhancing the safety of public transportation. All rules, regulations, policies, guidance, best practices, and technical assistance administered will, to the extent practical and consistent with legal and other applicable requirements, follow the principles and methods of SMS.

The Butte Regional Transit - Public Transit Agency Safety Plan (PTASP) is an agencywide safety plan that meets and is responsive to FTA's Public Transportation Safety Program (PTSP). The Transit Agency Safety Plan reflects the specific safety objectives, standards, and priorities of BRT. BRT has incorporated its System Safety compliance into SMS principles and methods tailored to the size, complexity, and scope of its own public transportation system and the environment in which it operates.

Table 11. Includes those targets prepared by Butte Regional Transit (BRT), the transit operator for the Butte County region, for the 2020 fiscal year.

Table 11. Public Transportation Agency Safety Plan Targets for 2020

Preventable Vehicle Collisions	**Preventable Vehicle Collision Frequency Rate**	**Preventable Employee Injuries**	**Preventable Employee Injury Rate**	**Passenger Injuries**	**Passenger Injury Frequency Rate**
17	0.96	4	3.83	13	0.73

Criteria and Methodology Used to Prioritize Projects

Each fund source has its own criteria for project eligibility. Each federal performance measure has its own objectives. Performance Measure 1 – Safety aims to identify projects which reduce fatalities and injuries. The criteria is defined within each fund source requirements within the program. Funding is typically highly competitive between projects and jurisdictions at the state and federal level. Various programs may work towards the same performance measure, such as ATP, CMAQ, STIP, SHOPP may be addressing a safety concern and still be within the parameters of the program. Projects are typically not prioritized except for the regional STIP or the RTIP program. In this case, the priority is determined by the BCAG Board of Directors. BCAG works within its advisory committee process to identify competitive projects with the implementing agency to pursue grant funding as its method to prioritizing projects.

Performance Measure 2 (Pavement and Bridge Condition) are typically maintenance projects. BCAG relies on its local jurisdictions to utilize their own Pavement Management System to vet through the process and prioritize projects for funding.

Performance Measure 3 (Freight, Congestion and Reliability) are typically transit and CMAQ projects which aim to reduce congestion. BCAG relies on its annual Unmet Transit Needs Process, its Transit specific planning documents to prioritize projects. For CMAQ, BCAG issues a

call for projects and evaluates each project application against specific criteria to prioritize projects if needed. For CMAQ, projects are reviewed with the BCAG Transportation Advisory Committee and selected by the BCAG Board of Directors.

In each of the three performance measures, projects are ultimately selected by the agency responsible for the management of the program. For funding controlled by BCAG, applicants are required to complete an application process which includes specific criteria which works towards meeting a performance measure.

Regional Transportation Plan Performance

In 2013, the Strategic Growth Council funded an effort to develop a common set of measures which could be utilized by each of California's MPOs. In 2016, the California Transportation Commission released the 2016 State Transportation Improvement Program (STIP) Guidelines which included a complete revise of measures to better align with the state transportation goals and in 2020 the STIP Guidelines were once again updated. In consideration of these efforts, BCAG has updated measures for the 2020 RTP/SCS while continuing with the factors established in previous RTP's.

The updated performance measures have been categorized into the following seven (7) factors: safety and health, mobility/accessibility, reliability, productivity, system preservation, environmental stewardship, and social equity.

Safety and Public Health - The safety of the regional transportation system is a key measure used to evaluate fatalities, injury, and property loss of system users. Active transportation (walking and biking) has a direct health benefit, and can reduce the risk of heart disease, improve mental health, lower blood pressure, and reduce the risk of overweight and obesity-related chronic disease.

Table 12. Safety and Public Health Performance Measures

Factor	Measure	Current Performance Base Year (2018)	Projected Impact of Constrained Plan Year 2040	Data Source*
Safety and Public Health	Fatality Rate per 100M Annual Vehicle Miles of Travel (VMT)	1.96	decrease	SWITRS / HPMS
	Serious Injuries Rate per 100M Annual VMT	10.3	decrease	
	Percentage of Trips by Pedestrian and Bicycle Mode Share	Bike 1.99%	Bike 2.03%	TDF Model
		Ped 10.37%	Ped 9.99%	

Mobility/Accessibility - Mobility refers to the ease or difficulty of traveling from an origin to a destination. Accessibility is defined as the opportunity and ease of reaching desired locations. As mobility increases, accessibility tends to improve.

Table 13. Mobility/Accessibility Performance Measures

Factor	Measure	Current Performance Base Year (2018)	Projected Impact of Constrained Plan Year 2040	Data Source*
Mobility and Accessibility	Average Peak Period Travel Time (minutes)	16.7	16.48	TDF Model
	Percentage of Housing and Employment within 2 miles of State Highway	81% Housing 91% Employment	84% Housing and 92% Employment	LU Model / GIS
	Percentage of Population within 1/2 mile of frequent transit service	0%	24%	LU Model / GIS

Reliability – Reliability refers to the consistency or dependability of travel times and is a measure that compares expectations with experience.

