



CITY OF BEVERLY HILLS STAFF REPORT

Meeting Date: January 24, 2012
To: Honorable Mayor & City Council
From: Aaron Kunz, Deputy Director of Transportation *ak*
Subject: Request by City Councilmembers for evaluation of the Olympic/Beverly/Beverwil Intersection

Attachments:

1. Map of Existing Intersection
2. Summary of Accidents at Olympic/Beverly/Beverwil Intersection
3. Comparative Accident Data
4. Proposed Improvements

INTRODUCTION

This report responds to a request by City Councilmembers for an evaluation of the Olympic/Beverly/Beverwil Intersection in response to concerns raised by Jeffrey Brynan, a resident whose offices are immediately adjacent to the intersection.

With Beverly Drive splitting into two streets (Beverly and Beverwil Drives) just north of Olympic Boulevard, two streets cross Olympic Boulevard very close to each other, the geometric design of the overall intersection is relatively complex. Over the last two decades, both City staff and outside consultants have conducted a number of studies of the intersection and within the confines of the existing geometric design have implemented all feasible traffic signal improvements and timing plans, equipment upgrades and striping plans.

Based on review of accident data over the past five years, the accident rate is similar to other highly congested intersections. No geometric and signal timing deficiency of the intersection was noted as the cause for any of the accidents. The design of the intersection continues to appear reasonable and consistent with best engineering practices.

Staff has been evaluating a capital improvement project to simplify the intersection. The primary intent of this capital improvement is to address congestion at the overall intersection.

DISCUSSION

Olympic Boulevard is a major east/west corridor and carries more traffic in comparison with other parallel corridors like Pico and Venice Boulevards. The recent 24 hour counts on Olympic Boulevard is 52,300 daily trips (25,700 eastbound and 26,600 westbound). Beverly Drive is a major north/south corridor with 18,700 daily trips (10,900 southbound and 7,800 northbound). Beverwil Drive is a residential street south of Olympic Boulevard (22 single family residents) with 13,900 daily trips (6,500 southbound and 7,400 northbound).

A noticeable difference in volumes of AM and PM peak hours is identified in north/south directions. Northbound traffic on Beverly and Beverwil is higher in the morning. During the PM peak, southbound traffic on Beverly north of the intersection is highest. The highest volume of left turn movements in the study intersection is northbound Beverly turning onto westbound Olympic.

The overall intersection has three signals (Beverly/Beverwil, Olympic/Beverly and Olympic/Beverwil). Prior to 1997 each signal operated independently and required that timing plans be set manually by staff, requiring significant staff hours. Back-ups of up to a mile on Olympic Boulevard often occurred.

In 1997 the City received a grant from the Los Angeles County Metropolitan Transportation Authority (Metro) to upgrade and synchronize the three signals and as a result, the travel time on Olympic decreased from an average of 14 minutes to an average of 8 minutes.

The City has continued to monitor and adjust the signal timing (including over the past year) to improve the overall operations. For example, the length of the yellow period has been increased and has established an 'all-red' period to clear traffic that obstructs the two intersections. Staff has tested various timing sequencing options at the City's traffic signal workshop but all were found inferior to the existing operations.

In addition to modifying signal timing, Police Department staff has evaluated placing a red light photo enforcement camera at this intersection. As review of the red light photo enforcement program statewide is on-going, the red light photo enforcement program for this intersection is not recommended at this time. Police Department staff will be available at the January 24 meeting to address enforcement of this intersection.

Attached is a summary of reported accidents at the intersection and the accident rate at comparable intersections. Over the period from January 1, 2007 through December 31, 2011, the accident rate for the overall intersection is .23 per million vehicles. This rate is comparable to other high volume intersections in the City and lower than many intersections in the metropolitan area. The accident rates do not suggest that there are any design issues that make this intersection dangerous. The majority of accidents occurred at Beverly/Olympic involving eastbound and westbound left-turn movements. A capital improvement plan as outlined below, with installation of protected left-turns (e.g., left-turn arrows) at eastbound and westbound Olympic at Beverly Drive, could reduce these types of accidents. It is not possible to predict, however, that the accident rate will materially decrease given that the current rate is comparable to other high volume intersections.

