

**Memorandum****PROJECT: North Santa Monica Boulevard Reconstruction****PSOMAS Project No. 1BEV041000**

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**To: Dr. Barry Pressman, Chair**  
**North Santa Monica Boulevard Blue Ribbon Committee**

**From: Psomas**

**Subject: North Santa Monica Boulevard Reconstruction Project**  
**Blue Ribbon Committee Meeting #3 Continuation – Information Packet**

**Date: January 22, 2014**

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This memorandum and attached Information Packet is provided to the Blue Ribbon Committee in preparation for the continuation of Blue Ribbon Committee Meeting #3, scheduled for January 22, 2014. Attachment 1 outlines the specific issues and provides a summary of considerations for each to be voted on by the Blue Ribbon Committee. In Blue Ribbon Committee meeting #3 questions were raised by Committee members regarding various topics identified in the table of contents attached herewith. The Psomas team has gathered the data requested by the Blue Ribbon Committee Members and the information provided herein constitutes our response to the questions raised by the Committee members at Blue Ribbon Committee meeting #3.

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**Appendix**

**Appendix A – Email Correspondence: LADOT Bicycle Division**

**Attachment 1 - Blue Ribbon Committee Voting Matrix**

Issue	Considerations
<b>Existing Roadway</b>	
<p><b>Maintain Existing Curb to Curb Width</b></p>	<ul style="list-style-type: none"> <li>• Replaces failed infrastructure (curb, gutter, pavement, utilities).</li> <li>• Improves storm water conveyance.</li> <li>• Improves riding/walking condition.</li> <li>• Improves curb radii and curb ramps.</li> <li>• Increased construction duration and phasing/sequencing costs.</li> <li>• <b>Reference Exhibits 5, 6, 7, 8</b></li> </ul>
<b>Enhancement Options</b>	
<p><b>Widen Roadway to Current Standards</b></p>	<ul style="list-style-type: none"> <li>• Allows safe shared access and accommodation for potential future bicycle lane.</li> <li>• Provides adequate lane width for safe passage of bicyclists by vehicles in conformance with Three Feet for Safety Act.</li> <li>• Allows additional width for stopped buses.</li> <li>• Allows additional width for emergency vehicle access.</li> <li>• Displaces 3' to 6' of current parkway.</li> <li>• <b>Reference Exhibits 1, 3, 9, 10, 11, 12</b></li> </ul>
<p><b>Bicycle Lanes (if widening is elected)</b></p>	<ul style="list-style-type: none"> <li>• Requires additional Striping and signage.</li> <li>• Specifically designated lane for bicycles.</li> <li>• Identifies corridor as a bicycle route.</li> <li>• Potentially encourages additional bicycle use.</li> <li>• <b>Reference Exhibits 1, 9, 10, 11, 12</b></li> </ul>
<p><b>Vegetated Medians</b></p>	<ul style="list-style-type: none"> <li>• Potentially effects emergency vehicle access (BH Public Safety must review design).</li> <li>• Provides additional green space</li> <li>• Provides additional area to place signage and lighting.</li> <li>• Establishes physical separation of opposing traffic.</li> <li>• Establishes an identity for the corridor.</li> <li>• Visually Pleasing.</li> <li>• Diminishes storm water run-off.</li> <li>• <b>Reference Exhibits 2, 3, 7, 8, 9, 11</b></li> </ul>
<p><b>Parkway-Street Trees</b></p>	<ul style="list-style-type: none"> <li>• Establishes physical delineation between Park/parkway and Street.</li> <li>• Establishes an identity for the corridor.</li> <li>• Visually Pleasing.</li> <li>• <b>Reference Exhibits 9, 11</b></li> </ul>
<p><b>Bus Turnouts</b></p>	<ul style="list-style-type: none"> <li>• Metro does not prefer and will not use.</li> <li>• Increased potential for accidents when buses reenter traffic.</li> <li>• Would require 2,400 square feet of space from Park/parkway.</li> <li>• No available area on south side of street.</li> </ul>
<p><b>Bus Shelters</b></p>	<ul style="list-style-type: none"> <li>• Provides physical shelter from elements.</li> <li>• May select special design to identify the corridor.</li> <li>• Must be Accessible (conform to ADA/Title 24).</li> </ul>

