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Sent time: 11/20/2019 09:08:46 AM
To: bhuvan.bajaj@lacity.org
Cc: Eduardo Hermoso <eduardo.hermoso@lacity.org>; Tom Gaul <T.Gaul@fehrandpeers.com>
Subject: Hollywood Center Signal Warrants
Attachments: DvwySigWarrantSummaryv3.pdf

Hi Bhuvan,

We spoke about a month ago regarding the signal warrants for the Hollywood Center project. When we spoke we discussed submitting a streamlined signal warrant package with a write-up describing the approach for the peak hour warrant, including the consideration of right-turn volumes. I'm sending a revised package with the write-up and signal warrant sheets. We have analysis for other time periods and scenarios if you would like to see that info.

We have a Transportation Assessment Report under review and are working to coordinate the review and assessment letter and ask that you reach out if you have any questions or need any other data. Can you take a look and let us know an estimated timeline for review? Thank you.

Regards,
Miguel

Miguel Núñez, AICP
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Driveway Signal Warrant Analysis

The Project driveway for the east site is proposed to be signalized, located at Argyle Avenue & Carlos Avenue, providing pedestrian access across Argyle Avenue and vehicular access to the East Building. A signal warrant analysis was conducted accordingly.

The Peak Hour warrant analysis were conducted in accordance with the procedures described in Chapter 4C of the MUTCD 2014. The warrant for a traffic signal is met if a plotted point representing the vehicles per hour on the major street (for both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for one hour lies above the applicable curve in Figure 4C-3 in the MUTCD 2014 for the combination of approach lanes. If the combined volume of the major approaches and the corresponding conflicting volumes are greater than the threshold determined by the intersection configuration, then a traffic signal could be warranted.

The volumes were developed by obtaining existing counts at Argyle Avenue & Carlos Avenue and layering on related project volumes, ambient growth, and project volumes (as defined in our MOU with LADOT). The project volumes were added to reflect the project's trip distribution for residential, commercial, and/or hotel uses.

Signal warrant guidance allows for adjustments to right-turn volumes depending on the configuration of the approach lanes. The east/west legs of the intersection are single lane approaches where right-turns will not have their own turn lane. As a result, the right-turn volumes were included in the signal warrant analysis.

The signal warrants results presented are for the peak hours under Existing plus Project and Future (opening) Year Future Year 2027 with Project (Future Year 2040 are also available) scenarios for the Residential and Hotel options. The peak hour signal warrant is met as seen in Table 1.

Peak hour signal warrant sheets for the scenarios presented are attached.

Signal warrants for this location are available for other analysis scenarios upon request.

TABLE 1 HOLLYWOOD CENTER SIGNAL WARRANT ANALYSIS			
INTERSECTION	PEAK HOUR	SIGNAL WARRANT MET?	
		EXISTING+PROJECT	FUTURE (2027) PLUS PROJECT
Argyle Avenue & Driveway/Carlos Ave <i>(Residential Scenario)</i>	PM	YES	YES
Argyle Avenue & Driveway/Carlos Ave <i>(Hotel Scenario)</i>	PM	YES	YES