Proposed Capital Improvement

The City's Capital Improvement Program managed by the Transportation Division prioritized three major projects in the following order 1) Sunset Boulevard Intersections 2) Santa Monica Boulevard Reconstruction (public outreach in Spring/Summer 2012) and 3) Olympic/Beverly/Beverwil intersection. For the Olympic/Beverly/Beverwil intersection, staff proposed to conduct public outreach and prepare design of the intersection in Fiscal Year 2012-13 and for construction in Fiscal Year 2013-14. This schedule is contingent on City Council approval of design and funding availability.

As envisioned, the Capital Improvement Project would simplify the existing geometric design where Beverly and Olympic would be the main access, Beverwil would have limited access. The Beverwil/Beverly intersection (north of Olympic Boulevard) would no longer require a separate signal operation. This proposal has been identified by different entities such as the Tri-cities study where the simplification approach was selected as a part of the area-wide mitigation plan in 1995. Further, it was reviewed as a potential improvement element of the Olympic Boulevard Smart corridor project conducted by Metro. Later, it was considered and evaluated as mitigation for projects such as the Montage, the Hilton, the 20th Century Fox and the Museum of Tolerance projects in Los Angeles. The concept of simplification plan for this intersection has been evaluated by the city staff since the 1980's as a part of the "Traffic Plan II" that was recommended in 1985 and refined in 1987 and subsequently in 2011 to the Traffic and Parking Commission. The Commission has indicated a general support for the idea of simplification.

The following are the main features of the simplification plan:

1. Elimination of northbound through traffic on Beverwil. This would require expansion of the monument island to the west. Northbound Beverwil would be channelized for only left turns and right turns to Olympic Boulevard (no straight access to Beverly).
2. Prohibition of northbound left turn on Beverly to westbound Olympic in conjunction with allowing a protective northbound left-turn on Beverwil to westbound Olympic.
3. Modification of the existing complex four sequence signal to three sequences would save an average of 10 seconds per each 90 seconds cycle. The extra time that is saved could be allocated to Olympic or Beverly depending on the directional demand of traffic.
4. Prohibition of westbound left turns from Olympic to Beverwil.
5. The removal of the traffic signal equipment at Beverwil/Beverly, as this signal would no longer be needed to control the right of way.
6. Re-striping Beverwil Drive to regain its residential character.

FISCAL IMPACT

Preliminary cost estimates for the Capital Improvement Program, which includes replacement/removal of traffic signals and expansion of the monument island is between

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\$800,000 and \$1,000,000. The consultant costs for public outreach and conceptual design is approximately \$40,000.

