



DATE: August 24, 2018
TO: Board of Directors
FROM: Barrow Emerson, Planning & Development Director
SUBJECT: STATE ROUTE 1 BUS ON SHOULDERS FEASIBILITY STUDY

I. RECOMMENDED ACTION

That the Board receive a presentation and:

- A) Approve proceeding with the development of the operating concept for the State Route 1 Bus On Shoulders project; and,**
- B) Authorize the expenditure of up to \$50,000 for the development of the operating concept**

II. SUMMARY

- In 2016, the Association of Monterey Bay Area Governments (AMBAG) and the Transportation Agency for Monterey County (TAMC) awarded Santa Cruz Metropolitan Transit District (METRO) and Monterey-Salinas Transit (MST) a grant to study the feasibility of bus operations on State Route (SR1) shoulders.
- The Feasibility Study has been completed. It identifies opportunities, constraints, and includes a financial analysis of various approaches to providing bus operations on SR1 shoulders.
- The recommended alternative for implementation in Santa Cruz County involves coordination with the Santa Cruz County Regional Transportation Commission (RTC) auxiliary lane projects on SR1.
- As a next step, staff proposes that METRO invest up to \$50,000 in currently budgeted FY19 operating funds to further develop an operating concept for review by California Department of Transportation (Caltrans) which could lead to subsequent project approval and environmental clearance of the improvements.
- METRO and RTC are working together with Caltrans to develop an implementation strategy.
- On August 10th the Capital Projects Standing Committee approved forwarding this item to the full Board.

III. DISCUSSION/BACKGROUND

SR1 in both Monterey and Santa Cruz Counties is heavily congested during the morning and afternoon peak periods. During congested times, travel speeds are

diminished, significant delays result and long queues form behind breakdown points.

Bus operations along the congested portions of SR1 pose a significant challenge for MST and METRO to keep public transit competitive with the single occupant vehicle in the same traffic conditions. In order to address similar problems, transit agencies in other states and California have implemented "bus on shoulder" (BOS) operations during peak congestion times in collaboration with their state department of transportation partners. The purpose of operating buses on highway shoulders is to keep buses moving and to provide a competitive advantage to the bus passenger over driving their own vehicle. This solution also helps solve the congestion problem, reduces greenhouse gas emissions and could potentially increase ridership.

AB 946 (Assembly Member Mark Stone) was passed in 2013, allowing Monterey and Santa Cruz Counties the ability to move forward with a feasibility study. AMBAG and TAMC awarded the majority of the funding necessary to move forward in partnership with MST and METRO.

In October 2016, MST, as contract manager, hired CDM Smith to conduct a feasibility study to evaluate the possibility of operating buses on highway shoulders in Monterey and Santa Cruz counties.

This report was prepared in cooperation with Caltrans, CHP, TAMC, MST, RTC, METRO and local jurisdictions.

The full Feasibility Study can be found on the METRO website: [Monterey Bay Area Feasibility Study of Bus on Shoulder Operations on State Route 1 and the Monterey Branch Line](#)

Key Findings of Feasibility Study – Santa Cruz County

The Feasibility Study included data collection, literature review, traffic analysis, transit route performance analysis, concept feasibility, cost-benefit assessment and project implementation/next phase.

During the review and study period, the project team sought stakeholder participation from local jurisdictions, Caltrans, California Highway Patrol, AMBAG and TAMC. Some of the key findings of the Feasibility Study for Santa Cruz County are:

- Severe SR1 morning and afternoon peak period traffic lasts for long periods.
- Congestion and unreliability keeps METRO from using SR1 more extensively for bus services.

- SR1 shoulders lack the width and structural section to support bus on shoulder operations without significant construction, although there is some potential in the southbound direction.
- Existing and planned auxiliary lanes provide an opportunity for bus on shoulder operations and must be implemented in coordination with each stage of the auxiliary lane projects. This approach would be the most effective, with the least cost, and operationally superior.
- Project cost estimates were developed for the different options along the project corridor. The BOS concept, operating in conjunction with the auxiliary lanes has a cost estimate of \$7.9 million. The auxiliary lane projects currently have construction cost estimates of \$28M for the Soquel to 41st and \$70M for the Bay/Porter to State Park segment.

