



CITY OF BEVERLY HILLS
TRAFFIC & PARKING COMMISSION

July 9, 2015

TO: Traffic & Parking Commission
FROM: Aaron Kunz, Deputy Director of Transportation
SUBJECT: North Santa Monica Boulevard Construction Mitigation

Attached is background material for the Santa Monica Boulevard Mitigation Study.

PROJECT: North Santa Monica Boulevard Resonsturction

PSOMAS Project No. 1BEV041000

To: City of Beverly Hills Traffic and Parking Commission

From: Psomas
Iteris

Date: July, 9 2015

Subject: Traffic Mitigation During NSMB Construction

The need for traffic mitigation and the extent of the mitigation will be driven by the type of construction activity underway on the boulevard. During some phases of construction, there will be limited impact on the existing roadway and the number of available travel lanes will be unchanged, thereby resulting in limited diversion of traffic to alternate routes. If it becomes necessary to reduce the number of travel lanes to only one lane in each direction, the amount of diversion could become significant, thereby requiring a greater degree of traffic mitigation to reduce the negative impacts of traffic diverted onto residential or commercial streets.

Iteris prepared a travel demand model to forecast the amount of diversion associated with various construction scenarios, ranging from maintaining four lanes of traffic to complete closure of the boulevard. Various alternatives were presented to the City Council Ad Hoc Committee and they recommended to the full Council that a hybrid alternative (Alternative 4) with a mix of construction phases that shortened the construction schedule be pursued.

Four Lanes Open

During construction phases when four lanes of traffic are maintained on NSMB, they will be operated as two through lanes in each direction, with left turns prohibited in both directions. The lanes will likely be 10-foot lanes with slightly reduced capacity compared to the current wider lanes. With four lanes open, the modeling exercise forecast and approximate 5-10% increase in traffic on South Santa Monica Boulevard and minor increases on parallel residential streets north of NSMB, primarily Carmelita Avenue. A discussion is provided later in this memorandum with regard to mitigation measures that could be considered on South Santa Monica Boulevard. With regard to the diversion of traffic to Carmelita, it is likely to occur primarily in the westbound direction with cars turning onto Carmelita or Oakhurst near Doheny, as it is more difficult to get to Carmelita when traveling eastbound. This suggests that attention will need to be paid to preventing diversion from westbound NSMB onto Carmelita near Doheny. Potential components of the traffic mitigation tool box that could be considered include peak period or all-day turn restrictions on Doheny at Carmelita, a barricade at the intersection of Carmelita/Oakhurst or a diverter at an intersection on Carmelita further to the west (e.g., at Alta or Arden) to prevent through travel on Carmelita.

The impact of the loss of left turns on NSMB can be mitigated through public awareness campaigns and signage. Access to the business triangle can be mitigated to some extent by detouring left turners to Park Way for access to the business triangle.

For example, westbound traffic on NSMB can be directed to turn right on Beverly to then turn right or left on Park Way to reach Rodeo or Canon to travel south across NSMB to reach the triangle. Residents of the areas north of NSMB can be warned in advance to use South Santa Monica Boulevard to reach north-south streets to get home when coming from areas west of the City.

It should be noted that under all construction scenarios, the City's traffic signal system can be adjusted to provide additional capacity on NSMB through signal timing adjustments to maximize the east-west throughput at some expense to north-south cross traffic. During the periods of heaviest construction, the traffic management center can also be staffed by personnel to respond to congestion on a real time basis. Preliminary assessments by Psomas indicate that under Alternative 4 the "Four lanes Open" condition would be available for approximately 13-14 months of the 24 month construction schedule subject to modification by the actual construction contractor.

Three Lanes Open

It is likely that at some time during the construction process, there will only be room to maintain three lanes of traffic. It is recommended that the street then be operated with two lanes westbound and one lane eastbound because the diversion of eastbound traffic to South Santa Monica Boulevard is facilitated by the intersection design for transition of eastbound traffic to South Santa Monica Boulevard near Moreno Drive. As noted earlier, options for mitigating the impact of traffic diversion to South Santa Monica Boulevard are discussed below. In the westbound direction, the potential impacts of traffic diversion during three-lane operations will be similar to the four-lane scenario previously discussed.

Preliminary assessments by Psomas indicate that under Alternative 4 the "Three lanes Open" condition would be required for approximately 9-10 months of the 24 month construction schedule subject to modification by the actual construction contract.

Two Lanes Open

It appears that it may not be necessary to reduce the number of lanes on NSMB to just two lanes, but this scenario was modeled to see the impacts. It resulted in significant increases in traffic on Carmelita and Elevado, north of NSMB, as well as 10-15% increases on Sunset Boulevard. It also had impacts on Burton Way, Charleville and Gregory Way, south of NSMB, but not much impact on Wilshire Boulevard, largely because Wilshire is generally operating at capacity and does not have much excess capacity to accommodate diversion. It should be noted that the two-lane scenario was modeled as one lane in each direction and that a scenario with it operated as two lanes westbound and no lanes eastbound was not modeled, as it was felt that such a scenario would overwhelm South Santa Monica Boulevard.

