



MEMORANDUM

Date: May 30, 2013

To: Aaron Kunz, City of Beverly Hills

From: Sarah Brandenburg

Subject: *Review of On-Street Parking on S. Santa Monica Boulevard*

SM13-2578

We have conducted a feasibility assessment to provide additional on-street parking on the north side of S. Santa Monica Boulevard between Rodeo Drive and Beverly Drive. On March 1, we met with city staff and adjacent developers to review the initial findings of our assessment as outlined below¹:

- No new parking can be provided on the north side of S. Santa Monica Boulevard between Rodeo Drive and Beverly Drive under the current configuration
- The existing parking is substandard (7' parking adjacent to 9' travel lane)
- If you keep the substandard design, you can provide more parking by removing the center-turn lane serving the alley
- If new parking is provided, we recommended that the roadway be restriped to provide adequate lane widths along with the removal of the center-turn lane and standardize the linear arrangement of parking spaces

In response to the March 1 meeting, we have prepared additional information to further assess the feasibility of implementing additional on-street parking on the north side of S. Santa Monica Boulevard and removing the center-turn lane serving the north-south alley between Rodeo Drive and Beverly Drive.

CONCEPTUAL DESIGN

A conceptual design based on aerial photographs was created to show the recommended striping of S. Santa Monica Boulevard between Rodeo Drive and Beverly Drive with the new on-street parking spaces (2-3 new parking spaces could be provided) and removal of the center-turn lane. Figure 1 displays the proposed conceptual roadway striping plan. As shown in the figure, the lane striping would be shifted slightly to the south to provide a 19-foot curb lane (currently 16 feet) to accommodate the on-street parking (8 feet proposed compared to 7 feet existing) and vehicular travel lane (11 feet proposed compared to 9 feet existing). All of the striping changes would

¹ The overview figure presented at the March 1 meeting is included in Appendix A for reference.



occur within the 50-foot roadway right-of-way and would not result in undesirable lane alignment offsets with the adjacent intersections at Beverly Drive and Rodeo Drive.

During a field visit, it was noted that the existing striping for the center-turn lane consists of a double yellow line. The double yellow line is typically used to inform drivers that they are not permitted to enter into or cross over the striping. Although there is a break in the inner yellow line that permits drivers to enter the turn lane based on MUTCD 3B-7 (CA), the current striping may be confusing to some drivers based on input received at the March meeting. Despite the current striping, vehicles traveling westbound on Santa Monica Boulevard are using the center lane to turn into the north-south alley. If the center-turn lane remains in place, the striping could be modified to reflect the traditional striping for a center-turn lane, as shown in Figure 2.

DATA COLLECTION

Traffic counts were collected during the AM, midday, and PM peak periods at the intersection of S. Santa Monica Boulevard and the north-south alley between Rodeo Drive and Beverly Drive during typical commute peak periods. The north-south alley operates as one-way southbound; therefore, all vehicles enter the alley from S. Santa Monica Boulevard and exit the alley onto Brighton Way. The turning movement volumes were recorded for cars and trucks separately to determine the number and types of vehicles traveling through the intersection and entering the alley. A 24-hour count was also collected in the alley to record all vehicles using the alley throughout the day. Traffic counts were collected on Thursday, March 21 prior to spring break vacations at local schools (Appendix B contains the data collection results).

The traffic counts indicate that the alley serves approximately 900 vehicles over a 24-hour period on a weekday. The table below summarizes the number of vehicles and trucks entering the alley from eastbound and westbound S. Santa Monica Boulevard during the AM, midday, and PM peak periods based on typical commute peak periods. As shown, approximately 135 vehicles (126 cars and 9 trucks) enter the alley during the midday compared to approximately 95 vehicles entering the alley during both the AM and PM commute peak periods. Of the 320 vehicles entering the alley during the peak commute periods, approximately 205 vehicles (64 percent) access the alley from eastbound S. Santa Monica Boulevard and 115 vehicles (36 percent) utilize the westbound center left-turn lane.



Table 1
S. Santa Monica Boulevard & North-South Alley (between Rodeo & Beverly Drives)
Traffic Volume Summary during Typical Commute Peak Periods

Typical Commute Peak Period	Vehicle Type	Vehicles Entering Alley		
		Eastbound Right-Turn	Westbound Left-Turn	Total
7:00 - 9:00 AM	Cars	42	42	84
	Trucks	6	3	9
	Total	48	45	93
11:00 AM - 1:00 PM	Cars	84	42	126
	Trucks	6	3	9
	Total	90	45	135
4:00 - 6:00 PM	Cars	64	27	91
	Trucks	3	0	3
	Total	67	27	94
Total		205 (64%)	117 (36%)	322

Count Date: March 21, 2013.