There is an opportunity for significant time savings with a BOS operation of SR-1. Generally BOS operations are allowed to operate at a speed of up to 15 miles per hour faster than the adjacent congested general traffic lanes. For the eight plus mile segment between the Morrissey and State Park Drive interchanges, where peak travel speeds are currently around 15 miles per hour, this could result in a savings of more than 15 minutes per trip. Even more important that the actual speed is the reliability in travel time on every trip that is possible with BOS. Reliability is important to riders who have destinations which they need to get to on time.

Next Steps

The MST Board received a presentation on the Feasibility Study in July, the AMBAG Board on August 8th and the RTC on August 16th. On August 10th the METRO Capital Projects Standing Committee received a presentation and approved forwarding this item on to the full Board.

Pending METRO and RTC Board approvals, the intent is to expedite the project approval and environmental clearance of the bus on shoulder facility on SR1 between 41st Avenue and Soquel Avenue/Drive in an effort to “catch up” with the auxiliary lane project prior to construction. The SR1 Auxiliary Lanes Project between 41st Avenue and Soquel Avenue/Drive begins Final Design this fall with construction anticipated to begin in 2020.

The next step for METRO will be to invest up to \$50,000 in currently budgeted FY19 operating funds to develop an operating concept for review by Caltrans. The operating concept will be developed by the consultant selected by RTC to prepare the final design for the initial auxiliary lane project. We expect the conceptual design development process to be an iterative and collaborative process involving METRO, the RTC, and Caltrans. Our proposed implementation

plan includes initiation of the conceptual design development in the Fall of 2018, with a goal of reaching consensus by January of 2019.

Upon Caltrans conceptual approval of the facility, the preparation of the required environmental documentation and project approval would follow, with the bus on shoulder design elements being integrated into the Highway 1 Soquel/41st Ave. Auxiliary Lanes Project Final Design package. It is anticipated that a Categorical Exemption (CE) will be the appropriate environmental documentation for this project due to the improvements being minor in nature and within disturbed interchange areas. If a CE level environmental analysis is approved by Caltrans, the cost to METRO of the Caltrans project approval and environmental clearance process could be in the range of \$250,000 to \$500,000 and would take between 6 and 12 months to complete, allowing the project to catch up with the start of the construction phase of the auxiliary lane project in 2020. Among the options to fund this step would be the capital budget or possibly one of METRO's capital oriented grant sources.

It is hoped that ultimately the implementation of a bus on shoulder project could be part of the auxiliary lane project funding, which RTC is pursuing from sources including Measure D and SB1.

IV. FINANCIAL CONSIDERATIONS/IMPACT

Initial financial impact is the approximately \$50,000 to prepare an operating concept for Caltrans review and subsequent environmental review. The required funding is included in the FY19 current fiscal year's Planning and Development Operating Budget within the Professional and Technical Fees (503031) account. Future costs could include the environmental review and implementation of required improvements.

V. ALTERNATIVES CONSIDERED

The alternative is to not pursue SR1 bus on shoulders solutions and accept the congestion related delays to METRO SR1 services, which limits the attraction of METRO services in terms of travel time savings relative to driving alone.

VI. ATTACHMENTS

None

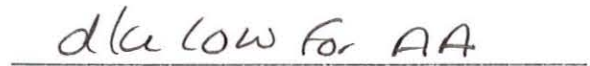
Prepared by: Barrow Emerson, Planning & Development Director

VII. APPROVALS:

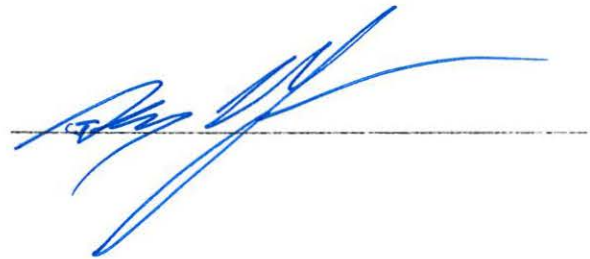
Barrow Emerson
Planning & Development Director

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Approved as to fiscal impact:
Angela Aitken, CFO

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Alex Clifford, CEO/General Manager

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