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Bicycle Advisory Committee of the City of Los Angeles

Date: 6-3-15
Submitted in PWGR Committee
Council File No: 05-0173
Item No.: 6
~~Deputy~~: public

June 3, 2015

Public Works and Gang Reduction Committee
Los Angeles City Council
200 North Spring Street
Los Angeles, California 90012

Re: Council File 05-0173: Glendale/Hyperion Bridge Complex

Dear Councilmembers:

The Bicycle Advisory Committee of the City of Los Angeles ("BAC") was established in 1973 "to act in an advisory capacity to . . . the various agencies of the . . . City of Los Angeles in the encouragement and facilitation of the use of the bicycle as a regular means of transportation and recreation." Since adoption of the 2010 Bicycle Plan by a unanimous vote of the Los Angeles City Council, the BAC has also been charged with monitoring the "progress of Bicycle Plan implementation." Policy 3.2.1. We take seriously our obligation to ensure that Los Angeles' elected and appointed officials fulfill their duties to fully implement the Bicycle Plan, and follow the law regarding bicycling.

On June 2, 2015, the BAC voted unanimously to oppose the Bureau of Engineering's recommended design option for the Hyperion Bridge. Instead, we support a design along the basic outlines of Option 3, with three vehicle travel lanes, sidewalks on both sides of the bridge, and Class IV bikeways on both sides of the bridge that (1) meet City- and State-approved design guidelines; (2) are safe and comfortable for people of all ages and abilities who ride bicycles; and (3) are designed to meet future demand for bicycling, including access to the LA River Bike Path from both sides of the river.

In addition, the BAC strenuously objects to the Mitigated Negative Declaration. Because the BOE's proposed design will have significant, unmitigated impacts on people who travel by bicycle, a full Environmental Impact Report/Environmental Impact Report is required.

* * *

The BAC has no idea what is being proposed or promised to bicyclists; the documents use inaccurate and inconsistent language that makes it impossible to conclude that there is no impact on bicycling.

Under California law, there are four categories of bikeways:

1. Class I Bike Paths, such as the LA River Bike Path, generally outside a roadway.
2. Class II Bike Lanes, which are striped lanes for bicyclists on the roadway;

3. Class III bike routes, which are merely posted signs (and sometimes shared lane markings, or "sharrows").
4. Class IV cycle tracks or protected bike lanes, which include some sort of physical separation between motor vehicle lanes and the bikeway. In California, a "raised bike lane" that is separated from vehicle lanes by differences in pavement elevation and sloped transition area, is a "Class IV" bikeway.

Each type of bikeway has different design standards regarding recommended and minimum widths. Thus, in order for you to determine whether BOE's recommended option meets applicable design standards, you must know what type of bikeway is being proposed. You cannot know that from the documents before you.

In some places, the documents state that the proposal includes "raised bike lanes"—which are a Class IV bikeway. Raised bike lanes are shown in Exhibit 8-1. Page 8-1 states "The bike lanes would consist of a 3-inch-thick raised surface." Page 4 of Psomas' May 28, 2015 memorandum states that the Project includes "Raised bike lanes on both sides of Hyperion Avenue."

Elsewhere, these same documents state that the City will provide only Class II painted bike lanes. The May 28 Psomas memorandum, at page 6, states: "The project will add class II bike lanes." The MND Appendix B-1 states: "The project has been revised to add bicycle lanes," with a footnote clarifying that this means a "Class II bikeway."

If BOE is proposing a Class IV bikeway, the proposal has an impact on bicycling because the "raised bike lanes" do not meet the requirements for a Class IV bikeway.
Under Streets and Highways Code section 891, the City may not utilize a Class IV bikeway unless it meets all three of the following requirements:

1. Has been "reviewed and approved by a qualified engineer with consideration to the unique characteristics and features of the proposed bikeway and surrounding environs."
    a. There is no indication that any of the BOE or Psomas engineers are qualified with respect to bikeway design; LADOT's professional bikeways staff has deliberately been excluded from offering their professional opinion.
2. Is adopted by resolution at a properly noticed public meeting with opportunity for public comment.
    a. This has not been done.
3. "Adheres to guidelines established by a national association of public agency transportation officials." This is a reference to the NACTO Urban Bikeway Design Guide, which includes the following guidelines:
    a. "Desirable one-way raised cycle track travel surface **width is 6.5 feet** to allow side-by-side riding or passing. Desired **minimum width is 5 feet at** intersections and pinch points. Additional width may be needed for protection from traffic or parking and/or shy distance to sidewalks or furnishings."
    b. The Recommended Option does not meet these standards; **at no point is it wider than 6 feet, and 4.5 feet under the Waverly Bridge**, where the east bikeway is immediately

adjacent to the underpass wall. The 2010 Bike Plan's Technical Design Handbook states that raised bikeways must have a minimum width of 5 feet. (TDH p. 9-122.)

c. "When configured next to a motor vehicle travel lane, the desired minimum width of a mountable curb is 1 foot."
d. The Recommended Option shows a 6" mountable curb width. The width and safety of the mountable curb—which allows people on bikes to safely move out of the bike lane to avoid people on foot or to pass slower people on bikes--is particularly important here where the cycle track is quite narrow. See also TDH p. 9-122 ("Mountable curb should have a 4:1 or flatter slope and have no lip that could catch bicycle tires.").

In short, because the proposal does not meet any published design standards for a Class IV bikeway. In legal terms, a "fair argument" can be made that, if a Class IV bikeway is proposed, it would have an impact on bicyclists due to inconsistency with the City's Bike Plan and federal regulations requiring accommodation of bicycling on the Hyperion Bridge.

On the other hand, the City also cannot conclude that Class II bike lanes would not adversely affect bicycling on the bridge.

The City of Los Angeles typically requires that Class II bike lanes be at least 5 feet wide. However, on the Hyperion Bridge, these minimum widths are insufficient.

Bikeway design guidance states that, in cases of sustained grades, bikeways should be widened to accommodate higher speeds of descending bikes, and passing slower ascending bikes. For example, the Bike Plan TDH states that design speed should be increased, and additional width should be provided, on sustained grades over 2%. *See also* Caltrans Highway Design Manual 301.2 re wider bike lanes on grades. The MND is silent about the grade of the Hyperion Bridge, the length of that grade, and the design speed of the proposed bikeways. There is no indication that BOE considered this issue at all.

Bike lanes must be wider where there are gutter pans. Because bike tires are narrow, the size and position of drains, pavement seams, etc. are important concerns in the design of bikeways. Psomas' June 5, 2014 Technical Memorandum No. 6 states that, under various design standards, there must be "at least 3 feet of ridable width outside the gutter pan." According to Psomas, failure to provide this width "***could pose a safety concern***." Nothing in the MND provides a level of detail sufficient to assess this "gutter pan" issue. A careful examination of the drawing suggests that BOE has simply erased gutter pans from the drawing of its proposed design, but not addresses this safety concern.

In Technical Memorandum No. 6, Psomas concludes that "the combination of minimum width elements is not desirable and could result in safety issues. In this case there are very narrow bike lanes adjacent to narrow travel lanes, which in turn are adjacent to a median of substandard width. ITE's *A Context Sensitive Approach* (2010) states *"While it may be advantageous to use minimum dimensions under certain circumstances, avoid combining minimum dimensions on adjacent elements to reduce street width where* ***it could affect the safety of users****. For example, avoid combining minimum-width travel lanes adjacent to a minimum width parking/bicycle* [lane]*".* [sic]

In Technical Memorandum No. 6, Psomas states the following about the Waverly underpass: "Sight distance in the northbound direction is restricted by the retaining wall shown in Figure 1. Furthermore, because of the downhill grade, the required stopping sight distance is greater. Because of this, northbound drivers in the outside lane would at certain locations be unable to see bicyclists in the northbound bike lane. In addition, off tracking from northbound trucks negotiating the curve may encroach into the bike lane."