The table above reflects turning movement counts collected during the typical commute peak periods. The daily traffic counts collected at the north-south alley showed that the AM peak hour for the alley occurs between 9:15 AM – 10:15 AM when 129 vehicles enter the alley.

REROUTING OF TRAFFIC

With the potential removal of the center-turn lane, vehicles would only be able to access the alley from eastbound S. Santa Monica Boulevard. This is similar to the access for some other alleys along the corridor. Vehicles currently utilizing the center-turn lane would be rerouted in order to access eastbound S. Santa Monica Boulevard, as summarized below:

- AM Peak Period: Approximately 45 vehicles (42 cars and 3 trucks) would be rerouted between 7:00 and 9:00 AM; an average of 23 vehicles per hour
- Midday Peak Period: Approximately 45 vehicles (42 cars and 3 trucks) would be rerouted between 11:00 AM and 1:00 PM; an average of 23 vehicles per hour
- PM Peak Period: Approximately 27 vehicles (no trucks were counted during this period) would be rerouted between 4:00 and 6:00 PM; an average of 14 vehicles per hour



Due to the grid nature of the roadway network in the downtown triangle area, vehicles could take alternate routes to access the alley. From the north, for example, a driver traveling on N. Santa Monica Boulevard could turn onto Rodeo Drive (instead of Beverly Drive) to access eastbound S. Santa Monica Boulevard and the north-south alley. From the south, for example, a driver could travel on Brighton Way, Dayton Way or Wilshire Boulevard and then travel on Rodeo Drive to access the north-south alley.

Table 2 summarizes the number of new vehicle trips that would be rerouted from westbound S. Santa Monica Boulevard to the eastbound direction to access the alley with the removal of the center left-turn lane. As shown, the percent increase in traffic volumes along eastbound S. Santa Monica Boulevard approaching the alley would range from approximately 4 percent during the AM peak period to 1 percent during the PM peak period.

Table 2
S. Santa Monica Boulevard & North-South Alley (between Rodeo & Beverly Drives)
Traffic Volume Summary with Removal of Center-Turn Lane

Typical Commute Peak Period	Vehicle Type	Existing Traffic Volumes		Traffic Volumes with Removal of Center-Turn Lane	
		Eastbound Through	Eastbound Right-Turn	Rerouted Vehicles	% Increase
7:00 - 9:00 AM	Cars	1,033	42	42	3.9%
	Trucks	18	6	3	12.5%
	Total	1,051	48	45	4.1%
11:00 AM - 1:00 PM	Cars	1,812	84	42	2.2%
	Trucks	23	6	3	10.3%
	Total	1,835	90	45	2.3%
4:00 - 6:00 PM	Cars	2,490	64	27	1.1%
	Trucks	10	3	0	0.0%
	Total	2,500	67	27	1.1%
Total		5,386	205	117	2.1%

Since drivers can utilize multiple routes to access the alley, the shift in traffic to other intersections may not trigger a significant and unavoidable peak hour traffic impact. However, we cannot guarantee that a traffic impact would not occur based on City of Beverly Hills LOS significance thresholds without conducting a more detailed traffic impact analysis.