**1. Topics**

**a. Do Bike Lanes Improve or Impede Traffic?**

The following is a list of studies reviewed during the pre-design phase of this project:

- *Implications of Modifying State Aid Standards: Urban Construction or Reconstruction to Accommodate Various Roadway Users* – Minnesota DOT; December 2013.
- *Route Infrastructure and the Risk of Injuries to Bicyclists: A Case-Crossover Study* – Kay Teschke et al.; American Journal of Public Health; 2012.
- *Power to the Pedalers* – Adam Arvidson; Planning; May/June 2012.
- *Evidence on why Bike-Friendly Cities are Safer for all Road Users* – Marshall, Wesley E., N. W. Garrick; Environmental Practice 13 (1); March 2011.
- *In Publication No. FHWA-RD-99-035* – The Federal Highway Administration (FHWA); October 1999.

Studies related to bicycle lanes were reviewed (see list) and most focus on the effect of the lanes on safety for both bicyclists and motorists and conclude that bicycle lanes improve safety. There were no studies identified that explicitly quantified the impact of bicycle lanes on traffic flow in the adjacent vehicular travel lanes. In our opinion, bicycle lanes should not impede the flow of traffic in adjacent lanes. On the contrary, by removing bicycles from the travel lanes and providing them with a designated lane, vehicles are able to pass bicyclists with little delay and they are more likely to stay in their lane rather straying into the adjacent lane and negatively impacting traffic flow in that adjacent lane. One study has noted that drivers tend to drive a bit slower when bicycle lanes are present (Arvidson 2012). This does not mean that their flow is impeded, but rather the drivers are being more cautious.

**b. Recommended Bicycle Accommodation configuration (if widening is elected)**

We recommend a Shared Roadway (No Bikeway Designation) as described in the Caltrans Highway Design Manual, Chapter 1000 Bicycle Transportation Design. This is consistent with California Vehicle Code (CVC) Section 21202 which requires that any person operating a bicycle upon a roadway at a speed less than the normal speed of traffic moving in the same direction at that time shall ride as close as practicable to the right-hand curb or edge of the roadway. This is also consistent with CVC Section 21760, the “Three feet for safety act.”

With the proposed 16’ wide curb lane and most bicyclists located 3’ from the curb (assuming a 2’ gutter), there will be 12’ in which a vehicle can pass a bicyclist (see Exhibit 1, attached) leaving 3’ of clearance. There would be few vehicles that could not move to the inside 10’ of the lane and leave 3’ of clearance when passing a bicyclist in the 16’ lane. This is in contrast to the current lane widths where many vehicles have to move into the number 1 lane (i.e. the lane closest to the center) to safely pass a bicyclist, respecting the 3’ clearance requirement.

**c. Potential Median Cross Section Geometry/Width**

Vegetated Medians are proposed in our Recommended Alternative for Blue Ribbon Committee Consideration with exact number, size and location of proposed medians shall be determined in the design process. Initial candidate locations have been identified based on existing striped median locations (see Exhibit 2, attached).

We will partner with the Police and Fire officials to evaluate which of the locations would be viable from a public safety perspective. Exhibit 3 illustrates the functionality of the roadway for emergency access. Exhibit 3 will be used in dialogue with Police and Fire. A meeting with the Police and Fire Chiefs, scheduled for January 21, 2014, will provide additional information that will be reported at the Blue Ribbon Committee Meeting #3 Continuation meeting.

Our team has developed a cost model based on all the available/candidate locations. We estimate that the 3' wide medians (including concrete, curb and gutter, trees, planting, irrigation, stamped concrete, and accent lighting) would add approximately \$216,000 (in hard construction cost) to the base cost of the project.