Table 14. Reliability Performance Measure

Factor	Measure	Current Performance Base Year (2018)	Projected Impact of Constrained Plan Year 2040	Data Source*
Reliability	Percentage of Congested Highway VMT (at or below 35 mph)	0%	0%	TDF Model

Productivity - Productivity is defined as the utilization of transportation system capacity. For roadways, capacity is defined as the maximum number of vehicles that a roadway can accommodate.

Table 15. Productivity Performance Measures

Factor	Measure	Current Performance Base Year (2018)	Projected Impact of Constrained Plan Year 2040	Data Source*
Productivity	Average Peak Period Vehicle Trips	AM 75,240	AM 82,369	TDF Model
		PM 100,768	PM 113,598	
	Transit Passenger Trips per Vehicle Revenue Hour (Fixed Route)	15.1	21.8	NTD / TNMP

System Preservation - System preservation refers to maintaining the roadway network and transit fleet at a desired or agreed upon level.

Table 16. System Preservation Performance Measures

Factor	Measure	Current Performance Base Year (2018)	Projected Impact of Constrained Plan Year 2040	Data Source*
System Preservation	Average Pavement Condition Index [1]– Local Streets and Roads	60	increase	CA SR 2018
	Percentage of Local Highway Bridge Lane Miles in need of Replacement or Rehabilitation[2]	34%	decrease	CA SR 2018
	Percentage of Transit Assets exceeding FTA "Useful Life"	8.62%	decrease	B-Line 2018

Environmental Stewardship – Environmental stewardship strives to protect and enhance the built and natural environments of the region.

Table 17. Environmental Stewardship Performance Measures

Factor	Measure	Current Performance Base Year (2018)	Projected Impact of Constrained Plan Year 2040	Data Source*
Environmental Stewardship	Per Capita Vehicle Miles of Travel[3]	21.4	20.8	TDF Model
	Per Capita Acres of Developed Land	0.31	0.31	LU Model / GIS
	Acres of Important Farmland Avoided[4]	237,438	233,729	LU Model / GIS
	Percentage of Development Occurring within Butte Regional Conservation Plan - Urban Permit Areas	70% Residential 87% Non-Residential	73% Residential 88% Non-Residential	LU Model / GIS

Social Equity – Equitable distribution of the benefits and burdens of the plan on the economically and socially disadvantaged.

[1] Pavement Condition Index (PCI) rates roadway conditions on a scale from 1-100 with 1=worst and 100=best

[2] Highway Bridge Lane Miles with a Sufficiency Rating (SR) of 80 or below.

[3] VMT includes all trips within county from all vehicle types and includes the total population including group quarters.

[4] Important Farmland includes farmlands classified as Prime, Unique, and of Statewide Importance by the California Department of Conservation (2016).

Table 18. Social Equity Performance Measures

Factor	Measure	Current Performance Base Year (2018)	Projected Impact of Constrained Plan Year 2040	Data Source*
Social Equity	Percentage of Higher Density Low Income Housing[5] within 1/4 mile of Transit Route	86%	79%	LU Model / GIS
	Percentage of Higher Density Low Income Housing	26%	27%	LU Model / GIS
	Percentage of Minority Communities Population[6] within 1/4 mile of Transit Route	98%	98%	LU Model / GIS

*Data Source
SWITRS - California Highway Patrol Statewide Integrated Traffic Records System
TDF Model - BCAG's Regional Transportation Model
LU Model - BCAG's Regional Land Use Allocation Model
B-Line - Butte Regional Transit
TNMP – BCAG's Transit & Non-Motorized Plan
GIS - BCAG's Regional Geographical Information System
NTD – National Transit Database (2018)
CA SR - California Statewide Local Streets and Roads Needs Assessment (2018)
Caltrans Pave - Caltrans 2018 State of the Pavement Report

Agency Coordination and Public Participation

In preparing and reviewing the various performance measures, BCAG coordinates with local jurisdictions, the county, and other local agencies (i.e., Butte County Local Agency Formation Commission, Butte County Air Quality Management District, Local Tribal Governments, and the University) via our established Transportation Advisory Committee and Planning Directors Group meetings. Caltrans and the Federal Highway Administration are also members of the Transportation Advisory Committee and are provided an opportunity to review and provide input all measures. Caltrans has also established working groups or technical advisory committees for PM1, PM2, and PM3. These committees meet as needed to review relevant data and establish targets at the state level.

Public participation at the regional level occurs through the BCAG Board of Director's meetings. Each federal performance measure is brought to the BCAG Board for review prior to establishing or updating a target. The public is provided an opportunity to review and provide comment. Information is also made available on the BCAG website.

[5] Multi-family housing is used in determining percentage of higher density low income housing.

[6] Minority Communities are defined as 2010 Census Block Groups were 40 percent or more of the population is Asian Pacific Islander, African American, Hispanic, Native American or other Non-White ethnic group, based on 2012-2017 5-year American Community Survey data.