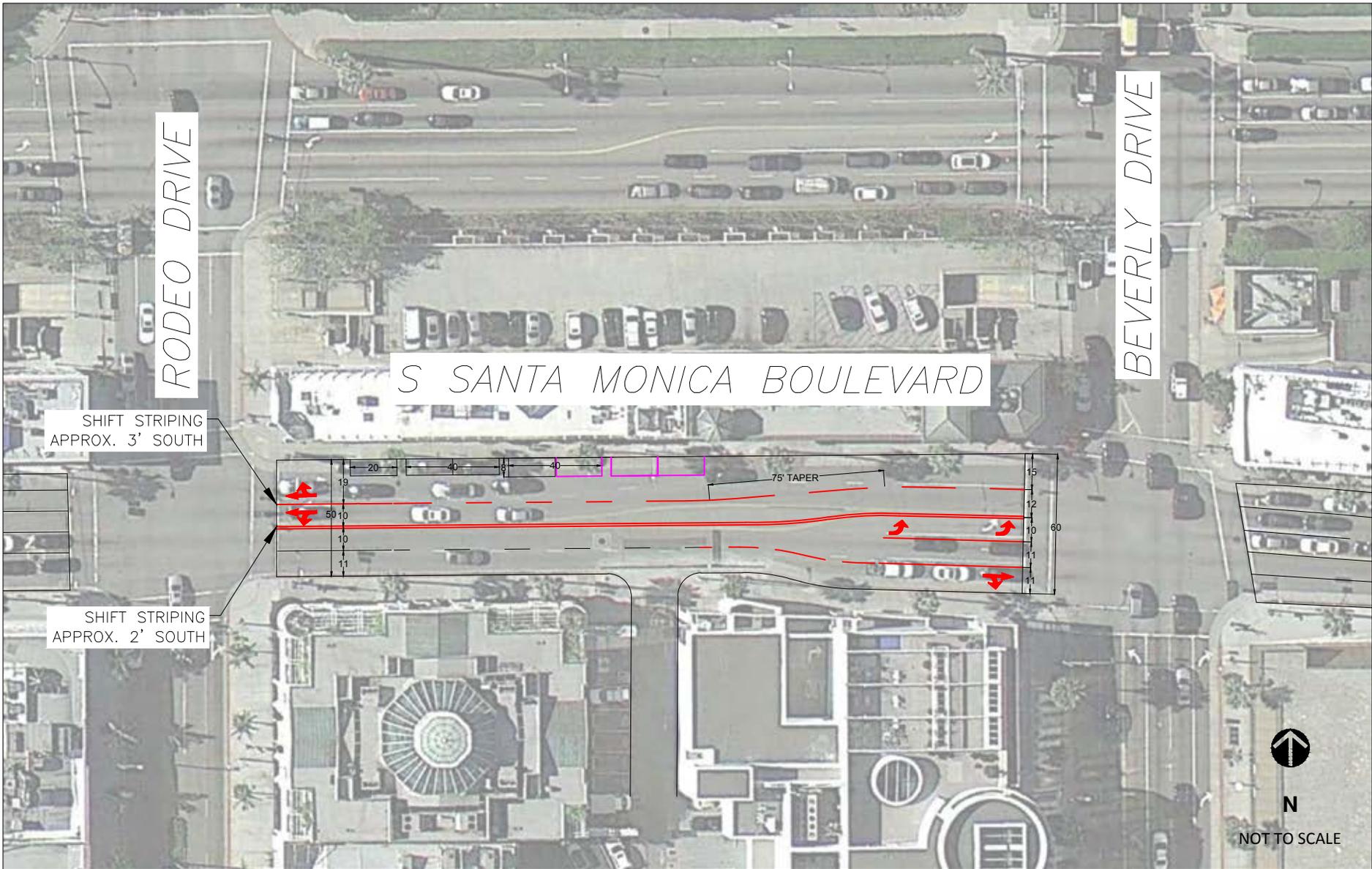


ACCIDENT DATA

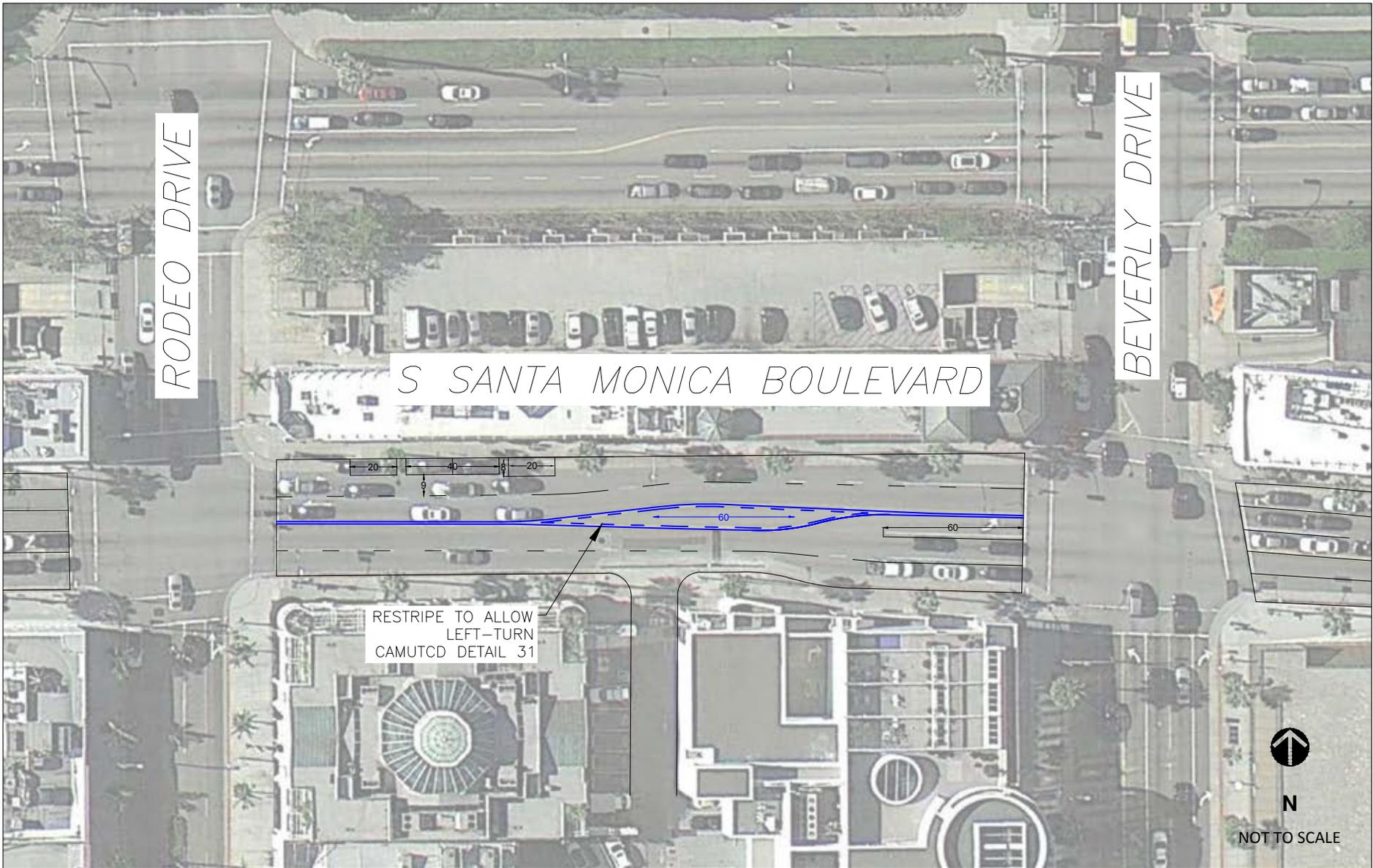
To determine if the center-turn lane was a safety concern along the roadway segment, accident data was collected and reviewed. Accident data along S. Santa Monica Boulevard between Rodeo Drive and Beverly Drive was collected from the California's Statewide Integrated Traffic Records System (SWITRS). Accidents occurring between January 1, 2007 and December 31, 2011 (the most recent 5 years of data available) were reviewed. The accident data indicated that one accident had occurred on S. Santa Monica Boulevard approximately 80 feet east of the intersection at Rodeo Drive. This accident was not associated with the center-turn lane serving the alley.

SUMMARY

Approximately two to three parking spaces can be added to the north side of S. Santa Monica Boulevard by removing the center-turn lane serving the north-south alley between Rodeo Drive and Beverly Drive. The roadway would need to be restriped to shift the lane striping to the south to provide a 19-foot curb lane (currently 16 feet) to accommodate the on-street parking (8 feet proposed compared to 7 feet existing) and vehicular travel lane (11 feet proposed compared to 9 feet existing). With the removal of the center-turn lane, vehicles would only be able to access the alley from eastbound S. Santa Monica Boulevard. Due to the grid nature of the roadway network in the downtown triangle area, vehicles could take alternate routes to access the alley. The percent increase in traffic volumes along eastbound S. Santa Monica Boulevard approaching the alley would range from approximately 4 percent during the AM peak period to 1 percent during the PM peak period.