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

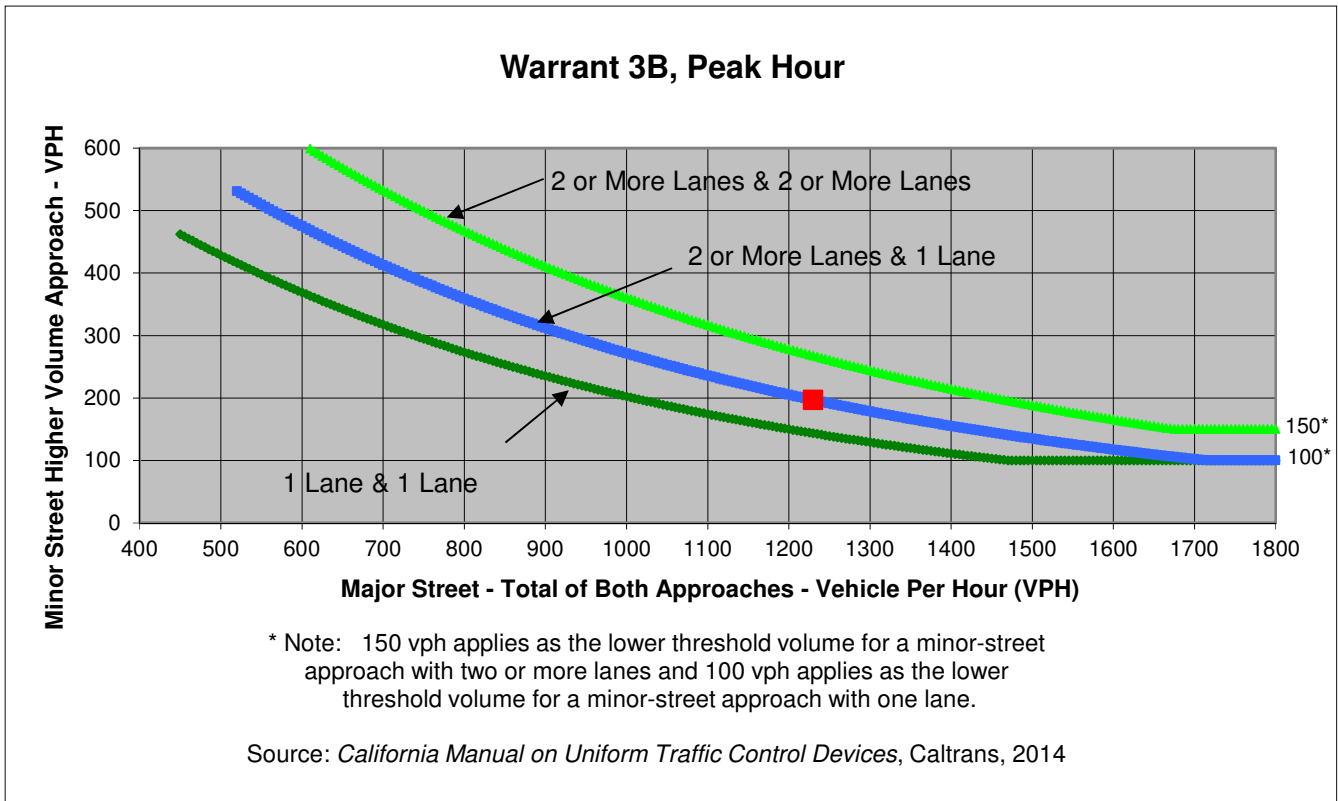
Project Hollywood Center
 Scenario EP_PM Residential
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	128	21	81	20
Through	731	203	0	0
Right	49	98	116	18
Total	908	322	197	38

Major Street Direction

x	North/South
—	East/West



	Major Street	Minor Street	Warrant Met
	Argyle Ave	Driveway/Carlos Ave	
Number of Approach Lanes	2	1	YES
Traffic Volume (VPH) *	1,230	197	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

Project Hollywood Center
 Scenario EP_PM Residential
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	128	21	81	20
Through	731	203	0	0
Right	49	98	116	18
Total	908	322	197	38

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	210.3
Approach with Worst Case Delay	EB
Total Vehicles on Approach	197

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
EP_PM Residential	11.5	197	1,465
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