A "mitigation scenario" was modeled for the two-lane option that included street closures (barricades) on either end of Carmelita and diverters at the following locations; Carmelita/Canon, Elevado at Bedford, Rexford and Palm. This scenario effectively reduced the impact of traffic diversion on streets north of NSMB, while increasing traffic on Sunset Boulevard, but it did not address streets south of Wilshire Boulevard. If a two-lane construction phase is required for more than just a brief period of time, a similar "mitigation scenario" would have to developed for streets south of Wilshire Boulevard.

Preliminary assessments by Psomas indicate that under Alternative 4 the "Two lanes Open" condition would be required for approximately 1 month of the 24 month construction schedule, subject to modification by the actual construction contract.

The "Two Lanes Open" condition is necessitated on NSMB from Wilshire to Canon due to the existing 60' roadway width and current design direction to avoid widening in this section. Should the City Council decide to widen by 2'-4" this section, it is likely that construction methods can be employed to allow for "Three Lanes Open" just as they are in the 63' wide segments of the NSMB reconstruction.

Summary of Model Diversion Analysis

The results of the modeling exercise provided the City Council Ad Hoc Committee with enough confidence that the traffic impacts of construction could be mitigated to the extent that options other than maintenance of four lanes of traffic at all times could be pursued.

South Santa Monica Boulevard Mitigation Options

The need for mitigation on South Santa Monica Boulevard is primarily in the segment east of Wilshire Boulevard. In order to address the impacts of diversion of traffic to South Santa Monica Boulevard, staff and consultants have developed four options for consideration by the Commission and presentation to the City Council for the section between Wilshire Boulevard and Beverly Drive

Option A – Remove parking on the south side of the street during the entire construction period so that the street can be restriped to provide wider lanes, with less side friction in the eastbound direction associated with cars parking and un-parking. This would eliminate 13 parking spaces on the south side, but could allow the addition of 8 spaces on the north side through the restriping of the street, for a net loss of 5 parking spaces. It would also eliminate some of the back-and-forth transitioning of the eastbound lanes as they avoid pockets of parking and instead travel straight, parallel to the Southside curb.

Option B – Remove parking on the south side and restripe only during the period of heaviest construction adjacent to the five parking structures between Wilshire and Canon.

Option C – Remove parking on both sides of South Santa Monica Boulevard and restripe the street to provide five travel lanes. This option would remove 26 parking spaces and would most logically be implemented for the entire construction period since it involves a redesign of the boulevard. The five lanes could be operated as two lanes in each direction plus a center two-way left turn lane, or it could be striped for two lanes westbound and three lanes eastbound to provide additional eastbound capacity during periods of construction when NSMB is reduced to three lanes (two westbound/one eastbound). The latter option would probably require the prohibition of westbound left turns to avoid a blockage of the through lane when a car pauses to turn left.

Option D – This option entails peak period parking prohibitions on South Santa Monica Boulevard to reduce the side friction associated with parking activity. It could be implemented for various construction phases with limited effort through the posting of signs. Traffic & Parking Commission expressed support for modifying parking on South Santa Monica Boulevard to mitigate traffic impacts. The options above are provided for information at this time. Staff will seek direction from the City Council regarding pursuing this options as part of the public outreach process.

An approximation of the hourly vehicle capacity of South Santa Monica Boulevard for each of the roadway configuration options is provided in the table below. Note that these capacities are approximate in that the roadway changes from block to block, with some blocks having parking and some not, some blocks including left turn pockets and others not.

Approximate Capacity of South Santa Monica Blvd by Option			
Scenario	Lane Configuration	Hourly Capacity	% Change from Existing
Existing Conditions	One 9' Through/Left, One 9' Through/Right, Parking	1156	NA
Option A or B E/B	One 10' Through/Left, One 11' Through/Right, No Parking	1336	16%
Option A or B W/B	One 10' Through/Left, One 11' Through/Right, Parking	1260	9%
Option C Two-way Left	One 10' Through, One 10' Through/Right, No Parking	1440	25%
Option C Third E/B Lane E/B	One 10' Through/Right, One 10' Through, One 10' Through/Left, No Parking	2016	74%
Option C Third E/B Lane W/B	One 10' Through (No Lefts), One 10' Through/Right, No Parking	1440	25%
Option D	One 9' Through/Left, One 9' Through/Right, No Parking	1224	6%

Traffic Mitigation Tool Box

The following traffic management strategies are to be included in the construction specifications and/or construction manager scope of work for the NSMB reconstruction project. In working with the Traffic and Parking Commission, staff will endeavor to specify the amount of effort to be expended on each strategy so that the potential contractors can budget for these activities:

Construction Manager

- Public Information Program (Public outreach material, City Webpage, Newsprint, Social Media, coordination with other jurisdictions).
- Neighborhood Community Meetings (w/Public Relations Consultant)
- Traffic Management Center Staffing for Real-Time Traffic Management
- Contractor oversight including adherence to items below.