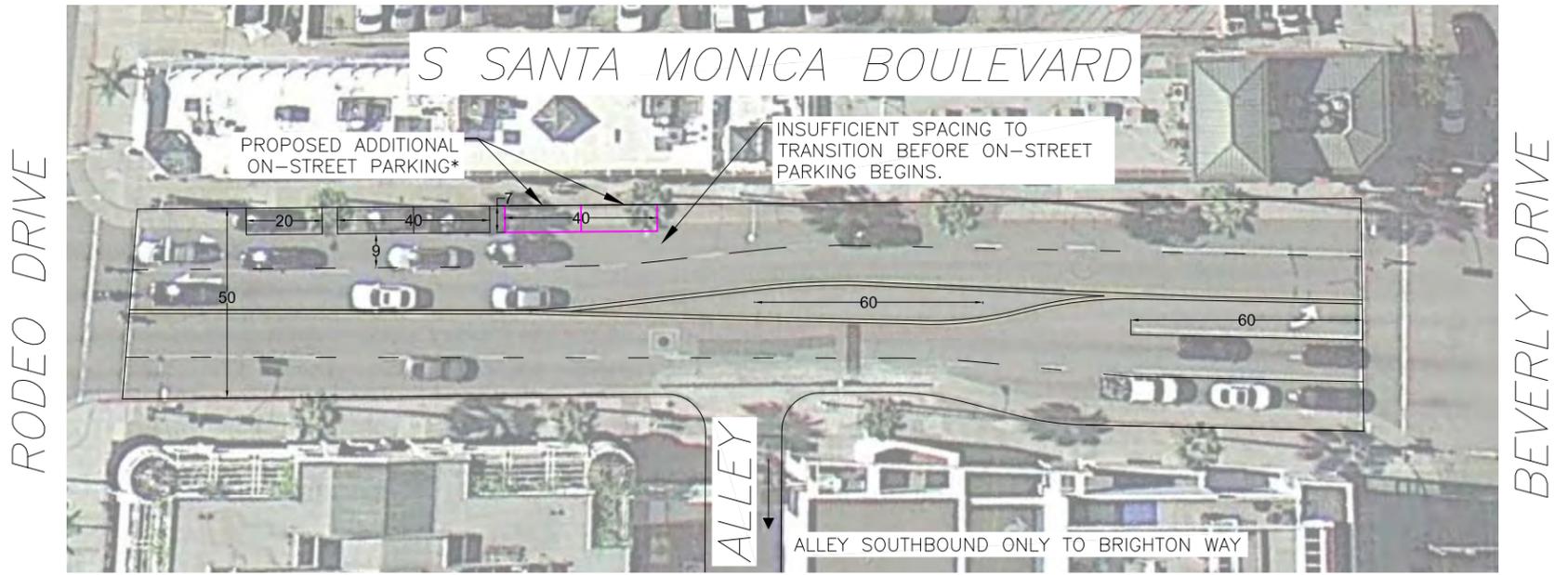
- = PROPOSED PARKING
- = PROPOSED STRIPING
- = EXISTING STRIPING



