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**AD-HOC SUSTAINABILITY COMMITTEE
NOVEMBER 20, 2013**

SUBJECT: BICYCLE MODEL DEVELOPMENT PROJECT

ACTION: RECEIVE AND FILE

RECOMMENDATION

Receive and File this status report on bicycle model development activities.

ISSUE

On January 26, 2012, the Board passed a motion to modify the existing contract of the Congestion Mitigation Fee Study to develop the technical travel demand modeling capability to estimate travel demand by bicycle. Since then, we have been working with Cambridge Systematics, Inc. to develop the state of the art modeling capability of quantifying the benefits of bicycle projects.

The bicycle model we are developing will be the first in the nation for such a large and complex metropolitan area. We have completed the first phase of this work effort and this report updates the Board with the results of this phase.

DISCUSSION

Background

During the past several years, we have been engaged in a countywide effort to investigate the potential for a countywide congestion mitigation fee program that would meet the joint goals of complying with state Congestion Management Plan (CMP) requirements, and funding regionally significant local transportation improvements with a congestion mitigation fee on new development. We conducted eight subregional pilot nexus studies to investigate the feasibility of such a congestion mitigation fee, reaching out to Los Angeles County's 89 jurisdictions, Councils of Governments, and the business community. As a result of this effort, we found that the Congestion Mitigation Fee Program to be feasible, could provide effective mitigation and a new source of funding for local jurisdictions with local control, and would comply with statutory requirements of the CMP and the California Mitigation Fee Act (AB1600).

As part of the Congestion Mitigation Fee Study, jurisdictions submitted more than 1,700 transportation projects. The benefit of these projects could be quantified, demonstrating a mobility benefit of more than 25 million vehicle hours of delay and an economic benefit of approximately 60,000 jobs and \$11.2 billion in economic activity over 20 years. While a literature review of bicycle project performance indicated that the 600 bicycle related projects that were submitted would be expected to have a positive contribution to mobility, no tools existed to quantify this benefit and bicycle benefits were not incorporated into the pilot nexus study results. Consequently, the Board directed staff in January 2012 to modify the existing contract with Cambridge Systematics, Inc. to develop the modeling capability to quantify the impact of bicycle projects. The model developed for this activity not only benefits the fee study analysis but bicycle mobility performance for other studies and programs.

Since then, staff has been working with Cambridge Systematics, Inc. on developing the capability of modeling bicycle related investment. Since developing a bicycle model for Los Angeles County is such a technical and logistical challenge to undertake, a two phased work plan was developed to achieve the Board's directive.

Phase I –Web-based Bicycle Sketch Planning Model

The first phase of the work plan consists of a web-based sketch planning model that is part of the web-based program developed for the Congestion Mitigation Fee Study.

The bicycle sketch planning model is now complete and undergoing test runs with a number of jurisdictions who are serving as part of our Bicycle Model Development User Group Panel. This bicycle sketch planning model utilizes existing data and research and forecasts new bicycle trips as a function of socioeconomic data, land use characteristics, and transportation network data.

The bicycle sketch planning model provides jurisdictional level forecasts of new bicycle trips for additional work trips, recreational trips and other trips. This bicycle sketch planning model is sensitive to the following types of planned bicycle improvement projects:

- Bikeways (trails, bike lanes, cycle tracks, and bike boulevards),
- Worksite bike amenities (parking and/or showers),
- Rail transit bicycle parking, and
- Bike-sharing programs.

The bicycle sketch planning model can perform scenario analyses to evaluate bicycle transportation projects using various performance measures including mobility, economic impacts, environmental impacts, and public health. A panel of local jurisdictions and agencies, as well as an advisory panel of national and international experts, has been providing input to help guide the model development process. The test runs of this bicycle sketch planning model will be conducted over the next several months with representative jurisdictions of the local user group panel to ensure proper functioning of the bicycle sketch planning model. Upon completion of these test runs, jurisdictions countywide will be shown how to operate the sketch planning model to analyze the bicycle investments they have identified.

Phase II – Travel Demand Model Mode and Route Choice Components

Phase II of the Bicycle Model Development Project is a more substantial effort that will result in adding bicycle mode choice and route choice components to our travel demand model. This phase of the bicycle model will build upon the foundation of the bicycle sketch planning model by providing information on where the additional bicycle trips are originating and the routes they can potentially take to their destinations. This bicycle mode/route choice component will also allow us to evaluate the linkages of proposed bicycle improvements to existing and proposed transit improvements. This phase of the development of the bicycle model is scheduled for completion in mid-2015. We will continue to seek the guidance of the advisory panel of national and international experts, as well as local agencies and stakeholders to guide us during the model development process.

NEXT STEPS

We will work with jurisdictions and other stakeholders to conduct various test runs with Phase I of Bicycle Model Development Project to analyze the impacts of the bicycle projects identified in the Congestion Mitigation Fee Study. In addition, we will work on the next phase of integrating the bicycle mode choice and route choice components into MTA's travel demand model scheduled for completion in mid-2015.

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