Psomas' Technical Memorandum No. 6 also recognizes that, where a bike lane is adjacent to a vertical obstruction such as the walls of the Waverly underpass, published standards call for bike lanes to be wider than the 5 foot minimum.

In short, according to Psomas—BOE's retained engineering firm—if the "recommended option" includes Class II bike lanes, those bike lanes present safety concerns, and thus unquestionably have an impact on bicycling.

Psomas is so concerned about how the safety (or lack thereof) of narrow bike lanes through the Waverly underpass that they recommend the following: "If four lanes of travel are selected as the preferred alternative, consider using a Class III bike [route] for northbound Hyperion Avenue from Rowena Avenue to a point north of the Waverly Drive underpass." Of course, if the City fails to provide a Class II or Class IV bikeway, the proposal will be in direct conflict with the City's 2010 Bike Plan (and proposed Mobility Element), as well as federal regulations requiring accommodation of bicycling across the entire project.

If you have any questions, feel free to contact me at 323.646.3308 or jeff.jacobberger@gmail.com.

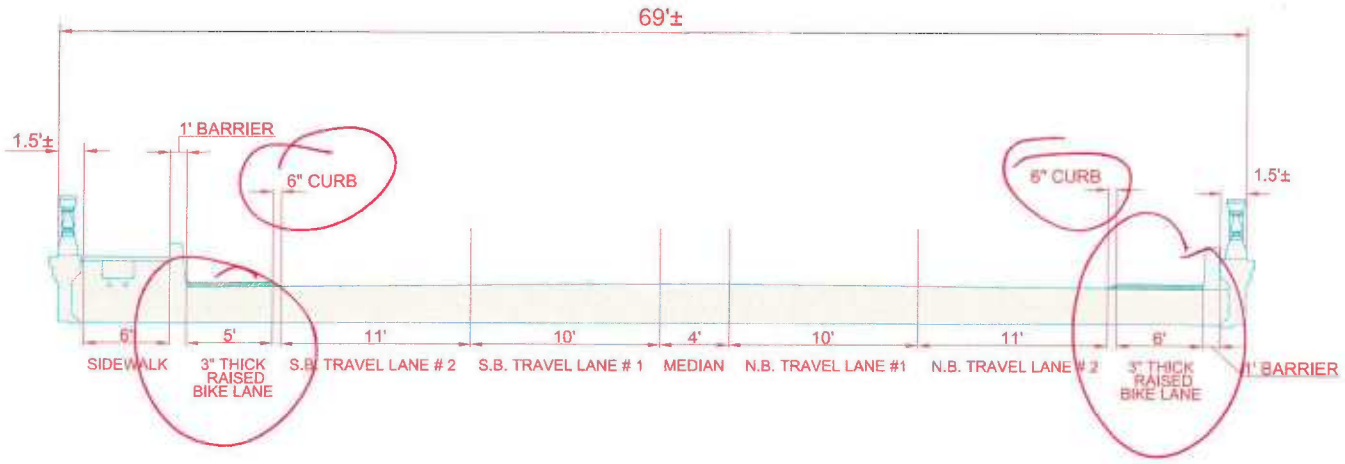
Very truly yours,

Jeff Jacobberger
Chair, Bicycle Advisory Committee
of the City of Los Angeles

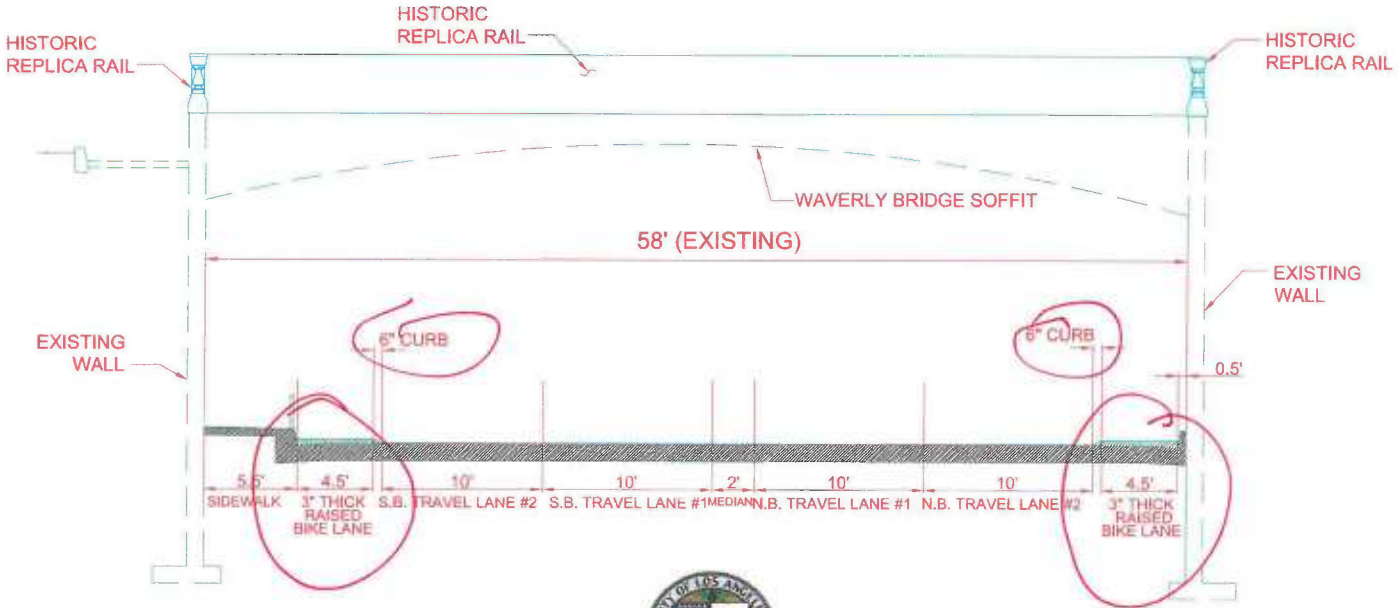
cc: Daniel Rodman, Office of the Mayor

RECOMMENDED OPTION

HYPERION AVENUE BRIDGE OVER I-5, RIVERSIDE DRIVE AND LA RIVER (LOOKING NORTH)