— = PROPOSED STRIPING
 — = EXISTING STRIPING

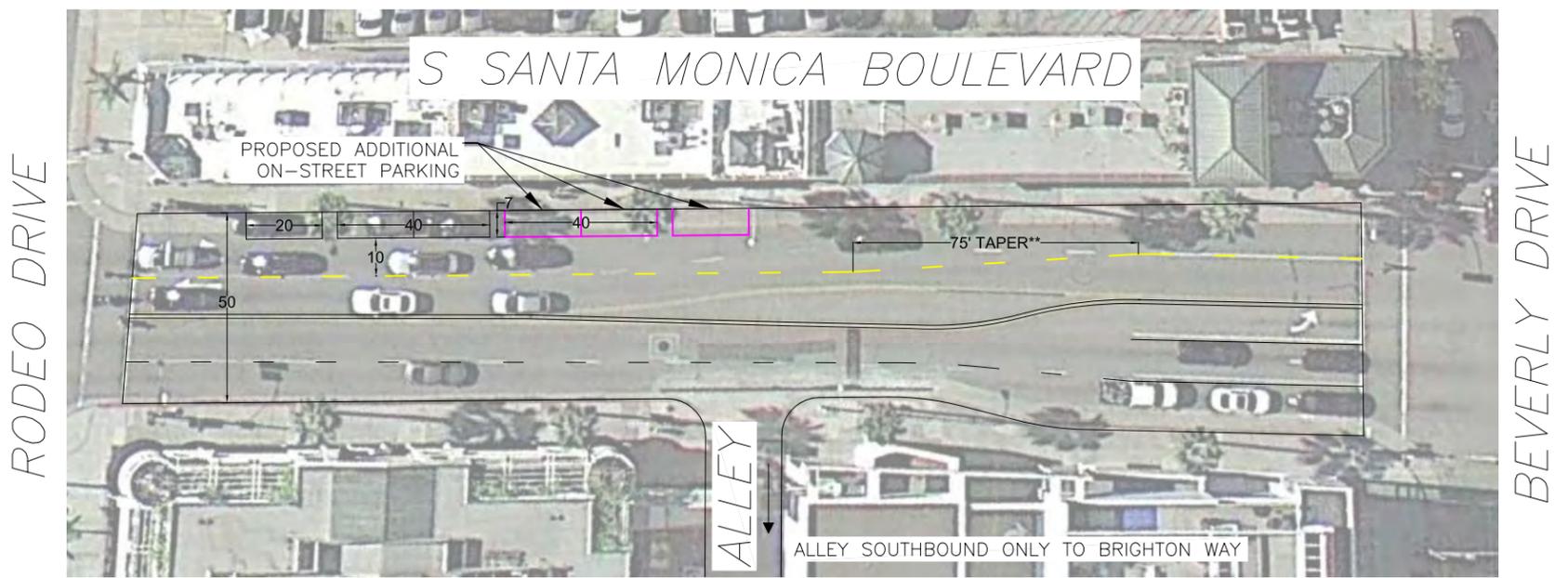
APPENDIX A

OVERVIEW FIGURE FROM MARCH 1 MEETING



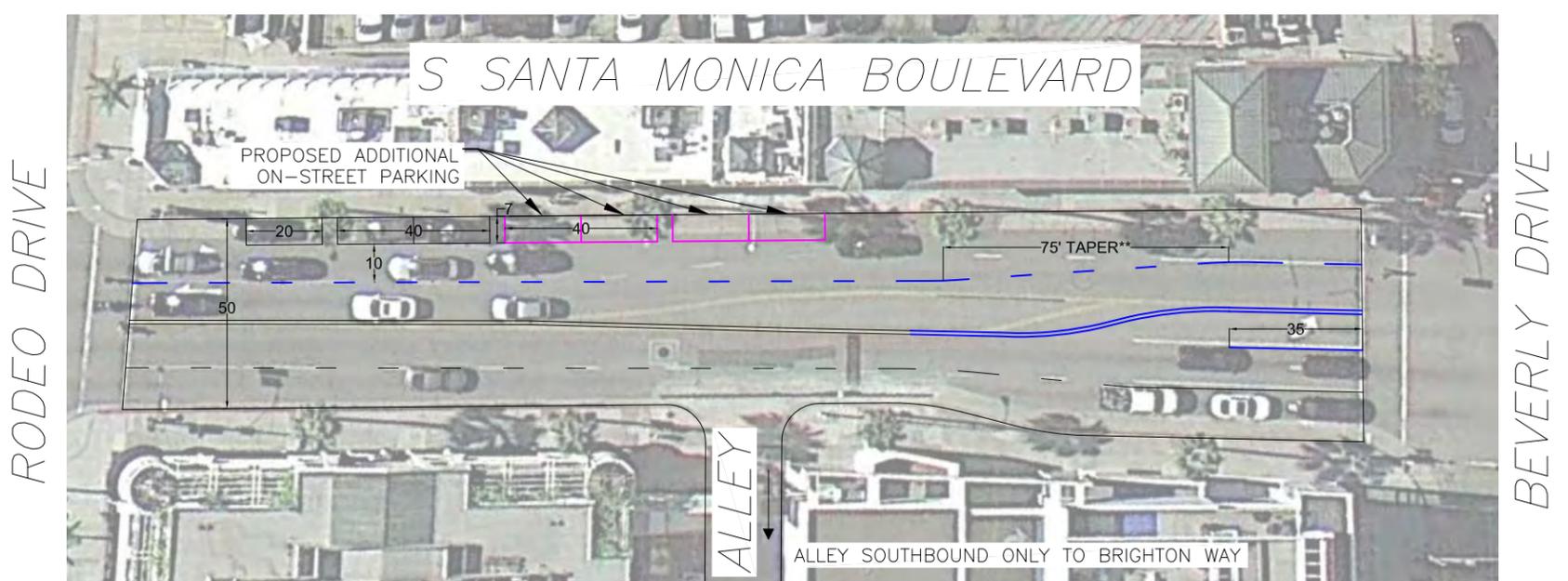
EXISTING CONDITIONS

Additional on-street parking spaces are proposed on S. Santa Monica Boulevard to serve the retail uses on the north side of the street. Under the current configuration, no new on-street parking can be provided. It should be noted that the existing on-street spaces do not meet recommended design standards. Standard traffic lane is 11' wide plus 8' for parking for a total of 19'. The current configuration has a 9' travel lane plus 7' parking lane for a total of 16'.



REMOVAL OF LEFT-TURN SERVING ALLEY

The center turn lane on S. Santa Monica Blvd. serves vehicles accessing the alley between Rodeo Drive and Beverly Drive. Removal of this turn lane would restrict alley access. Without the center turn lane, three additional on-street parking spaces could be provided on S. Santa Monica Blvd. using the current substandard configuration. However, if additional on-street parking is provided, it is recommended that this segment of S. Santa Monica Blvd. be restriped to provide standard*** parking and vehicle travel lanes. The alley serves approximately 730 vehicles per day (approximately 25% more than a typical commercial alley in Beverly Hills).



