SANTA CLARA
Valley Transportation Authority

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Board Meeting: N/A

BOARD MEMORANDUM

TO: Santa Clara Valley Transportation Authority
State Route 85 Corridor Policy Advisory Board

THROUGH: General Manager, Nuria I. Fernandez

FROM: Director of Planning and Program Development, John Ristow

SUBJECT: Transit Lane and Light Rail Alternatives on State Route 85

FOR INFORMATION ONLY

BACKGROUND:

The Policy Advisory Board (PAB) is providing input and recommendations to the VTA Board of Directors specifically in the State Route (SR) 85 Corridor, as they decide on potential transportation investments that could be funded by a new sales tax.

The PAB has requested a set of alternatives be evaluated for a potential transportation investment on SR 85. At the March meeting, information was received on express lane alternatives. The presentation in Attachment A covers additional information on transit lane alternatives and Light Rail Transit (LRT) alternatives, as following:

- Transit Lanes Alternatives
    - 4A - Add one new Transit lane (each direction) in median and retain HOV lanes
    - 4B - Add one new Transit lane (each direction) in median and replace HOV lane with one Express lane (each direction)
- Light Rail Transit (LRT) Alternatives
    - 5A - Add new LRT system in median and retain HOV lanes
    - 5B - Add new LRT system in median and replace HOV lane with one Express lane (each direction)

DISCUSSION:

The investment options being reviewed by the PAB have very different levels of information and analysis. The express lane project was subject to a multi-year study by VTA and Caltrans

resulting in a federal and state environmental document supported by thirty technical studies. Any alternative discussed in this memorandum that moves forward will have to undergo the same rigorous process, which is expected to take at least two to three years. Moreover, if federal funding is pursued, a capital investment study and associated federal environmental clearance is required. In any case, because SR 85 is a state owned facility, the Caltrans project development process and a state environmental clearance is required.

As the transit lane and LRT alternatives are reviewed it is recognized that none of the processes discussed above have taken place. The information presented is based on staff level assumptions regarding the limits of a transit lane or LRT investment on SR 85 that may or may not be validated in more comprehensive studies, but they do have significant value in providing information to the PAB's discussion of an investment choice on SR 85 that could be recommended to the VTA Board of Directors. In parallel with these processes, VTA as lead agency would conduct an extensive outreach program in cooperation with the cities to engage the public in a comprehensive discussion of project choices, benefits and impacts.

Assumptions for the Alternatives - To develop information on the alternatives, VTA and its consultants had to create assumptions that will be revisited when the comprehensive studies described above are undertaken. Below is a partial list of those assumptions:

- Caltrans and VTA design standards were used.

- Alternatives were designed to fit within the available right-of-way. This is a very important assumption. The right-of-way constraints north of I-280, where SR 85 is much narrower than south of I-280, pose significant challenges to the design.

- Horizon year 2040 was used to estimate ridership. In subsequent studies additional analysis would account for opening years of the facilities.

- Maintenance and storage facility needs were factored into the costs.

- Park-and-Ride lots were used in the LRT alternative to capture ridership. In the future there are reasons to believe with the advent of new technology) i.e. self-driving car fleets, ubiquitous shuttle alternatives, good bicycle connectivity etc.) park-and-ride lots may not be as common as they are now. It is assumed that the buses will act as neighborhood circulators until they enter the freeway, thus not requiring park-and-rides lots for those alternatives.

- LRT operates in the median of SR 85 from San Jose to Mountain View; however, because of reduced right-of-way width from roughly I-280 all the way north to the terminus in Mountain View, the facility needs to be elevated in this section.

- Bus lanes operate in the median of SR 85 from the vicinity of SR 87, north to

Mountain View. In the area south of SR 87, because existing LRT occupies the median shoulder lane, operation is assumed to enter and exit the median with a structure. If shoulder lanes prove infeasible in later more detailed studies, the buses would operate in the HOV lane and have a higher travel time for that segment.

Cross Section Views and Right of Way Constraints - The cross sections shown in the attached presentation address different right of way conditions for the "old" section of SR 85, from I-280, north where the paved roadway width is narrower and the "new" section, south of I-280, to US 101, which has wider paved segments, but LRT uses the median for a portion of that segment. The presentation shows how for the purposes of this exercise a continuous transit lane alternative or LRT alternative was fitted into those two different conditions.

For the transit lane alternatives, the buses operate on the shoulders of SR 85 from US 101 to SR 87 where they will use a flyover to reach the median lanes. This is currently not allowed in California, but there are efforts underway in Southern California to test this with demonstration projects. Once the buses reach the median, north of SR 87, where LRT turns toward downtown San Jose, there is room to remain in the median to Mountain View.

The LRT alternative needs to work with a constrained roadway width north of I-280. At this level of analysis, VTA believes there is major risk in trying to widen this portion of SR 85 to accommodate LRT. The more practical assumption for this exercise is to assume LRT will operate in an aerial alignment from I-280 to Mountain View. A more detailed engineering study will have to balance the risks of widening the freeway in this area, possibly encountering utility and drainage issues that would cause an overall widening of the right of way, versus the aerial alignment.

Results - The complete results, capital, operating costs and ridership were not entirely available at the writing of this report but as a preliminary observation, there is a market for transit on SR 85. Even with this very quick look at alternatives, there is justification in further developing analysis on how to best address this market.

Variations on Alternatives Still to Be Explored - There are other variations of bus and LRT alternatives that can be explored. VTA staff will send out information on a transit lane alternative that uses stations and park and rides and has the bus operating similar to a light rail line before the May meeting. There are also variations on the LRT alternative that we do not have time to develop using the Vasona line. Again, a more comprehensive study would evaluate and screen a wide range of alternatives.

Summary - Time constraints do not allow for a complete review of transit alternatives in SR 85, but the attached information does provide useful information to the PAB as they make a recommendation to the VTA Board of Directors. The information also provides a basis for framing alternatives to be analyzed in the comprehensive studies that will be required.

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