STAFF REPORT

Meeting Date: July 21, 2015

To: Honorable Mayor & City Council

From: Mark Cuneo, City Engineer
Aaron Kunz, Deputy Director of Transportation

Subject: North Santa Monica Boulevard Reconstruction Project

Attachments:
1. Street Cross-Section Options and Landscaping of Santa Monica 5 Parking Structures
2. Typical Swale - "Green-Street" Infrastructure
3. Median Options and Proposed Median Layout
4. Street Light Options

INTRODUCTION

This report continues the City Council's review of the Santa Monica Boulevard Reconstruction project at the 50% design drawing phase, focusing on: 1) widening on the south side of the roadway; 2) drainage concepts; 3) medians; 4) street lights; and 5) traffic mitigation during construction. Staff seeks City Council's direction on these items in order to proceed with the final design and preparation of construction documents for bidding purposes.

DISCUSSION

On January 6, 2015, City Council reviewed the traffic impact analysis and lane closure alternatives and authorized staff to begin detailed project design. Council directed staff to proceed with project design maintaining the existing northern curb face and return to City Council at "50%" project design with recommendations to widen the roadway on the south side in the 60 foot section between Wilshire Boulevard and Canon Drive up to three feet (3') and/or configuring the lane widths to potentially accommodate multi-modal uses (vehicles, buses and bicycles). In addition, City Council asked that staff continue working with the Traffic and Parking Commission to develop traffic mitigation measures. Psomas has prepared initial roadway design documents and completed the analysis of field conditions on the south side of the roadway adjacent to the Santa Monica 5 Parking Structures. Before proceeding further in design development, staff seeks direction from City Council on several important roadway design features and elements. The City Council Ad-Hoc Committee consisting of Councilmembers Krasne and Brien reviewed the items discussed in this report on July 9, 2015.

Roadway Widening (Southside between Wilshire Blvd. and Canon Dr.)

The existing curb-to-curb width of Santa Monica Boulevard varies from 60 feet between Wilshire Boulevard and Canon Drive to 63 feet between Canon Drive and Doheny Drive. Per City Council's request, the Psomas team evaluated widening on the south side of the roadway where the existing curb-to-curb roadway width is 60 feet.

Currently, the landscape area from the back of the curb to the face of the parking structure(s) retaining wall is 5'-4" wide. This area is landscaped with *Platanus acerifolia* 'Yarwood' trees spaced at 8 to 10 feet on center. Widening of the roadway to the south was determined to be feasible; however, any widening of the roadway to the south requires the curb to be moved into the landscape planting area and the existing landscaping to be replaced.

Option 1: 2'-4" Widening (Recommended)

The Psomas team is prepared to proceed with design of a 62'-4" roadway and a 3 foot wide area for landscaping adjacent to the parking structures. This planter width substantially limits the street tree options. However, a minimum 3' wide planting area is typically needed for Palms and will also provide the required canopy height to achieve an adequate clearance for vehicular traffic. The Psomas team is recommending Palm trees be placed in this area. A 62'-4" wide roadway will allow for the following lane widths (see Attachment 1): a 10' left turn lane; two - 10'-8" inside lanes; two - 15'-6" outside lanes. A full 3' widening was evaluated providing a constant roadway width and slightly wider inside lanes. However, trees cannot be accommodated along the Santa Monica 5 Parking Structures in that scenario. The pros and cons associated with this option are as follows:

Pros:
Wider roadway (62'-4")
Provides for a wider outside lane
Accommodates bike lane (if desired)
Additional room for buses, trucks and large vehicles (Including emergency vehicles)
3 feet for bicycle safety law
Planting area (3'-0" wide) accommodates planting of small trees (palms)

Cons:
Inconsistent roadway width
Existing trees removed
Relocation of traffic signal poles
Major modifications to curb ramps
Increased cost ($1.3M)

Option 2: No Widening

No widening provides for a 60 foot roadway and a 5'-4" wide landscape area adjacent to the parking structures. The existing roadway lane configurations are shown on Attachment 1. A 60 foot roadway width will allow for the following modified lane widths: a 10' left turn lane; two – 11' inside lanes; two – 14' outside lanes. The pros and cons associated with this option are as follows:

Pros:
Existing trees remain
Maximum planting area (5'-4")
Minimum relocation of traffic signal poles
Minimum modification to curb ramps
Lowest cost

Cons:
No additional width (60')
Inconsistent roadway width
Provides 3' wide bike area
Cannot be striped for bike lanes in both directions
3 feet for bicycle safety law

Staff seeks Council's direction on the proposed 2'-4" widening of the roadway and associated landscaping between Wilshire Boulevard and Canon Drive adjacent to the Santa Monica 5 Parking Structures (see Attachment 1).

