February 2020
SJCOG Board

STAFF REPORT

SUBJECT: Fiscal Year 2019/20 Congestion Mitigation and Air Quality Program Call for Projects: Funding Recommendations

RECOMMENDED ACTION: (1) Recommend that the SJCOG Board approve the CMAQ programming recommendations
(2) Recommend that two unfunded projects be placed on a CMAQ Contingency List, which would expire upon the start of the next CMAQ call for projects

DISCUSSION:

***C**ongestion **M**itigation and **A**ir **Q**uality Program*

The San Joaquin Council of Governments has completed the Board-approved Congestion Mitigation and Air Quality (CMAQ) Project Selection Process and has selected the attached list of projects as those proposed for programming in the 2019 Federal Transportation Improvement Program (FTIP). The recommended list of projects is for the CMAQ funding cycle covering Fiscal Years (FY) 2020/21, FY 2021/22, and FY 2022/23 and includes $20.5 million to be programmed in CMAQ funds for new projects. The CMAQ program funds transportation projects or programs that reduce carbon monoxide, ozone, and particulate matter emissions. Examples of CMAQ-funded projects include alternative fuel vehicles, transit projects, bicycle/pedestrian projects, traffic signal synchronization, and signal installation projects, as well as intermodal freight facility projects.

FISCAL IMPACT:

Approval of the CMAQ funding recommendations will result in $20.5 million in CMAQ funds to be programmed in FFYs 2020/21, FY 2021/22, and FY 2022/23 of the SJCOG 2019 FTIP.

BACKGROUND:

CMAQ Funding Availability

Under the Fixing America's Surface Transportation Act (FAST Act), CMAQ funds are apportioned to the region, for distribution by SJCOG. In total, approximately $20.5 million is available to conduct a Call for Projects.

CMAQ Call for Projects and Scoring Committee Recommendations

Based on funding estimates received from Caltrans and the Board-approved CMAQ Scoring Criteria, SJCOG issued a CMAQ Call for Projects on August 13, 2019. At the close of the application filing period (October 25, 2019), SJCOG received 19 project applications requesting $35,889,516 in CMAQ funding.

SJCOG formed a CMAQ Technical Review Committee – the membership of which is made up of representatives from our partner agencies – to review applications to confirm project eligibility, confirm calculations, and ask applicants to provide additional back up data as needed. The Technical Review Committee met on December 19, 2019. At their meeting, the Technical Review Committee ranked all applications based on the SJCOG Board-approved scoring criteria. A ranked list of project submissions is provided in Table 1.

Based on the scores shown in Table 1, the committee's recommendation is that the first 14 projects be funded. In doing this, funded projects would offer an average cost-effectiveness of $39.77 per pound of emissions reduction (i.e., projects above the dashed red line in Table 1).

Based on the policy adopted by the SJCOG Board, unfunded projects offering a competitive CMAQ cost-effectiveness score would be eligible to be placed on a contingency list. Projects on the contingency list would be positioned to receive CMAQ funds if there were project cost savings, significant delays, or undeliverable projects. The project sponsors would be contacted to see if they could mobilize and use any funding to advance the project. The contingency list would expire upon the start of the next CMAQ call for projects. Based on the CMAQ cost-effectiveness scores, SJCOG staff recommends that the City of Manteca's "Phase II Communications Equipment" project and RTD's "Zero-Emission Electric Bus Replacement (15 2010 and 2012 Hybrid Buses)" project be placed on the contingency list.

Programming of Projects

SJCOG staff will work with the local agencies to prioritize the programming of CMAQ projects based on the ranked list and priorities established under the SJCOG Project Delivery Policies. SJCOG staff will program preliminary engineering phases for the projects in earlier years to allow a substantial amount of time for completing the preliminary work before the construction phase.