REDUCTION OF LEFT-TURN POCKET AT BEVERLY AND REMOVAL OF LEFT-TURN SERVING ALLEY

In addition to the removal of the center turn lane, the left-turn pocket at the Beverly Drive intersection could be shortened to accommodate four new on-street parking spaces on S. Santa Monica Blvd. using the current substandard configuration. However, if additional on-street parking is provided, it is recommended that this segment of S. Santa Monica Blvd. be restriped to provide standard*** parking and vehicle travel lanes. Approximately two vehicles could use the reduced left-turn storage, which may result in vehicles queuing onto the through lane on S. Santa Monica Blvd.



NOT TO SCALE

* ON-STREET PARKING WIDTH MAY RANGE BETWEEN 7'-9'. PARKING STALL WIDTH OF 7' WAS USED AS A MINIMUM STANDARD.

** TAPER LENGTH (L) = $\frac{W \cdot (S)^2}{60}$; WHERE W = 7', S = 25 MPH

*** RESTRIPEING WOULD INCLUDE: 8' PARKING LANE, 2-11' CURB LANES AND 2-10' INNER LANES FOR A TOTAL OF 50' CURB-TO-CURB.

APPENDIX B

TRAFFIC COUNT DATA

VOLUME

Alley just S/o S Santa Monica Blvd (Alley entrance)

Day: Thursday
Date: 3/21/2013City: Beverly Hills
Project #: CA13_5143_001

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	901	0	0	901		
AM Period	NB	SB	EB	WB	TOTAL	PM Period	NB	SB	EB	WB	TOTAL
00:00		2			2	12:00		12			12
00:15		0			0	12:15		20			20
00:30		0			0	12:30		21			21
00:45		0	2		2	12:45		24	77		24
01:00		1			1	13:00		13			13
01:15		0			0	13:15		14			14
01:30		1			1	13:30		18			18
01:45		0	2		2	13:45		17	62		17
02:00		0			0	14:00		23			23
02:15		0			0	14:15		13			13
02:30		2			2	14:30		14			14
02:45		1	3		4	14:45		14	64		14
03:00		0			0	15:00		18			18
03:15		2			2	15:15		11			11
03:30		1			1	15:30		16			16
03:45		3	6		9	15:45		15	60		15
04:00		0			0	16:00		12			12
04:15		0			0	16:15		14			14
04:30		1			1	16:30		10			10
04:45		4	5		9	16:45		16	52		16
05:00		6			6	17:00		10			10
05:15		4			4	17:15		11			11
05:30		3			3	17:30		12			12
05:45		9	22		31	17:45		14	47		14
06:00		5			5	18:00		12			12
06:15		12			12	18:15		7			7
06:30		4			4	18:30		12			12
06:45		14	35		49	18:45		8	39		8
07:00		4			4	19:00		6			6
07:15		8			8	19:15		7			7
07:30		6			6	19:30		5			5
07:45		13	31		44	19:45		8	26		8
08:00		10			10	20:00		7			7
08:15		17			17	20:15		6			6
08:30		9			9	20:30		2			2
08:45		22	58		80	20:45		2	17		2
09:00		28			28	21:00		0			0
09:15		40			40	21:15		4			4
09:30		23			23	21:30		0			0
09:45		35	126		161	21:45		1	5		1
10:00		31			31	22:00		4			4
10:15		11			11	22:15		2			2
10:30		17			17	22:30		6			6
10:45		21	80		101	22:45		2	14		2
11:00		21			21	23:00		3			3
11:15		12			12	23:15		1			1
11:30		16			16	23:30		0			0
11:45		14	63		77	23:45		1	5		1
TOTALS		433			433	TOTALS		468			468
SPLIT %		100.0%			48.1%	SPLIT %		100.0%			51.9%

DAILY TOTALS					NB	SB	EB	WB	Total		
					0	901	0	0	901		
AM Peak Hour		09:15			09:15	PM Peak Hour		12:15		12:15	
AM Pk Volume		129			129	PM Pk Volume		78		78	
Pk Hr Factor		0.806			0.806	Pk Hr Factor		0.813		0.813	
7 - 9 Volume	0	89	0	0	89	4 - 6 Volume	0	99	0	0	99
7 - 9 Peak Hour		08:00			08:00	4 - 6 Peak Hour		16:00			16:00
7 - 9 Pk Volume	0	58	0	0	58	4 - 6 Pk Volume	0	52	0	0	52
Pk Hr Factor	0.000	0.659	0.000	0.000	0.659	Pk Hr Factor	0.000	0.813	0.000	0.000	0.813