HYPERION AVENUE AT WAVERLY DRIVE (LOOKING NORTH)



ENGINEERING
CITY OF LOS ANGELES
CITY ENGINEER: GARY LEE MOORE, PE, ENV SP

MARCH 2015

LADOT
GENERAL MANAGER: SELETA REYNOLDS

- Seismically strengthen vulnerable Viaduct Complex structures.
- Improve the Hyperion Avenue viaduct roadway by adding a center median barrier to physically separate northbound and southbound traffic, consolidate the existing two sidewalks into a single sidewalk along the west side of the complex, add a pedestrian crosswalk across southbound Glendale Boulevard at the northern end of the bridge, and restripe the travel lanes to provide new lane widths (12-foot inner and 14-foot wide curb).
- Widen the northbound and southbound Glendale Boulevard viaducts over the Los Angeles River by approximately eight feet.
- Replace the existing covered railings along both Glendale Boulevard viaducts, along Hyperion Avenue, and along the Waverly Bridge with replica balustrades based on the original railing design.
- Realign the existing I-5 northbound off-ramp to Glendale Boulevard to connect with northbound Glendale Boulevard south of the current exit to allow left hand turns onto southbound Glendale Boulevard.
- Add an access ramp from northbound Glendale Boulevard to the bike path along the Los Angeles River.
- As a mitigation measure, construct a pedestrian crossing over Los Angeles River piers on the east side of the complex to connect with northbound Glendale Boulevard.