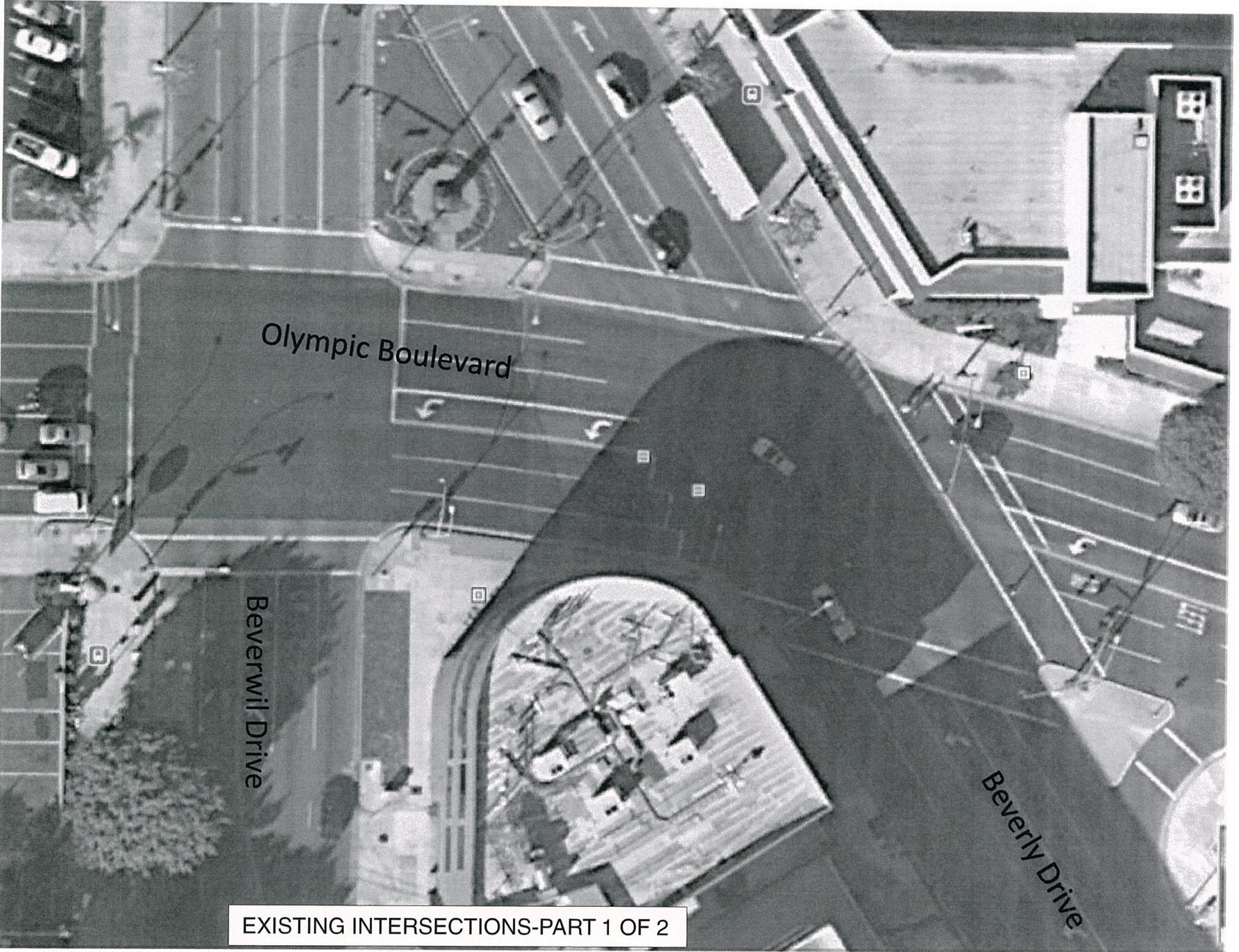
RECOMMENDATION

This report is provided per a request by City Councilmembers.

