

Agenda Report

August 2, 2010

TO: CITY COUNCIL
FROM: DEPARTMENT OF TRANSPORTATION
SUBJECT: CITY COUNCIL WORKSHOP ON TRANSPORTATION PERFORMANCE MEASURES

RECOMMENDATION:

This report is for information only.

BACKGROUND:

As Pasadena and other California cities move into the second decade of the 21st Century, they do so in response to a series of state mandates that have been adopted in the past several years to address climate change. The greenhouse gas reductions mandated by AB 32 and the regional targets for greenhouse gas inherent in SB 375 have introduced new dimensions into the realm of transportation management. Similarly California's adoption of a statewide Complete Streets policy has underpinned the movement toward more walkable, bike friendly cities. In addition to the state requirements, Pasadena, along with many other cities, adopted the Urban Environmental Accords and the U.S. Council of Mayors Climate Protection Agreement in the furtherance of a sustainable future.

The net effect of these sustainability programs on the transportation system is to change the perspective from which the performance of the system has been viewed. To achieve the sustainability goals, the transportation professional must look beyond the efficiency of the network as the primary metric of performance. New metrics that reflect the sustainability goals are needed and must be balanced across modes. Shorter and fewer vehicles trips become an important measure in relation to greenhouse gas production. The condition of the network for pedestrians and bicyclists becomes a factor in the performance of a multi-modal system. The availability and connectivity of transit service increases in importance. All of these metrics introduce a level of complexity into the development and measurement of urban transportation strategies that goes far beyond the current Level of Service metric that we are familiar with and use to address system performance.

As Pasadena updates its General Plan, the city is using this opportunity to redefine critical aspects of its transportation policy. In addition to the added aspect of sustainability, the city's transportation system is also expected to support the goals of livability, neighborhood protection and mobility. As a city whose street network developed in the first quarter of the

20th Century and which has been fully urbanized for many years, Pasadena is not in a position to add new streets or to widen existing ones. As a result, the city is electing to redefine its transportation policies to embrace a system management concept that emphasizes improved operations strategies, expanded transit, bicycle and pedestrian systems coupled with transportation demand management and supported by traffic calming at the neighborhood level.

Pasadena is currently using a conventional set of performance measures for evaluating system performance and in reviewing the impacts of new development. Intersection volume to capacity ratios and Level of Service are the primary measures. The city also uses a volume-based analysis of change in traffic on street segments to assess impact.

For the current General Plan update, the city is reevaluating the current transportation performance measures in the context of how well each helps Pasadena meet its objectives for transportation and mobility. With the expanded emphasis on sustainability and a continued focus on livability, the performance measures are also being evaluated for their ability to assist with determining how to balance trade-offs among travel modes and among the mobility needs of different members of the community.

When looked at in the above context, the current measures are silent with regard to system performance of non-auto modes and tend to generate mitigation solutions that encourage widening of intersections and streets, which may compromise the performance of non-auto modes and are increasingly contrary to community values. Consequently, the city has begun a process for developing a more robust set of measures that decrease the emphasis on additional vehicle capacity and on reducing individual intersection delay in favor of increasing the emphasis on network management and travel time reliability.

Vehicle miles of travel (VMT) per capita is one of the measures under consideration. Similarly, representative travel times over typical routes are also under consideration. Speed suitability by street type is also being evaluated. These measures, while measurable at an empirical level, are difficult to forecast in the absence of sophisticated models. They operate at district (VMT) and corridor (travel time, speed) scales, which maybe useful for measuring the General Plan performance, but might mask individual project-level impacts.

Additionally, the new measures need to decrease the emphasis on the efficiency of auto travel relative to other modes and they need to address the manner in which people use and experience the transportation system. This is being accomplished by subscribing to the use of Multi-modal Level of Service (MMLOS) analysis that emphasizes quality of travel experience by walk, bike, transit, and car. MMLOS techniques are available from a variety of sources that include federal research publications (NCHRP 3-70), Florida DOT, and the cities of Austin, TX and Boulder and Fort Collins, Colorado. In advance of the methodology that will ultimately be published in the 2010 Highway Capacity Manual, the city is evaluating the available methods for applicability and use in Pasadena.

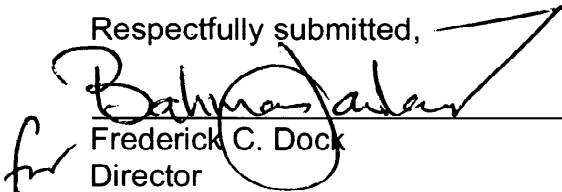
The city is also considering the use of measures that reflect the interactions between land use, community character and transportation systems. These types of measures, which are more esoteric and less well-defined empirically, include parking availability and pricing suitability, the quality and accessibility of traveler information, the impact on sustainability and livability. These metrics may initially measure program availability rather than system performance.

Over the next several months, the new set of performance measures will be evaluated for their relevance to General Plan goals as well as their ability to quantify both project-specific and cumulative impacts and to serve as a basis for justifying thresholds of significance for environmental impact analysis and for supporting nexus-based impact fees (which the city already has in use).

COUNCIL POLICY CONSIDERATION:

This workshop supports the General Plan guiding principle, "Pasadena will be a city where people can circulate without a car." New transportation performance measures will assist the Department of Transportation in implementing the four major objectives of the Mobility Element:

- Promote a livable community
- Encourage non-auto travel
- Protect neighborhoods by discouraging traffic from intruding into neighborhoods
- Manage multimodal corridors to promote and improve citywide transportation services.

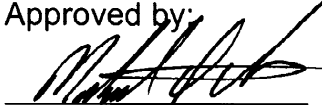
Respectfully submitted,

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