S. Santa Monica Boulevard & North-South Alley (between Rodeo & Beverly Drives)

AM Peak Hour Vehicle & Truck Turning Movement Counts

TOTAL	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
7:00 AM	83	3	3	158	248
7:15 AM	75	6	3	182	267
7:30 AM	84	3	4	278	369
7:45 AM	144	7	3	300	454
8:00 AM	163	6	7	307	483
8:15 AM	148	8	7	385	548
8:30 AM	173	4	5	374	556
8:45 AM	181	11	13	340	545
Total	1,051	48	45	2,324	3,470

CARS	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
7:00 AM	83	3	3	158	248
7:15 AM	71	5	2	180	259
7:30 AM	83	2	4	276	365
7:45 AM	140	7	3	300	450
8:00 AM	163	5	7	307	482
8:15 AM	147	7	6	382	542
8:30 AM	169	4	4	371	548
8:45 AM	177	9	13	337	536
Total	1,033	42	42	2,311	3,430

TRUCKS	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
7:00 AM	0	0	0	0	0
7:15 AM	4	1	1	2	8
7:30 AM	1	1	0	2	4
7:45 AM	4	0	0	0	4
8:00 AM	0	1	0	0	1
8:15 AM	1	1	1	3	6
8:30 AM	4	0	1	3	8
8:45 AM	4	2	0	3	9
Total	18	6	3	13	40

Count Date: March 21st, 2013

S. Santa Monica Boulevard & North-South Alley (between Rodeo & Beverly Drives)

Midday Peak Hour Vehicle & Truck Turning Movement Counts

TOTAL	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
11:00 AM	196	14	5	188	404
11:15 AM	203	11	2	198	415
11:30 AM	207	7	8	206	428
11:45 AM	267	7	6	225	507
12:00 PM	232	8	2	200	442
12:15 PM	253	17	7	203	480
12:30 PM	228	11	7	206	452
12:45 PM	249	15	8	220	492
Total	1,835	90	45	1,646	3,620

CARS	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
11:00 AM	194	13	5	184	397
11:15 AM	198	10	2	196	407
11:30 AM	205	7	8	201	421
11:45 AM	262	6	6	221	497
12:00 PM	231	8	2	197	438
12:15 PM	249	16	6	200	471
12:30 PM	226	11	6	206	449
12:45 PM	247	13	7	218	485
Total	1,812	84	42	1,623	3,565

TRUCKS	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
11:00 AM	2	1	0	4	7
11:15 AM	5	1	0	2	8
11:30 AM	2	0	0	5	7
11:45 AM	5	1	0	4	10
12:00 PM	1	0	0	3	4
12:15 PM	4	1	1	3	9
12:30 PM	2	0	1	0	3
12:45 PM	2	2	1	2	7
Total	23	6	3	23	55

**S. Santa Monica Boulevard & North-South Alley (between Rodeo & Beverly Drives)
PM Peak Hour Vehicle & Truck Turning Movement Counts**

TOTAL	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
4:00 PM	280	7	3	227	518
4:15 PM	295	11	3	212	523
4:30 PM	264	9	1	197	472
4:45 PM	290	11	6	216	523
5:00 PM	354	6	1	188	549
5:15 PM	367	8	3	182	561
5:30 PM	328	9	4	190	531
5:45 PM	322	6	6	184	519
Total	2,500	67	27	1,596	4,196

CARS	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
4:00 PM	278	7	3	227	516
4:15 PM	295	10	3	211	521
4:30 PM	262	8	1	197	469
4:45 PM	290	10	6	215	521
5:00 PM	352	6	1	188	547
5:15 PM	365	8	3	181	558
5:30 PM	328	9	4	189	530
5:45 PM	320	6	6	183	516
Total	2,490	64	27	1,591	4,178

TRUCKS	EASTBOUND (Santa Monica Blvd)		WESTBOUND (Santa Monica Blvd)		TOTAL
	ET	ER	WL	WT	
4:00 PM	2	0	0	0	2
4:15 PM	0	1	0	1	2
4:30 PM	2	1	0	0	3
4:45 PM	0	1	0	1	2
5:00 PM	2	0	0	0	2
5:15 PM	2	0	0	1	3
5:30 PM	0	0	0	1	1
5:45 PM	2	0	0	1	3
Total	10	3	0	5	18