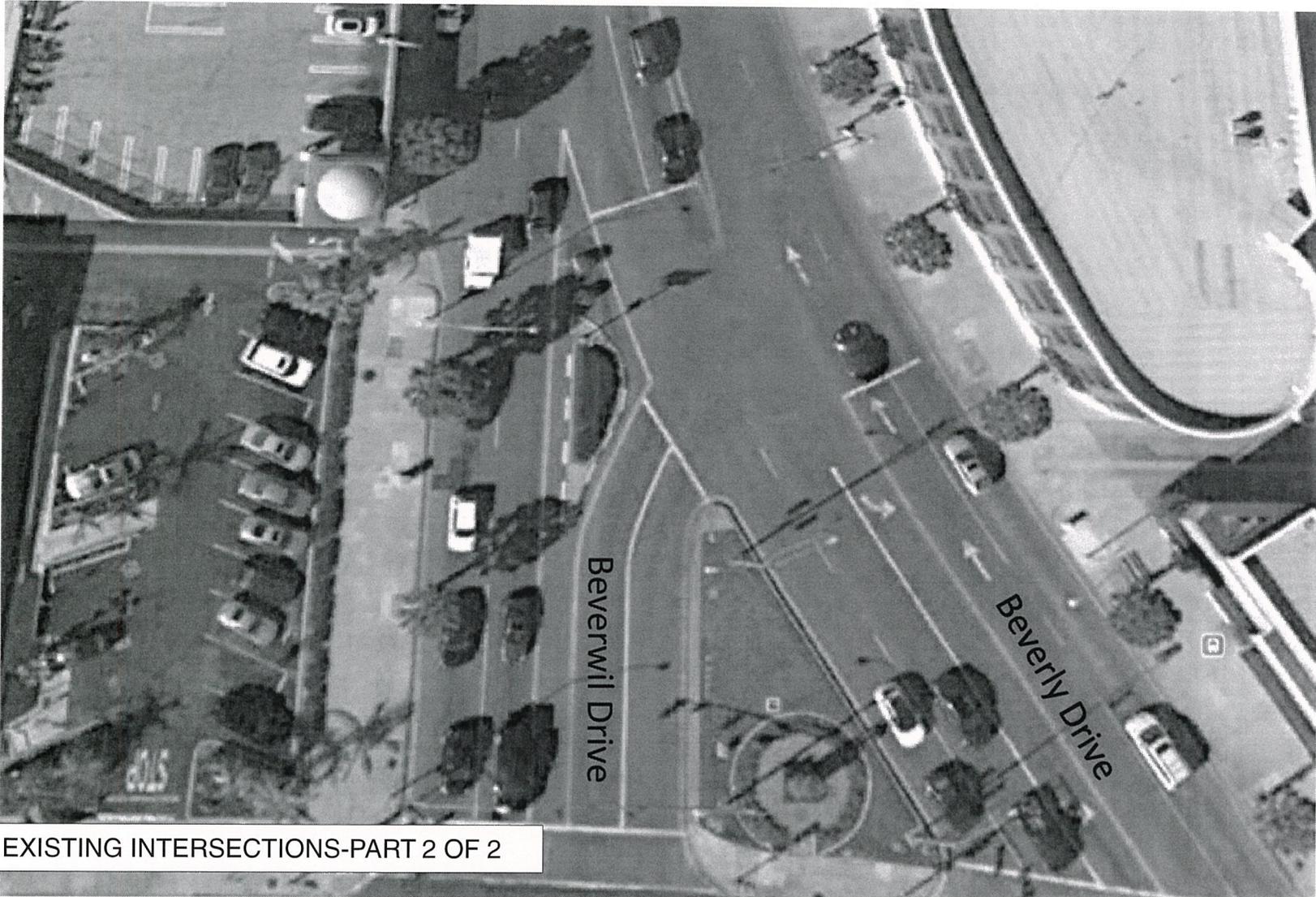


David Gustavson
Approved By

Attachment 1



EXISTING INTERSECTIONS-PART 1 OF 2



EXISTING INTERSECTIONS-PART 2 OF 2

Attachment 2

5-YEAR COLLISION HISTORY SUMMARY - OLYMPIC BLVD. @ BEVERLY DRIVE

DATE	TIME	COLLISION TYPE	LOCATION	MOVEMENT PRE-COLLISION
070103	5:52 PM	REAR END	INTERSECTION	ENT. TRAFFIC + WB STRAIGHT
070125	4:23 PM	HEAD ON	INTERSECTION	STRAIGHT EB + STOPPED WB
070723	9:43 PM	SIDESWIPE	INTERSECTION	STRAIGHT EB + LEFT TURN SB
070905	7:06 PM	REAR END	15' N/O	STRAIGHT SB + STOPPED SB
070917	8:17 AM	REAR END	75' W/O	STRAIGHT WB + SLOWING WB
071206	7:11 PM	REAR END	33' W/O	STRAIGHT EB + SLOWING EB
080113	10:32 AM	BROADSIDE	INTERSECTION	STRAIGHT WB + STRAIGHT NB
080215	2:31 PM	BROADSIDE	INTERSECTION	STRAIGHT EB + LEFT TURN WB
080320	3:49 PM	BROADSIDE	INTERSECTION	STRAIGHT EB + LEFT TURN WB
090413	1:35 PM	BROADSIDE	INTERSECTION	STRAIGHT EB + LEFT TURN WB
090529	9:33 AM	HEAD ON	INTERSECTION	LEFT TURN WB + STRAIGHT EB
090720	10:32 AM	BROADSIDE	INTERSECTION	LEFT TURN NB + STRAIGHT SB
090807	9:51 AM	REAR END	INTERSECTION	STRAIGHT WB + STOPPED WB
090829	12:02 PM	REAR END	5' S/O	STRAIGHT WB + STOPPED WB
100424	10:20 AM	HEAD ON	INTERSECTION	LEFT TURN NB + STRAIGHT SB
100419	10:00 AM	BROADSIDE	INTERSECTION	LEFT TURN WB + STRAIGHT EB
100703	9:46 PM	HEAD ON	INTERSECTION	LEFT TURN WB + STRAIGHT EB
101008	1:13 PM	HEAD ON	INTERSECTION	LEFT TURN WB + STRAIGHT EB
110216	10:19 AM	BROADSIDE	INTERSECTION	LEFT TURN NB + STRAIGHT SB
110419	5:15 PM	REAR END	75' N/O	STRAIGHT SB + STOPPED SB
110803	10:30AM	REAR END	INTERSECTION	PASSING NB + STRAIGHT NB
111112	6:11 PM	BROADSIDE	INTERSECTION	LEFT TURN NB + STRAIGHT SB
111211	9:00 PM	SIDESWIPE	INTERSECTION	STRAIGHT WB + STRAIGHT WB