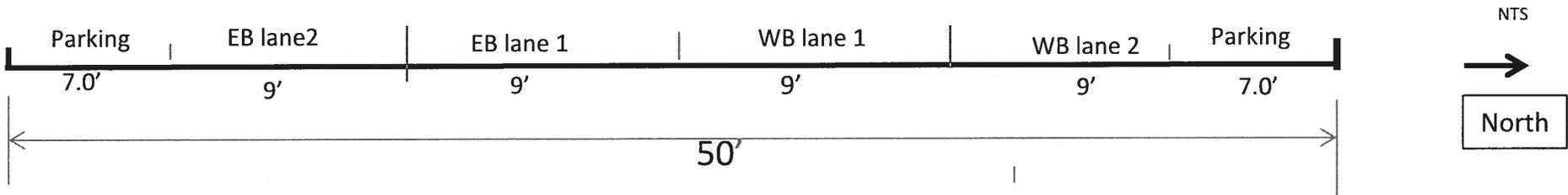
Contractor

- Advance Warning Dynamic Message Signs
 - Traffic Signal System Modifications
 - Turn Prohibition Signs
 - Parking Prohibition Signs
 - Street Closures (Barricades)
 - Intersection Diverters
 - Restriping South Santa Monica Boulevard per City approved Traffic Control Plan
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South Santa Monica Boulevard Striping Options During the North Santa Monica Construction

Between Beverly and Wilshire – typical block- Not at intersections

Existing:



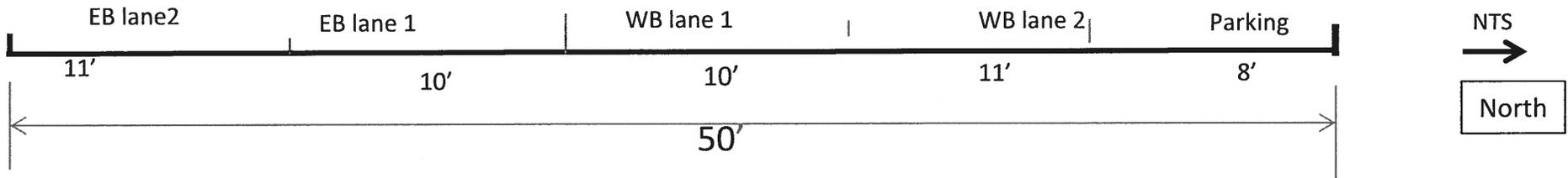
13 spaces on the southside
26 spaces on the northside
1 Passenger loading
40-Total

South Santa Monica Boulevard Striping Options During the North Santa Monica Construction

Between Beverly Drive and Wilshire Bl.

Options A and B:

The removal of parking on the south side during the construction of NSM.



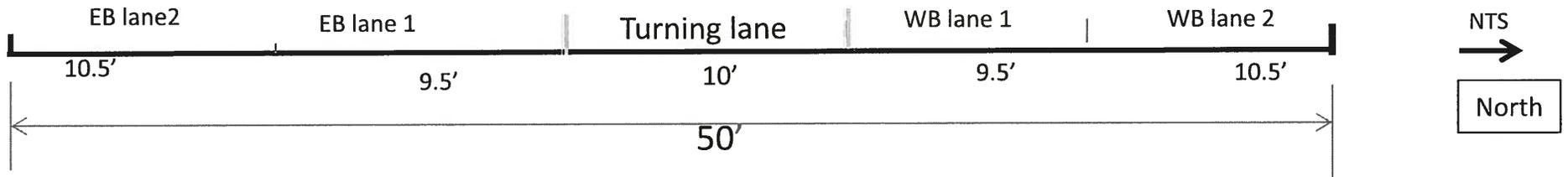
No spaces on the southside
26 spaces on the northside
1 Passenger loading
8: possible to add on the nothside
35-Total

South Santa Monica Boulevard Striping Options During the North Santa Monica Construction

Between Beverly Drive and Wilshire Bl.

Option C :

The removal of parking on both sides and complete restriping



27 spaces along the north side of the street and 13 spaces along the south side would be removed.

0 spaces on the southside

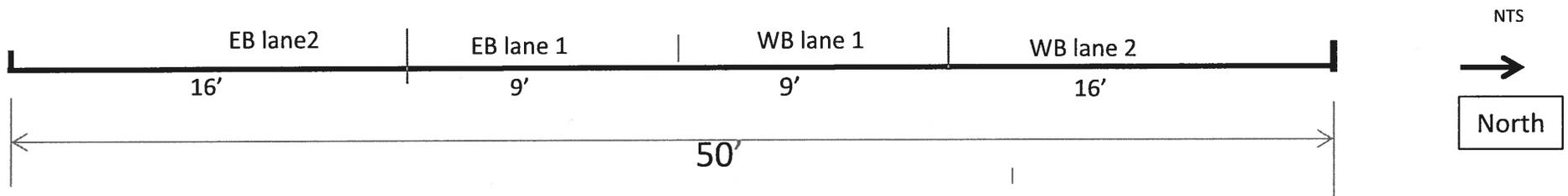
0 spaces on the northside

-40

South Santa Monica Boulevard Striping Options During the North Santa Monica Construction

Between Beverly and Wilshire – typical block- Not at intersections

Option D



Peak period parking prohibitions.

Periods TBD depending construction phasing

Parking loss: undefined.