SJCOG CMAQ Cost-Effectiveness Policy

The eight San Joaquin Valley Metropolitan Planning Organizations (MPOs) adopted CMAQ Cost-Effectiveness policies in 2007. These policies require SJCOG to program at least 20 percent of the CMAQ funds available that meet a CMAQ cost-effectiveness threshold of $45 per pound (or less) for emission reductions, during the four-year FTIP programming period. Based on the CMAQ funding recommendations, SJCOG will allocate a minimum of $6.3 million (31 percent) to CMAQ projects that meet the cost-effectiveness threshold.

COMMITTEE ACTION:

The Technical Advisory Committee, Management, and Finance Committee, and the Citizens Advisory Committee each voted unanimously to approve the staff recommendation.

RECOMMENDED ACTION:

(1) Recommend that the SJCOG Board approve the FY 2019/20 CMAQ programming recommendations outlined by staff.

(2) Recommend that the two unfunded projects be placed on a CMAQ contingency list, which would expire upon the start of the next CMAQ call for projects.

ATTACHMENT:

(1) Description of Project Submissions.

Prepared by: Ryan Niblock, Senior Regional Planner

Table 1: CMAQ Applications Ranked by Cost-Effectiveness

Applicant	Project Title	Total Project Cost	Total CMAQ Request	Cost-Effectiveness ($ per lb.)
San Joaquin County	Hospital Solar EV Charger	$840,000	$790,000	$10.99
Stockton	Transportation Management Center Equipment Upgrade	$4,056,000	$3,906,000	$15.27
San Joaquin County	Mountain House Parkway Traffic Signal Synchronization Project	$102,500	$102,500	$15.55
Ripon	East Main Street Traffic Signal	$720,000	$480,000	$25.41
Manteca	2019 Street Sweeper Replacement	$1,050,000	$929,565	$26.52
Ripon	One CNG Solid Waste Collection Vehicle	$375,000	$100,000	$28.85
SJRTD	Zero-Emission Electric Bus Replacement Project (2 2006 Hybrid Buses)	$2,140,000	$2,140,000	$96.30
Stockton	Arch Airport Road Traffic Synchronization and Signal Prioritization Project	$1,257,000	$1,157,000	$99.33
SJRRC	Railcars Purchase	$11,625,000	$7,500,000	$115.16
Port of Stockton	Port of Stockton Near Zero Emission Cargo Handling Equipment	$614,000	$614,000	$126.87
San Joaquin County	Signalization of Mariposa Road and Jack Tone Road	$700,000	$619,700	$137.01
Stockton	Alpine & Alvarado Traffic Signal with Intersection Coordination	$1,040,000	$921,000	$139.36
Tracy	Adaptive Signal System on Grant Line Road	$925,000	$875,000	$150.29
Tracy	Signalization at Corral Hollow Road & Linne Road	$660,000	$330,000	$154.70
Manteca	City of Manteca Phase II Communications Equipment	$4,855,000	$4,563,000	$199.39
SJRTD	Zero-Emission Electric Bus Replacement Project (15 2010 and 2012 Hybrid Buses)	$16,057,500	$8,109,000	$322.39
Lodi	Lodi Electric Bus Demonstration	$1,291,252	$774,751	$539.89
Stockton	San Joaquin & Acacia Conversion to Roundabout	$1,666,000	$1,475,000	$610.00
San Joaquin County	Autonomous Transit Vehicle (ATV) New Service Project	$636,000	$503,000	$2,019.07
		$49,974,252	**$35,889,516**	

Attachment A:

Description of Project Submissions

Project Applicant:	San Joaquin County	**Description:** The project would install electric vehicle charging equipment at San Joaquin General Hospital. The charging station will be powered by solar energy, meaning that it will not draw from the electrical grid (whose power is generated through a mix of sources, including combustion of fuels).
Project Name:	Hospital Solar EV Charger	
CMAQ Request:	$790,000	
Emissions Reduced (lbs):	71,884	
Cost Effectiveness ($ per lb)	$10.99	

Project Applicant:	Stockton	**Description:** Stockton plans to upgrade the current Transportation Management System, including upgrading 230 traffic signal controllers and 297 unmanaged ethernet switches to managed switches. These upgrades will allow the city to manage congestion hot spots in real time, minimizing vehicle stopping and queuing.
Project Name:	Transportation Management Center Equipment Upgrade	
CMAQ Request:	$3,906,000	
Emissions Reduced (lbs):	255,796	
Cost Effectiveness ($ per lb)	$15.27	