Design Options

In response to public comments received during the review period, the project has been revised to add bicycle lanes[1] to the roadway of the Hyperion Avenue Viaduct (comprising three structures: Caltrans bridge numbers 53C-1882, 53-1069, and 53C-1881) as a design option. The bike lanes would be created by means of striping and symbols painted on the paved roadway. The addition of bicycle lanes will not involve any change to any of the historic features of the viaduct nor affect those features in any way. The viaduct (aka "bridge") will not be widened. The approaches will not be widened. The space for the bike lanes will be accommodated by adjusting the width (or possibly the number) of the traffic lanes and/or adjusting the width of the median of the roadway. The environmental assessment (Sec. 1.3) describes the proposed roadway of the viaduct as having two 12-foot lanes, two 14-foot lanes, a 7-foot median and a 7-8-foot sidewalk along most of the viaduct length, all narrowing under the Waverly Drive Bridge (Caltrans bridge number 53C-1179). For the design option, various configurations are being considered; no decision has been made on which configuration to adopt. One preliminary, possible configuration could include 5-foot bike lanes, 11-foot traffic lanes, a 5-foot sidewalk and a 4-foot median for most of the bridge length, all narrowing under the Waverly Drive Bridge. Exhibits 1-3 below show three possible configurations under consideration; other configurations may also be considered.

While the exact configuration has not yet been decided (the City is collaborating with a citizens' advisory committee to develop the final configuration), the City has committed to including the

[1] Bicycle facilities are defined in the City's 2010 Bicycle Plan, a component of the Transportation Element of the General Plan. A "bicycle lane" (aka "bike lane") is defined as "a striped lane for one-way bicycle travel on a street or highway." Caltrans refers to this facility as a "Class II bikeway." Striping, other pavement markings, and signage on City bike lanes follow the Caltrans Manual on Uniform Traffic Control Devices.

- Sidewalks: 6 ft sidewalk along the west side of Hyperion Avenue over I-5 and the LA River (5.5 ft under Waverly Drive).
- ADA Compliant Pedestrian Access Route (PAR): The new sidewalk will provide an ADA-compliant PAR from Silver Lake to Atwater Village.
- Bike Lanes: Raised bike lanes on both sides of Hyperion Avenue
- Access and Conflict Points:
    - Existing signalized crossings as well as number/location of driveways and access points will remain the same.
    - A signalized pedestrian crossing of Glendale Boulevard will be added at the east end of the Hyperion bridge.
    - A new signalized crossing will be provided for pedestrians at the proposed realignment of the I-5 northbound off ramp onto Glendale Blvd (see Figure 3).
    - A new pedestrian bridge will be constructed across the LA River on the old Red Car piers east of the Hyperion bridge (see Figure 3 below).

Figure 3: Proposed Pedestrian Bridge and Signalized Crossing of Realigned I-5 Northbound Off Ramp

COMPARISON OF EXISTING AND PROPOSED BICYCLE AND PEDESTRIAN FACILITIES

Figure 4 presents the existing and proposed pedestrian facilities, as well as other key pedestrian features along or near Hyperion Avenue.