5-YEAR COLLISION HISTORY SUMMARY - OLYMPIC BLVD. @ BEVERWIL DRIVE

DATE	TIME	COLLISION TYPE	LOCATION	MOVEMENT PRE-COLLISION
070122	5:36 PM	BROADSIDE	INTERSECTION	STRAIGHT EB + LEFT TURN WB
070301	7:10 PM	BROADSIDE	INTERSECTION	LEFT TURN WB + STRAIGHT EB
070514	5:10 PM	BROADSIDE	INTERSECTION	LEFT TURN EB + STRAIGHT WB
070522	4:20 PM	SIDESWIPE	INTERSECTION	BOTH STRAIGHT WEST
071007	9:49 AM	BROADSIDE	INTERSECTION	LEFT TURN SB + STRAIGHT EB
081030	3:41 PM	HEAD ON	INTERSECTION	LEFT TURN EB + STRAIGHT WB
090916	11:51 AM	BROADSIDE	INTERSECTION	LEFT TURN EB + STRAIGHT WB
101017	8:51 AM	AUTO/PED	5' N/O	SLOWING SB + STRAIGHT EB
110628	12:04 PM	BROADSIDE	INTERSECTION	STRAIGHT WB + LEFT TURN EB
110810	8:08 PM	BROADSIDE	INTERSECTION	STRAIGHT EB + STRAIGHT SB
110912	12:30 PM	HEAD ON	INTERSECTION	LEFT TURN EB + STRAIGHT WB
111107	7:13 PM	SIDESWIPE	INTERSECTION	RIGHT TURN

Attachment A

5-YEAR COLLISION HISTORY BY TYPE - OLYMPIC @ BEVERLY DRIVE

COLLISION TYPE	MOVEMENT PRE-COLLISION	TOTAL BY TYPE	PERCENT OF TOTAL
BROADSIDE	STRAIGHT WB + STRAIGHT NB	8	35
	STRAIGHT EB + LEFT TURN WB		
	STRAIGHT EB + LEFT TURN WB		
	STRAIGHT EB + LEFT TURN WB		
	LEFT TURN NB + STRAIGHT SB		
	LEFT TURN WB + STRAIGHT EB		
	LEFT TURN NB + STRAIGHT SB		
	LEFT TURN NB + STRAIGHT SB		
HEAD ON	STRAIGHT EB + STOPPED WB	5	22
	LEFT TURN WB + STRAIGHT EB		
	LEFT TURN NB + STRAIGHT SB		
	LEFT TURN WB + STRAIGHT EB		
	LEFT TURN WB + STRAIGHT EB		
REAR END	ENT. TRAFFIC + WB STRAIGHT	8	35
	STRAIGHT SB + STOPPED SB		
	STRAIGHT WB + SLOWING WB		
	STRAIGHT EB + SLOWING EB		
	STRAIGHT WB + STOPPED WB		
	STRAIGHT WB + STOPPED WB		
	STRAIGHT SB + STOPPED SB		
	PASSING NB + STRAIGHT NB		
SIDESWIPE	STRAIGHT EB + LEFT TURN SB	2	9
	STRAIGHT WB + STRAIGHT WB		

5-YEAR COLLISION HISTORY BY TYPE - OLYMPIC @ BEVERWIL DRIVE

COLLISION TYPE	MOVEMENT PRE-COLLISION	TOTAL BY TYPE	PERCENT OF TOTAL
AUTO/PED	SLOWING SB + STRAIGHT EB	1	8
BROADSIDE	STRAIGHT EB + LEFT TURN WB	7	58
	LEFT TURN WB + STRAIGHT EB		
	LEFT TURN EB + STRAIGHT WB		
	LEFT TURN SB + STRAIGHT EB		
	LEFT TURN EB + STRAIGHT WB		
	STRAIGHT WB + LEFT TURN EB		
	STRAIGHT EB + STRAIGHT SB		
HEAD ON	LEFT TURN EB + STRAIGHT WB	2	17
	LEFT TURN EB + STRAIGHT WB		
SIDESWIPE	BOTH STRAIGHT WEST	2	17
	RIGHT TURN		