Project Applicant:	San Joaquin County	**Description:** This project will implement traffic signal coordination between Bryon Road and Von Sosten Road. The scope of the project will include the installation of wireless modems at five intersections, procurement of a centralized computer system, and signal coordination to reduce air pollution and congestion.
Project Name:	Mountain House Parkway Traffic Signal Synchronization Project	
CMAQ Request:	$102,500	
Emissions Reduced (lbs):	6,592	
Cost Effectiveness ($ per lb)	$15.55	

Project Applicant:	Ripon	**Description:** The project would install a four-way traffic signal, with ADA compliant ramps, and restriping of the intersection. Installation of the signal will improve level of service from "LOS F" to "LOS C."
Project Name:	East Main Street Traffic Signal	
CMAQ Request:	$480,000	
Emissions Reduced (lbs):	18,890	
Cost Effectiveness ($ per lb)	$25.41	

Project Applicant:	Manteca	**Description:** The City would replace three of its oldest street sweepers with new sweepers powered by compressed natural gas. Such a project provides air quality benefit in two ways: (1) replacement of aging equipment with cleaner equipment, and (2) removal of particulate matter from roadways, minimizing the impact of traffic on road dust.
Project Name:	2019 Street Sweeper Replacement	
CMAQ Request:	$929,565	
Emissions Reduced (lbs):	35,051	
Cost Effectiveness ($ per lb)	$26.52	

Project Applicant:	Ripon	**Description:** The City would replace its existing diesel fueld refuse truck with a new refuse truck powered by compressed natural gas.
Project Name:	One CNG Solid Waste Collection Vehicle	
CMAQ Request:	$100,000	
Emissions Reduced (lbs):	3,466	
Cost Effectiveness ($ per lb)	$28.85	

Project Applicant:	SJRTD	**Description:** The project would replace two 2006 hybrid diesel-electric buses with two zero-emission electric buses.
Project Name:	Zero-Emission Electric Bus Replacement Project (2 2006 Hybrid Buses)	
CMAQ Request:	$2,140,000	
Emissions Reduced (lbs):	22,222	
Cost Effectiveness ($ per lb)	$96.30	

Project Applicant:	Stockton	**Description:** The project includes installation of two traffic signals, crosswalks, intersection lighting, lane striping, signs and signal priority, retiming and synchronization. Currently, the existing traffic signals on Arch Airport Road are operated in “Free” mode, and are not sensitive to traffic levels or stopped delay. Implementation of the project will substantially improve congestion along the corridor.
Project Name:	Arch Airport Road Traffic Synchronization and Signal Prioritization Project	
CMAQ Request:	$1,157,000	
Emissions Reduced (lbs):	11,648	
Cost Effectiveness ($ per lb)	$99.33	

Project Applicant:	SJRRC	**Description:** Purchase of three railcars and associated spare parts to support the expansion of ACE service. With the surrounding highway system at full capacity, ACE expansion will help to divert cars to rail, helping to address the regional congestion experienced on I-5, I-205, I-580, SR-99, and SR-120.
Project Name:	Railcars Purchase	
CMAQ Request:	$7,500,000	
Emissions Reduced (lbs):	65,127	
Cost Effectiveness ($ per lb)	$115.16	

Project Applicant:	Port of Stockton	**Description:** The project would replace two existing diesel-powered cargo front end loaders with new zero-emission cargo handling equipment. Port equipment used to offload ships are a significant contributor to emission levels in the county. Replacement of this equipment with zero-emission equipment will have an immediate impact on the health of port employees and nearby residents.
Project Name:	Port of Stockton Near Zero Emission Cargo Handling Equipment	
CMAQ Request:	$614,000	
Emissions Reduced (lbs):	4,840	
Cost Effectiveness ($ per lb)	$126.87	