**d. West Hollywood/Los Angeles Bike Lane Connectivity Coordination**

Our team has touched base with Melissa Antol of the West Hollywood Community Development Department, and she will submit a letter on behalf of West Hollywood confirming their commitment to provide bicycle connectivity to Beverly Hills. We also reached out to Tim Fremaux of the City of Los Angeles Department of Transportation (LADOT) Bicycle Division. Tim has responded to Aaron Kunz via email to confirm LADOT's commitment to work with the City of Beverly Hills on implementation of a seamless bike lane connection. A copy of the email has been included in herewith as Appendix A.

**e. Bus Stops and Shelters**

The project will include a bus stop with ample space for amenities such as a shelter (if decided later). The project scope shall include design for infrastructure, such as electrical/data conduits, paving and an accessible path of travel to serve the bus stop. The specific details shall be determined in the design process.

**f. Pavement Materials (Asphalt vs Concrete)**

Committee members inquired regarding the potential of constructing the roadway of concrete instead of asphalt. A brief comparison of the two materials is included below.

Portland Cement Concrete (PCC):

PCC, known as "rigid" pavement, is a strong and durable pavement material. It typically requires a thinner section than asphalt concrete (AC) to achieve similar strength. For example, a 6" PCC section may be equivalent to a 10" of AC section. The section thickness and composition is determined by the soils engineer based on assumed traffic loads and existing soil characters. PCC is generally maintenance free for its 30 to 40 year lifespan, however, it is more expensive to construct than asphalt paving. PCC may be poured in one lift, and has a longer curing ("drying") time. Due to its rigidity, expansion joints are required for proper construction. The joints can contribute to bumpy road conditions. The color is light and has a lower heat gain, but the light color makes it difficult to see paint markings/stripping. White and yellow paint colors, typically require an additional black paint outline to be legible, increasing construction cost and maintenance of markings. If roadway maintenance or subsurface repairs are required, entire sections (areas within expansion joints) of PCC may need to be removed and re-poured.

Asphaltic Concrete (AC):

AC pavement is considered “flexible” pavement. It is less rigid than PCC and requires a thicker section to achieve a similar strength to PCC. With regular maintenance, including resurfacing mill and overlay approximately every ten years, AC pavement can last 30 to 40 years. It may be placed in multiple lifts, allowing flexibility for various construction phasing options. The first lift, called the “base course” may be driven on temporarily until the final lift (the wearing surface) is placed. AC pavement also has a shorter curing time, reducing construction duration. Proper placement with an even finish, free of cracks, bumps and dips, create a smooth driving condition. Due to the black color, various pavement markings and traffic indicators are easily visible to motorists. If roadway maintenance or repairs are required smaller sections of AC paving can be removed and patched. The entire pavement section does not always need to be removed and re-placed.

Pavement Acoustics:

There is abundant ongoing research (Caltrans and the University of California Pavement Research Center; Davis and Berkeley) regarding noise due to the tire/pavement interaction. The results of these studies are highly technical, but it is generally accepted that this noise emission from road traffic normally increases over time as the road pavements age and are exposed to traffic and weather. Much of this research is targeted toward development of quieter AC pavement. PCC does not deteriorate in the same way as AC, so the increase in noise emission over time is less of a concern.

Relative Cost:

We performed an evaluation of the cost difference between AC and PCC pavement based on similar recent projects and cost data available from Caltrans and Los Angeles County. It is anticipated that the cost for PCC would be approximately 35% to 50% greater than AC (paving option cost only).

**g. Beverly Blvd/North Santa Monica Boulevard Intersection (approach to improve conditions)**

The Beverly Boulevard/Santa Monica Boulevard intersection was a problematic intersection in the 1980’s. In addition to the movement of vehicles on North Santa Monica Boulevard, Palm Drive and Beverly Boulevard, the intersection also included movements across Beverly Boulevard onto Civic Center Drive. There were more than 20 different movements at the intersection.

In the late 1990’s, the City restricted movements on Civic Center Drive. The residential east side connection was disconnected and Civic Center Drive was capped by a new cul de sac. The west side was converted to right in/right out movements only. This reduced the number of movements controlled by the signal to 11.