Drainage Concepts

The scope of work for this project includes improvements to drainage along and under the roadway and from the alleys on the north side of Beverly Gardens Park. The project provides a significant opportunity to install "Green-Street" and/or "Low Impact Development" (LID) type infrastructure to advance the City's effort to comply with urban runoff water quality regulations. This regulation requires that runoff volume is minimized and rainwater is collected, treated and allowed to infiltrate into the ground replenishing the aquifer. During construction, the project will disturb the landscaping along the edge of the roadway; therefore, the restoration of landscaping in this area provides an opportunity to implement "Green-Street" type improvements. City Council adopted "Green-Street" policies for new Capital Projects on June 16, 2015.

Treatment and infiltration of the runoff from the roadway and alleys can be done with natural treatment systems placed on the ground surface or with proprietary treatment systems placed underground. Infiltration swales are natural treatment systems that are made by grading the ground surface to form a "V" shaped depression (the swale or ditch) with gentle side slopes. Several options are available for the landscape material within the swale from low water use grasses to gravel with drought tolerant plants. During rainy weather, runoff flowing overland or collected in pipes is directed to swales. The swales will treat and hold runoff allowing it to percolate slowly into the ground. The ideal location for swales to collect the maximum amount of roadway runoff is adjacent to the north edge of the roadway in the park (see Attachment 2). Swales for the alley drainage can be placed near the northern edge of the park or at practical locations within the park. The added cost to incorporate swales at 15 locations adjacent to the roadway is $0.6M above the previous budget.

An alternative for storm water treatment is to use proprietary bio-retention systems that can be placed underground along the edge of the roadway and within the park. During rainy weather, runoff collected in pipes can be directed to the underground bio-retention systems. The system will treat the runoff by filtering the storm water through a granular media (such as sand) to remove pollutants. Treated water can then be discharged back to the storm drain system or placed in an underground tank or cistern and percolated slowly into the ground. These systems are typically comprised of a series of underground concrete vaults. Bio-retention systems and cisterns have a substantially higher installation cost due to excavation requirements. They may also require specialized maintenance compared to natural treatment systems. The ideal location for proprietary systems to collect the maximum amount of roadway runoff is adjacent to the north edge of the roadway under the park.

Because of the volume of water during a storm event, some standard pipe to storm drain infrastructure will be necessary; however, beneficial use of some runoff can be achieved more sustainably. It should be recognized that this is not likely to be supported on a strict cost/benefit analysis, but may be appropriate as a highly visible location to achieve sustainability goals.

Staff seeks Council direction on the appropriateness of installing natural treatment systems, like swales, in the park along the north edge of the roadway and/or at various locations within the park. The installation of swales in the interior of the park could be incorporated into this project or implemented during future park renovation. In either

case, staff will continue to coordinate all park drainage and landscape improvements with the park designer, Mia Lehrer+Associates Landscape Architecture, as part of the Beverly Gardens Park restoration project currently underway.

Medians

Staff has reviewed the option of installing landscaped medians in areas of the roadway that are currently not utilized for left-turn pockets. The concept was to provide a series of 6 foot wide landscaped islands at various locations along the roadway rather than to have a continuous median separating the directions of travel. Median islands provide an opportunity to add additional landscaping to reduce the scale of the paved street and to provide better connectivity with the adjacent park. Medians also provide an opportunity to install "Green-Street" infrastructure to capture street runoff as described in the Drainage Concepts section of this report. Santa Monica Boulevard reconstruction is one of the most significant opportunities the City will have to implement Green-Street commitments. Potential median locations were discussed with representatives from Public Safety. The Fire Department performed a field review of each potential location and made specific recommendations on the shape and dimensions of the proposed medians. These recommendations have been incorporated. They also provided suggested design changes at certain locations where medians would cause operational impacts and those locations were eliminated. The following are the pros and cons associated with the installation of medians:

Pros	Cons
Improved aesthetics	Additional cost ($0.9M)
Green-Street infrastructure	Added maintenance
Reduction of impervious surface area	Limits area for Public Safety use
Accommodates additional trees	
Potential vehicle collision reduction	

Staff seeks Council direction on the appropriateness of installing medians for this project and if so, the type of landscape to be incorporated (see Attachment 3). Landscape options can include trees and/or plants/shrubs. The Ad-Hoc Committee preferred plants/shrubs if medians are installed.

Street Lights

The existing streetlights along Santa Monica Boulevard are typically spaced at 150 feet and are 20 or 30 feet tall. The streetlights are predominantly placed on the north side of the roadway. The type of pole along the roadway is inconsistent, as several types of poles have been installed over the years. The level of lighting provided by the existing street light system was modeled. The existing lighting levels are mostly adequate for roadway lighting for an arterial street. Public Safety has indicated that the existing level of lighting on the roadway and in the adjacent park is sufficient for their operations. The lighting level can be increased by reducing the spacing between the poles and/or by using a standard 30 foot tall pole. City Council previously asked about the use of pedestrian oriented lights to increase the level of lighting along the park. The concern was primarily about six blocks of the roadway near the churches and locations where a sidewalk exists. The new street lights and the existing traffic signal safety lighting will provide light behind the curb onto sidewalk areas. If desired, additional pedestrian oriented lighting can be added to the street light poles in the six block area using a second mast arm and light fixture. The pedestrian paths for the majority of the street are not adjacent to the street lights and are being addressed with pathway lights as part of the park design.

It is anticipated that new streetlights will only be placed on the north side of the roadway since little space is available on the south side of the street. A modern energy efficient luminaire such as an LED will be used.

Two options for the type of street light poles were evaluated (see Attachment 4):

Option A – Historic "Double Acorn" (most historic of the existing poles on the street)
Option B & B2 – New "Single Acorn" (installed at Wallis Annenberg and along Crescent Drive)

The selection of the type of pole is primarily an aesthetic decision as either option can be designed to provide the appropriate level of lighting. Staff seeks Council direction on the selection of the pole type and input on whether additional illumination is desired; specifically, if an increased level of lighting is appropriate along the roadway and/or adjacent to the churches/sidewalk.

Traffic Mitigation

As directed by City Council, staff is working with the Traffic & Parking Commission to develop traffic mitigation measures to minimize intrusion into residential areas and maintain access to the City's business community to the extent possible. Traffic mitigation measures fall into three primary categories: 1) maintaining traffic flow within the corridor, 2) public outreach/notification and 3) traffic mitigation measure "toolbox" to minimize intrusion into residential areas. The following presentations/discussions have occurred with the Traffic & Parking Commission:

On March 5, 2015, the Psomas team, including their traffic sub-consultant Iteris, provided an overview of City Council selected traffic handling plan (e.g., allowable lane closures), that balances expediting construction and maintaining traffic flow on the boulevard to the extent possible.

On May 4, 2015, The Psomas Team presented an overview of the typical traffic mitigation items that are included in roadway construction projects. The overview included items typically included in the construction bidding contract and the construction manager (hired separately from the contractor) as described below:

- Contractor:
  - Traffic Handling Plan
  - Typical Work Hours
  - Holiday and non-work day restrictions
  - Employee parking plan/restrictions
  - Signage
  - Requirements for submittal of traffic control plans

- Construction Manager (hired separately from contractor)
  - Public Outreach Manager
  - Staffing for project phone line
  - Neighborhood/community meetings
  - Public information program

On June 4, 2015 and July 9, 2015, subsequent presentations were provided to discuss options for improving traffic flow, reducing delay and introduction of a toolbox for minimizing impacts to residential neighborhoods. Of particular interest to the

Commission is consideration of eliminating all or part of the parking on South Santa Monica Boulevard between Wilshire Boulevard and Canon Drive during the phase of the project when less than four lanes (two lanes in each direction) are available on North Santa Monica. There are 26 parking spaces on the north side and 13 spaces on the south side. Iteris estimates that eliminating parking would increase vehicular capacity on South Santa Monica Boulevard by approximately 5% by removing "side friction" related to parking activity. The additional throughput capacity would help provide vehicular access to the City's commercial areas and potentially reduce potential of cut-through traffic on residential streets. Several options are under consideration, one of which only results in the loss of approximately 5 spaces.