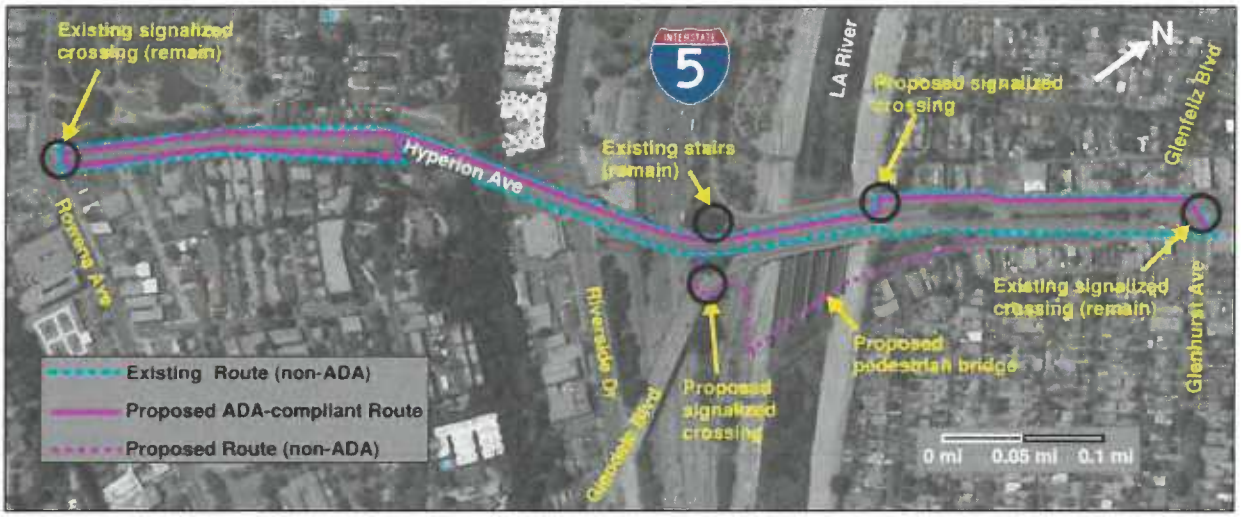


Figure 4 Comparison of Existing and Proposed Pedestrian Facilities

Based on Figure 4, as well as on information previously presented on this memorandum, the following are summaries of advantages and disadvantages of the recommended improvements when compared to the existing conditions.

Advantages of the recommended improvements

1. Improved conditions for disabled pedestrians by adding an ADA-compliant Pedestrian Access Route (PAR) from one end of the project to the other. Eliminating the extremely narrow sidewalk (2-ft wide) near Waverly Drive will also help improve safety in the vicinity of the underpass.

2. Improve safety for pedestrians crossing southbound Glendale Blvd at the east end of the Hyperion bridge by installing a signalized crossing.

3. Provides an additional pedestrian facility with the new Red Car bridge over the LA River. The recommended signalized crosswalks at the Glendale Blvd/I-5 NB Off-ramp will minimize vehicle-pedestrian conflicts for people walking to and from the new Red Car bridge or Glendale Blvd.

4. Enhances bicyclist safety and encourages bicycling by adding raised bike lanes on both sides of Hyperion Avenue.

Disadvantages of the recommended improvements

1. Eliminates the proposed sidewalk on the east side of the Hyperion bridge. This will require longer travel paths for pedestrians starting or ending their trips on the east side of Glendale Blvd between the LA River and Glenhurst Avenue. For able-bodied pedestrians who can negotiate

the stairs on the Hyperion bridge and use the Red Car pedestrian bridge, the increase in travel distance will be up to approximately 310 ft (1.5 min at 3.5 ft/s walking speed). Disabled pedestrians would have to travel to the Glenfeliz/Glenhurst intersection and back track on the other side of the road, adding up to approximately 1,550 ft in travel distance (7.4 min at 3.5 ft/s). The alternative routes described here are illustrated in the Appendix. However, it should be noted that there is no existing ADA-compliant route along Hyperion Avenue from Silver Lake to Atwater Village (the alternative route from Rowena to Glendale Blvd is longer than the PAR from the recommended option).

EVALUATION OF CEQA SIGNIFICANCE THRESHOLDS FOR BICYCLE AND PEDESTRIAN SAFETY

This section focuses on evaluating the significance thresholds for bicycle and pedestrian safety based on the Los Angeles CEQA Threshold Guide (2006), Section L.5., Project Access. The assessment of the thresholds is done using a mix of qualitative and quantitative tools.

The determination of significance for Bicycle and Pedestrian safety is based on issues associated with conflicts between pedestrians or bikes and vehicles at access and other conflict points. Table 1 lists each criterion, the effects of the recommended option and whether or not there are significant impacts.