In 2010, the City replaced the eastbound “No Right Turn on Red” with a right turn arrow which allows right turns to occur during the eastbound through phase as well as during 10 seconds of the Beverly Boulevard left turn phase. This reduced congestion and enhanced safety.

During the last three years, May 2010 through May 2013, there have only been four reported accidents at this intersection.

During the design phase, the Psomas team will consider additional improvements at the intersection. Improvements may include controlling left turns with “cat tracks” (i.e. dashed pavement markings indicating the turning movements within an intersection) from Beverly Boulevard onto Santa Monica Boulevard to keep vehicles in their lane. These left turns will also be facilitated by the widening (if elected) of Santa Monica Boulevard which will result in wider receiving lanes into which these left turns will be made (see Exhibit 4, attached). Other considerations that will be examined include the design of median islands, locations of stop bars, crosswalk location, curb return radii and lane widths.

**APPENDIX A**  
**Email Correspondence: LADOT Bicycle Division**

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**From:** Aaron Kunz [<mailto:akunz@beverlyhills.org>]  
**Sent:** Thursday, January 16, 2014 7:48 AM  
**To:** Jeff Chess; Sean Vargas  
**Subject:** Fwd: Bike Lanes on Santa Monica

Here's the email from LA to add to the section about inter jurisdictions.

Sent from my iPad

Begin forwarded message:

**From:** Tim Fremaux <[tim.fremaux@lacity.org](mailto:tim.fremaux@lacity.org)>  
**Date:** January 14, 2014 at 4:44:39 PM MST  
**To:** Aaron Kunz <[akunz@beverlyhills.org](mailto:akunz@beverlyhills.org)>  
**Cc:** Martha Eros <[meros@beverlyhills.org](mailto:meros@beverlyhills.org)>, Teresa Revis <[trevis@beverlyhills.org](mailto:trevis@beverlyhills.org)>  
**Subject:** Re: Bike Lanes on Santa Monica

No problem, you can include.

On Tue, Jan 14, 2014 at 3:42 PM, Aaron Kunz <[akunz@beverlyhills.org](mailto:akunz@beverlyhills.org)> wrote:  
Thanks Tim

I am out of town. Are you ok with us including your email with the Committee packet? Please let Martha and Teresa know .

Sent from my iPhone

> On Jan 14, 2014, at 4:08 PM, "Tim Fremaux" <[tim.fremaux@lacity.org](mailto:tim.fremaux@lacity.org)> wrote:  
>  
> Hi Aaron,  
>  
> I understand that the City of Beverly Hills is considering bike lanes (or at least widening for future bike lanes) on Santa Monica Blvd. within the Beverly Hills City Limits. I also understand via Michael Meyer that there is a desire to interface with the neighboring cities of West Hollywood and Los Angeles to ensure optimal regional bikeway connectivity as it pertains to the Santa Monica Blvd. corridor. On behalf of the City of Los Angeles, I would like to confirm that we are committed to working with the City of Beverly Hills to design and implement a

seamless connection between our respective existing and planned bike lanes at the western Beverly Hills/Los Angeles City Limit.

>

> Presently, the bike lanes on Santa Monica Blvd. within the City of Los Angeles terminate at Avenue of the Stars. The section from Avenue of the Stars to the Beverly Hills City Limit is identified on our adopted 2010 Bicycle Plan for future bike lanes. We are currently working on an easterly extension to Century Park East that is achievable without removing the existing number of vehicular lanes.

>

> Extending the lanes up to the City Limit is contingent upon a more developed understanding of the configuration proposed in Beverly Hills, and then analyzing and determining what if any changes to the lane configurations would be required. We are committed to working with you as these facilities are being developed in an effort to come up with an optimal solution. If you have any questions or would like to discuss further, please don't hesitate to contact me.

>

> Sincerely,

>

> --

> Tim Fremaux, P.E.

> Transportation Engineering Associate III

> City of Los Angeles Department of Transportation

> Project Delivery Division - Bikeways Section

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