5-YEAR COLLISION HISTORY BY MOVEMENTS PRECEDING COLLISIONS - OLYMPIC BLVD. @ BEVERLY DRIVE

MOVEMENT PRE-COLLISION	COLLISION TYPE	TOTAL BY MPC	PERCENT OF TOTAL
ENT. TRAFFIC + WB STRAIGHT	REAR END	1	4
LEFT TURN NB + STRAIGHT SB	BROADSIDE	4	17
	HEAD ON		
	BROADSIDE		
	BROADSIDE		
LEFT TURN WB + STRAIGHT EB	HEAD ON	4	17
	BROADSIDE		
	HEAD ON		
	HEAD ON		
PASSING NB + STRAIGHT NB	REAR END	1	4
STRAIGHT EB + LEFT TURN SB	SIDESWIPE	1	4
STRAIGHT EB+LEFT TURN WB	BROADSIDE	3	13
STRAIGHT EB + SLOWING EB	REAR END	1	4
STRAIGHT EB + STOPPED WB	HEAD ON	1	4
STRAIGHT SB + STOPPED SB	REAR END	2	9
	REAR END		
STRAIGHT WB + SLOWING WB	REAR END	1	4
STRAIGHT WB + STOPPED WB	REAR END	2	9
	REAR END		
STRAIGHT WB + STRAIGHT NB	BROADSIDE	1	4
STRAIGHT WB + STRAIGHT WB	SIDESWIPE	1	4

5-YEAR COLLISION HISTORY BY MOVEMENTS PRECEDING COLLISIONS - OLYMPIC BLVD. @ BEVERWIL DRIVE

MOVEMENT PRE-COLLISION	COLLISION TYPE	TOTAL BY MPC	PERCENT OF TOTAL
BOTH STRAIGHT WEST	SIDESWIPE	1	8
LEFT TURN EB + STRAIGHT WB	BROADSIDE	4	33
	HEAD ON		
	BROADSIDE		
	HEAD ON		
LEFT TURN SB + STRAIGHT EB	BROADSIDE	1	8
LEFT TURN WB + STRAIGHT EB	BROADSIDE	1	8
RIGHT TURN	SIDESWIPE	1	8
SLOWING SB + STRAIGHT EB	AUTO/PED	1	8
STRAIGHT EB + LEFT TURN WB	BROADSIDE	1	8
STRAIGHT EB + STRAIGHT SB	BROADSIDE	1	8
STRAIGHT WB + LEFT TURN EB	BROADSIDE	1	8

5-YEAR COLLISION HISTORY BY TIME - OLYMPIC BLVD. @ BEVERLY DRIVE

TIME	TOTAL BY HOURS	PEAK HOUR
8:17 AM	1	
9:33 AM	2	
9:51 AM		
10:00 AM	6	X
10:19 AM		
10:20 AM		
10:30 AM		
10:32 AM		
10:32 AM		
12:02 PM	1	
1:13 PM	2	
1:35 PM		
2:31 PM	1	
3:49 PM	1	
4:23 PM	1	
5:15 PM	2	
5:52 PM		
6:11 PM	1	
7:06 PM	2	
7:11 PM		
9:00 PM	3	
9:43 PM		
9:46 PM		

5-YEAR COLLISION HISTORY BY TIME - OLYMPIC BLVD. @ BEVERWIL DRIVE

TIME	TOTAL BY HOURS	PEAK HOUR(S)
8:51 AM	1	
9:49 AM	1	
11:51 AM	1	
12:04 PM	2	X
12:30 PM		
3:41 PM	1	
4:20 PM	1	
5:10 PM	2	X
5:36 PM		
7:10 PM	2	X
7:13 PM		
8:08 PM	1	