Project Applicant:	San Joaquin County	**Description:** This project proposes an intersection improvement at the current all-way STOP controlled intersection of Mariposa Road at Jack Tone Road. Signalization will improve the peak hour level of service from "LOS D" to "LOS B."
Project Name:	Signalization of Mariposa Road and Jack Tone Road	
CMAQ Request:	$619,700	
Emissions Reduced (lbs):	4,523	
Cost Effectiveness ($ per lb)	$137.01	

Project Applicant:	Stockton	**Description:** The project would convert the existing side-street stop at E. Alpine Avenue and Alvarado Avenue into a signal, as well as coordinate signals along the Alpine Avenue corridor. This area experiences significant delay and queuing - which this project will help to alleviate.
Project Name:	Alpine & Alvarado Traffic Signal with Intersection Coordination	
CMAQ Request:	$921,000	
Emissions Reduced (lbs):	6,609	
Cost Effectiveness ($ per lb)	$139.36	

Project Applicant:	Tracy	**Description:** The project would install adaptive signal controllers, detection equipment, and software at signalized intersections on Grant Line Road from Byron Road to Naglee Road at six locations. The corridor currently operates at deficient LOS, and this project would restore operations to an acceptable level - thereby reducing congestion and emissions.
Project Name:	Adaptive Signal System on Grant Line Road	
CMAQ Request:	$875,000	
Emissions Reduced (lbs):	5,822	
Cost Effectiveness ($ per lb)	$150.29	

Project Applicant:	Tracy	**Description:** The project would install a new signal at the intersection of Corral Hollow Road and Linne Road. Signalization would improve the level of service from "LOS F" to "LOS C."
Project Name:	Signalization at Corral Hollow Road & Linne Road	
CMAQ Request:	$330,000	
Emissions Reduced (lbs):	2,133	
Cost Effectiveness ($ per lb)	$154.70	

Project Applicant:	Manteca	**Description:** The project will interconnect (via fiber optic cable) existing traffic signals and City buildings along 8.5 miles of city roadway. Interconnecting the traffic signals will enable coordination along the corridors and also provide the City with remote monitoring of the traffic signals during incidents and fine tuning the signal timing during the peak periods.
Project Name:	City of Manteca Phase II Communications Equipment	
CMAQ Request:	$4,563,000	
Emissions Reduced (lbs):	22,885	
Cost Effectiveness ($ per lb)	$199.39	

Project Applicant:	SJRTD	**Description:** The project would replace fifteen 2010 and 2012 hybrid diesel-electric buses with fifteen zero-emission electric buses.
Project Name:	Zero-Emission Electric Bus Replacement Project (15 2010 and 2012 Hybrid Buses)	
CMAQ Request:	$8,109,000	
Emissions Reduced (lbs):	25,153	
Cost Effectiveness ($ per lb)	$322.39	

Project Applicant:	Lodi	**Description:** The project would replace one 2012 compressed natural gas bus with a zero-emission electric bus.
Project Name:	Lodi Electric Bus Demonstration	
CMAQ Request:	$744,751	
Emissions Reduced (lbs):	1,379	
Cost Effectiveness ($ per lb)	$539.89	

Project Applicant:	Stockton	**Description:** The proposed project will convert an existing signal-controlled intersection to a roundabout at N. San Joaquin Street and E. Acacia Street.
Project Name:	San Joaquin & Acacia Conversion to Roundabout	
CMAQ Request:	$1,475,000	
Emissions Reduced (lbs):	2,418	
Cost Effectiveness ($ per lb)	$610.00	

Project Applicant:	San Joaquin County	**Description:** This project will implement a new, autonomous battery-operated transit service between Mountain House and the RTD/ACE regional transit station. It also includes a two-year operational budget. The project would function as a "first mile / last mile" service to complement existing regional transit.
Project Name:	Autonomous Transit Vehicle (ATV) New Service Project	
CMAQ Request:	$503,000	
Emissions Reduced (lbs):	249	
Cost Effectiveness ($ per lb)	$2,019.07	