Table 1. Summary of CEQA Bicycle and Pedestrian Thresholds Assessment

CEQA Threshold Guidelines Criterion	Effect of Project	Significant Impact?
Amount of pedestrian activity at access points	Pedestrian activity is expected to continue to steadily increase. The removal of the sidewalk on the east side of Hyperion Avenue will eliminate conflicts at those access points, but will increase pedestrian activity along the west side of the road.	No
Features that affect the visibility of pedestrians and bicyclists to drivers (and vice versa).	The location, grade, width, and traffic control for side streets and driveways will remain unchanged. Therefore, no impacts are expected. Furthermore, the addition of bike lanes will improve visibility of drivers to bicyclists and pedestrians (and vice versa)	No
Type of bike facility the project driveways cross and level of utilization	The project will add class II bike lanes, which is expected to have two key beneficial effects: 1) Provide a dedicated, delineated space for bicyclists making drivers more aware of them; and 2) improve sight visibility for drivers at all access points by shifting vehicles away from the curb line.	No
Physical conditions such as curves, slopes, walls, landscaping or others that could result in vehicle/ pedestrian, or vehicle/bicycle crashes	No changes are proposed to physical conditions that would affect the listed crash types. In fact, the widening of the narrow sidewalk under Waverly Drive will help reduce vehicle/pedestrian crashes.	No

A. Travel Lane Width

Table 1 lists the lane width standards from applicable references.

Table 1. Travel Lane Width Design Standards

	AASHTO Green Book, 2011	A Context Sensitive Approach, ITE, 2010	Highway Design Manual, 2012, Caltrans
Section/ Chapter	7.3.3.	Chapter 9 (p136-138)	301.1
Min. Width	10	10	11
Std. Width	12	12	12
Additional Provisions	Lane widths of 10 ft may be used in more constrained areas where truck and bus volumes are relatively low and speeds are less than 35 mph. Lane widths of 11 ft are used quite extensively for urban arterial street designs	While it may be advantageous to use minimum dimensions under certain circumstances, avoid combining minimum dimensions on adjacent elements to reduce street width where it could affect the safety of users. For example, avoid combining minimum-width travel lanes adjacent to a minimum-width parking/bicycle	11 ft lanes are allowed in urban conventional highways with speed limits of 40 mph or less with low truck volumes. For highways, ramps, and roads with curve radii of 300 feet or less, widening due to off tracking in order to minimize bicycle and vehicle conflicts must be considered

B. Bike Lane Width

Table 2 lists the bike lane width standards from applicable references.

Table 2. Bike Lane Width Design Standards (Class II Lanes)

	AASHTO Green Book, 2011	Guide for the Development of Bicycle Facilities, AASHTO, 2012	A Context Sensitive Approach, ITE, 2010	Highway Design Manual, 2012, Caltrans	Urban Bikeway Design Guide, 2013, NACTO
Section/ Chapter	7.3.9	4.6.4	Chapter 9 (p155-157)	301.2	Conventional Bike Lanes
Min. Width (ft)	N/A	4	5	4	5
Std. Width (ft)	N/A	5	6	5	6
Additional Provisions	Refer to AASHTO Guide for the Development of Bicycle Facilities	5 ft is the recommended width, 4 ft is only allowed under extremely constrained conditions on low speed roadways where travel lanes have been reduced to their minimum dimensions	At least 3 ft of ridable surface required outside of the gutter pan	6 ft is minimum for roads with speed limit of 45 mph or higher. At least 3 ft of ridable surface required outside of the gutter pan	3 ft minimum ridable surface. The desirable bike lane width adjacent to a guardrail or other physical barrier is 2 ft wider than otherwise in order to provide a minimum shy distance from the barrier.

Table 6. Offset to Median Curb Design Standards

	AASHTO Green Book, 2011	Highway Design Manual, 2012, Caltrans
Section/Chapter	4.7.3	303.5
Min. Offset from Traveled Way (ft)	0	0
Max. Offset from Traveled Way (ft)	2	N/A
Additional Provisions	For low-speed urban street conditions, curbs may be placed at the edge of the traveled way, although it is preferable that the curbs be offset 1 to 2 ft.	When the posted speed is less than or equal to 35 miles per hour, no median curb offset is required if there is no gutter pan.

Findings and Recommendations

The previous section presented applicable standards for the various cross-sectional elements applicable to the Glendale-Hyperion project. In this section, those standards are compared to the three cross-sectional alternatives presented at the January 23, 2014 Citizens Advisory Committee. The cross-sectional alternatives are included in the appendix.