Attachment 3

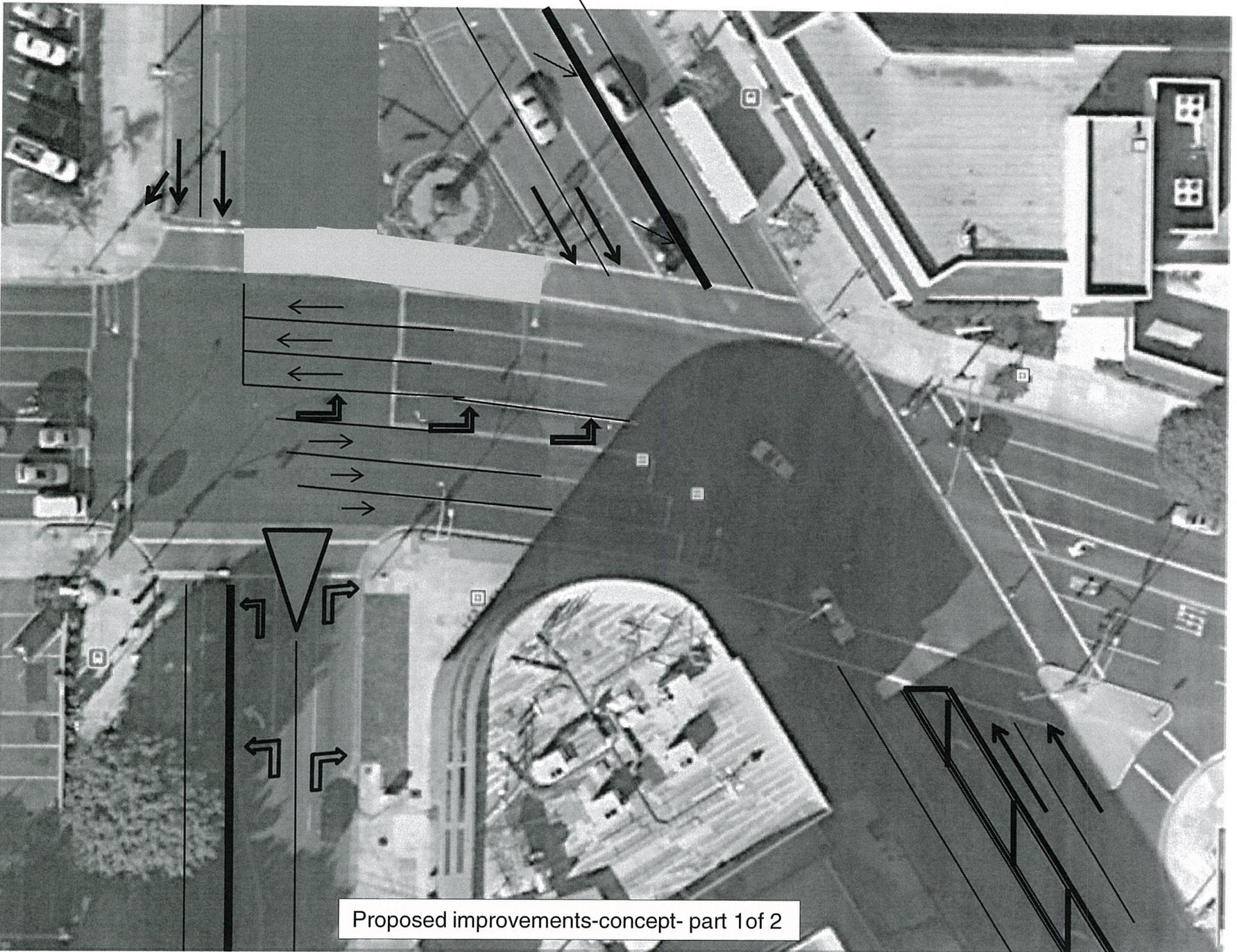
Accident index comparison - Selected intersections in Beverly Hills

intersection	Accident rate per million entering
Sunset and Bedford*	0.45
Sunset and Roxbury*	0.31
Sunset and Camden*	0.13
Sunset and Hillcrest **	0.25
Sunset and Hillcrest	0.11
Burton Way and Maple **	0.33
Burton Way and Maple	0.05
Sunset and Rexford	0.12
Wilshire and N. Santa Mon.	0.14
Wilshire and Beverly	0.15
Wilshire and Palm -west*	0.17
Wilshire and Doheny	0.18
Wilshire and Robertson	0.21
Wilshire and La Cienega	0.22
Santa Monica-Beverly Bl.	0.07
Olympic and Spalding	0.21
Olympic and Beverly	0.18
Olympic and Beverwil	0.1
Olympic/Beverwil/Beverly	0.23
Olympic and Palm*	0.13