Staff seeks direction from City Council if there is interest in pursuing removal of parking as a traffic mitigation strategy as well as investigation of measures to mitigate the impact of loss of on-street parking. Previous tests of removing parking in this section of South Santa Monica Boulevard met with resistance from adjacent merchants.

For further development of traffic mitigation measures, staff plans the following:

- July/August 2015: Further development of traffic control "tool-box" with the Traffic & Parking Commission and public outreach program.
- September 2015: Two Traffic & Parking Commission public outreach meetings (one daytime for business community, one evening for residential).
- October 2015: Traffic & Parking Commission refinement of traffic mitigation measures based on public comment.
- October 2015: City Council consideration of Traffic & Parking Commission recommendations; bus stop issues; Phase 2 coordination.
- November 2015: Issue contract bidding documents.
- February 2016: City Council Contract Award.
- March 2016: Traffic & Parking Commission Public Outreach meetings to discuss final mitigation measures, construction timeline and public resources for information.

The Traffic & Parking Commission will continue addressing traffic mitigation throughout construction of the process to receive public input and recommend modification of measures as needed.

Staff asked Bonterra (subsidiary of Psomas) to analyze the project under the California Environmental Quality Act (CEQA). Bonterra confirmed it qualified as a Class 1/Categorical Exemption. This analysis will be maintained on file.

FISCAL IMPACT

An updated cost estimate was prepared based on the preliminary design cost estimate (reviewed by City Council at the December 2, 2014 Study Session). The base construction cost estimates for maintaining the existing curb to curb width remain the same as reported during preliminary design as follows:

Doheny to Wilshire:	$27.2
Wilshire to Moreno:	$ 5.2
Total cost estimate:	$32.4 million

The cost estimate for additional items outlined in this report is $2.8 million ($1.3 million for 2'-4" widening to the south of the roadway; $0.9 million for landscaped medians and $0.6 million for swales) for a total project cost of $35.2 million.

Funds for this project in the amount of $36.0 million are currently available in the approved Capital Improvement Budget.

RECOMMENDATION

Roadway widening (south side between Canon Drive and Wilshire Boulevard)

Staff seeks City Council direction regarding widening the roadway 2'-4" to the south to provide extra width for multi-modal uses and allow for trees and landscaping adjacent to the Santa Monica 5 Parking Structures. Traffic Engineers, Landscape Architects and the Urban Forest Manager have agreed that widening by 2'-4" provides adequate space for both transportation and landscape uses.

Drainage Concepts

Staff seeks City Council direction regarding implementing natural treatment systems such as swales at various locations adjacent to the roadway in Beverly Gardens Park to incorporate "Green Street" infrastructure and to comply with urban runoff water quality regulations.

Landscaped Medians

Staff seeks City Council direction regarding installation of medians at various locations per the review of Public Safety to enhance the quality and appearance of the roadway and provide an area to comply with urban runoff water quality regulations. The proposed medians are recommended to include low landscaping (no street trees).

Street Lights

Staff seeks City Council direction regarding the use of the "Single Acorn" (Option B/B2 - installed at Wallis Annenberg and along Crescent Drive) as the street light fixture for Santa Monica Boulevard and input regarding additional pedestrian lighting at the churches and at locations where sidewalk exists adjacent to the roadway.

Traffic Mitigation

Staff seeks City Council direction regarding the Traffic & Parking Commission continuing to pursue traffic mitigation options related to removal of on-street parking spaces and revised lane configurations along South Santa Monica Boulevard.

NEXT STEPS

Based on City Council's direction on the items discussed in this report, staff and consultants will continue to develop final construction documents for this project. Staff will present final design plans and a final traffic management/mitigation plan to City Council prior to the beginning of construction anticipated in Spring/Summer 2016.

David Lightner / Susan Healy Keene
Approved By