1. ***Hyperion Avenue Bridge***

The vehicular travel lane, sidewalk, bike lane and median widths on Hyperion Avenue meet the standards specified by AASHTO and are combined in a manner that distributes available space effectively among the various modes of transportation. However, the following recommendations are made for consideration by project stakeholders:

- Instead of using a flush paved median, consider using vertical curb to improve delineation, or the installation of a concrete barrier to provide enhanced separation between opposing travel directions. For a detailed discussion on this issue please refer to technical Memorandum #3, *Hyperion Bridge Median Treatment Need Assessment and Countermeasures.*
- In Exhibit 2 (a three lane alternative with one sidewalk) consider widening the bike lanes to 6 feet by reducing the buffer to 2 feet.

2. ***Hyperion Avenue under Waverly Drive***

The combination of limited clear width with tight horizontal curvature and a vertical grade make this location particularly challenging in terms of providing safe accommodation for all road users. The following substandard features are noted on the proposed alternatives:

- All three exhibits show the use of a gutter pan in the bike lane. Bike lane standards require at least 3 ft of ridable surface outside the gutter pan. Under Exhibits 1 and 2 the ridable surface is only 2 feet and is adjacent to narrow lanes, which could pose a safety concern.
- Exhibit 1 - Although most cross-sectional elements meet the minimum standard, the combination of minimum width elements is not desirable and could result in safety issues. In this case there are very narrow bike lanes adjacent to narrow travel lanes, which in turn are adjacent to a median of substandard width. ITE's *A Context Sensitive Approach* (2010) states *"While it may be advantageous to use minimum dimensions under certain circumstances, avoid combining minimum dimensions on adjacent elements to reduce street width where it could affect the safety of users. For example, avoid combining minimum-width travel lanes adjacent to a minimum-width parking/bicycle".*
- Exhibit 1 – The issue with narrow cross-sectional elements is compounded by the alignment of Hyperion Avenue at this location. Sight distance in the northbound direction is restricted by the retaining wall shown in Figure 1. Furthermore, because of the downhill grade, the required stopping sight distance is greater. Because of this, northbound drivers in the outside lane would at certain locations be unable to see bicyclists in the northbound bike lane. In addition, off tracking from northbound trucks negotiating the curve may encroach into the bike lane.

Figure 1. Sight Distance on Northbound Hyperion Avenue at Waverly Drive

Based on the preceding discussion on cross-sectional elements of Hyperion Avenue at Waverly Drive, the following recommendations are made for consideration:

- Exhibit 1 – If four lanes of travel are selected as the preferred alternative, consider using a Class III bike lane for northbound Hyperion Avenue from Rowena Avenue to a point north of the Waverly Drive underpass. Introduce a northbound Class II bike lane north of the underpass and carry it through the Hyperion Avenue bridge as shown in Exhibit 1. This alternative provides the following benefits: 1) it improves sight distance and overall visibility of bicycles, 2) since the road is in a downhill grade bicyclists can maintain higher speeds, 3) it allows redistribution of road width to other cross-sectional elements. For example, the southbound Class II bike lane (which would remain) could be widened to 5 ft, the travel lanes could be widened to 11 ft and the median could be widened to 3 ft.
- Exhibits 1, 2 and 3 – consider removing the gutter pan from the bike lane (and instead use a vertical curb without gutter), especially in the southbound direction where the road cross-section is super elevated; eliminating the need to convey drainage on the west edge of the road.
- Exhibit 2 – Widen the southbound travel lanes to 11 ft and both bike lanes to 5 or 6 feet (6 ft preferred if the gutter pan is to remain) by narrowing the median to 4 ft and reducing the bike lane buffers.
- Exhibit 3 – Widen the travel lanes to 11 ft by eliminating the bike lane buffers. As previously discussed, excessively narrow travel lanes are not desirable at this location because larger vehicles negotiating the tight horizontal curve could encroach into other lanes, including the proposed bike lane.
- Instead of using a flush paved median, consider using vertical curb to improve delineation, or the installation of a concrete barrier to provide enhanced separation between opposing travel directions. For a detailed discussion on this issue please refer to technical Memorandum #3, *Hyperion Bridge Median Treatment Need Assessment and Countermeasures.*