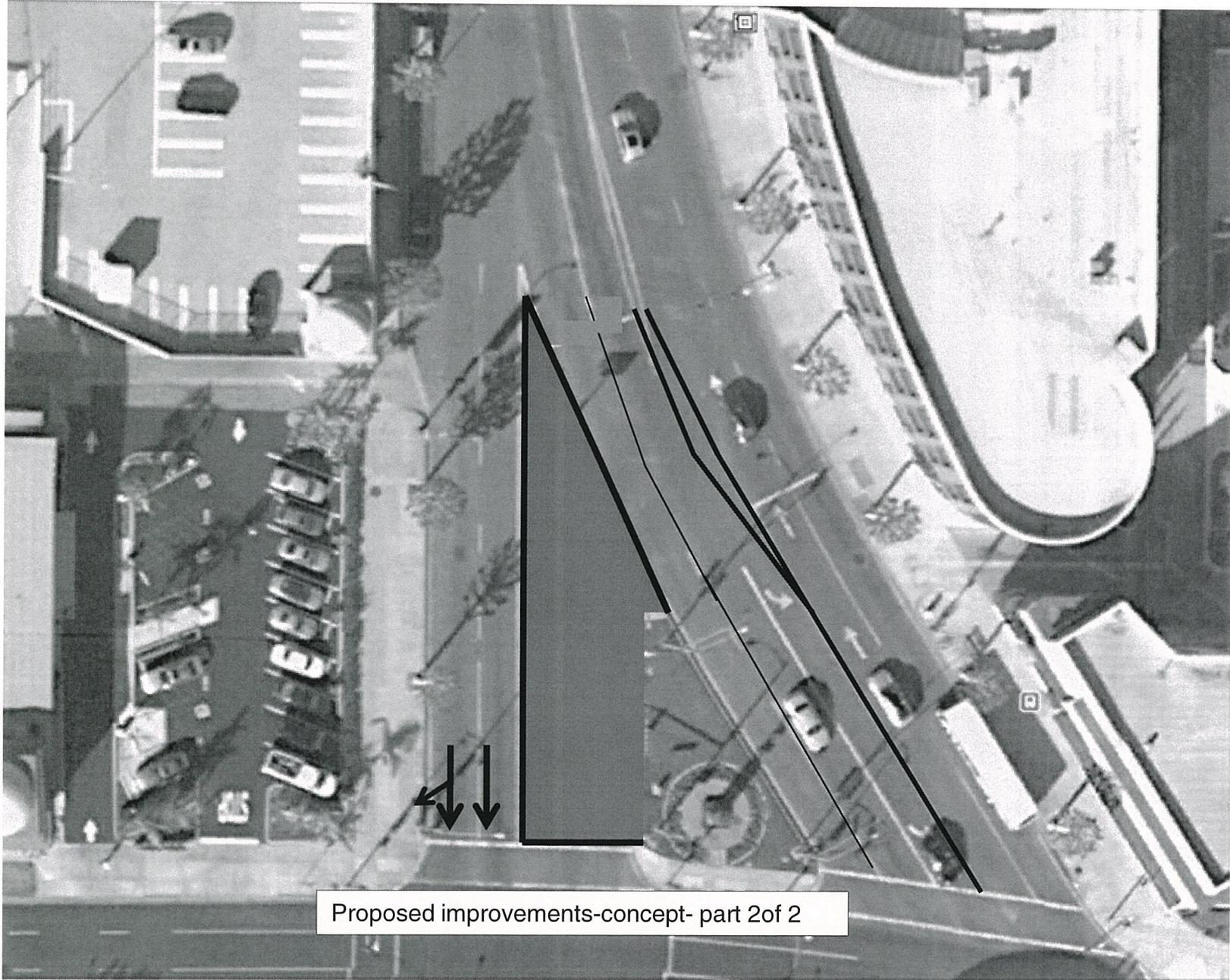
** Before signal installations

* Non signalized intersection

Attachment 4



Proposed improvements-concept- part 1 of 2



Proposed improvements-concept- part 2of 2