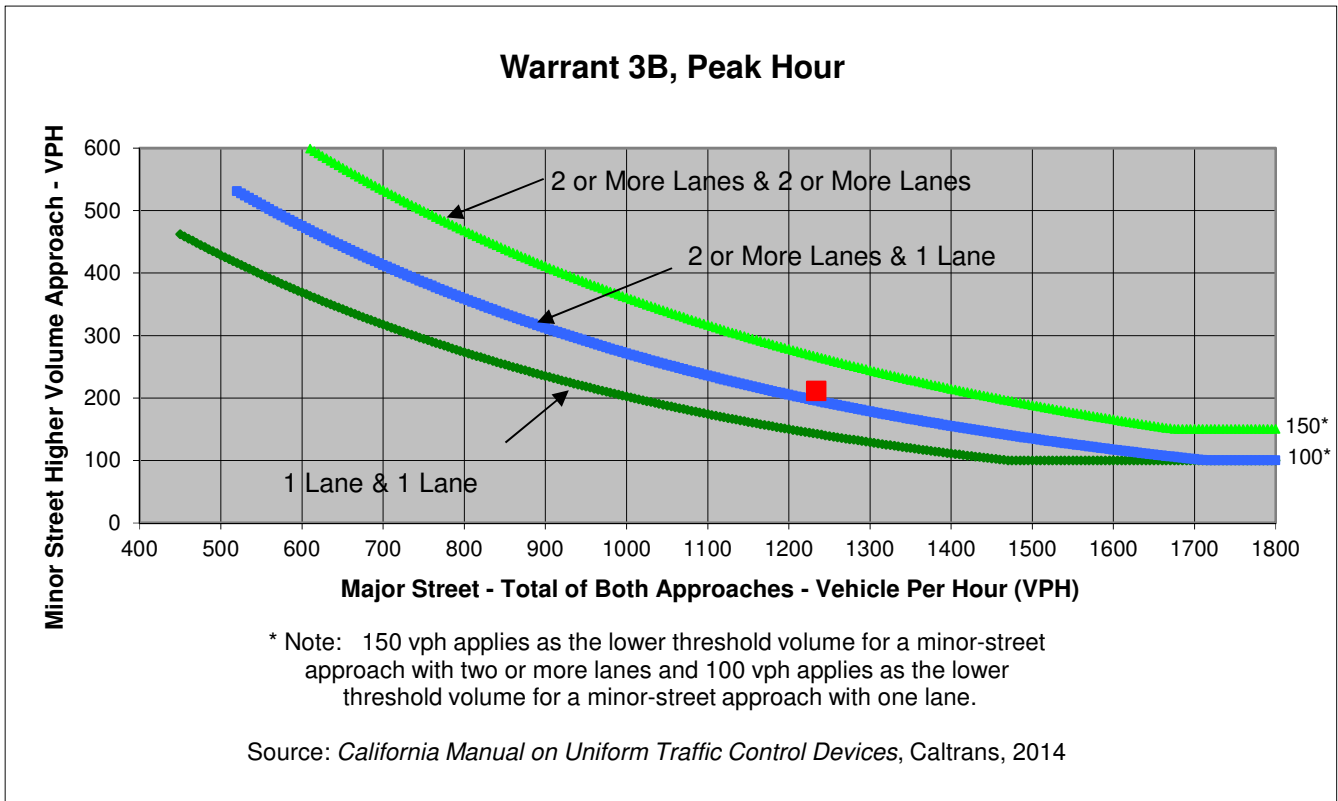
Project Hollywood Center
 Scenario EP_PM Hotel
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	131	21	86	20
Through	731	203	0	0
Right	49	99	125	18
Total	911	323	211	38

Major Street Direction

x	North/South
—	East/West



	Major Street	Minor Street	Warrant Met
	Argyle Ave	Driveway/Carlos Ave	
Number of Approach Lanes	2	1	YES
Traffic Volume (VPH) *	1,234	211	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

Project Hollywood Center
 Scenario EP_PM Hotel
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	131	21	86	20
Through	731	203	0	0
Right	49	99	125	18
Total	911	323	211	38

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	243.6
Approach with Worst Case Delay	EB
Total Vehicles on Approach	211

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
EP_PM Hotel	14.3	211	1,483
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

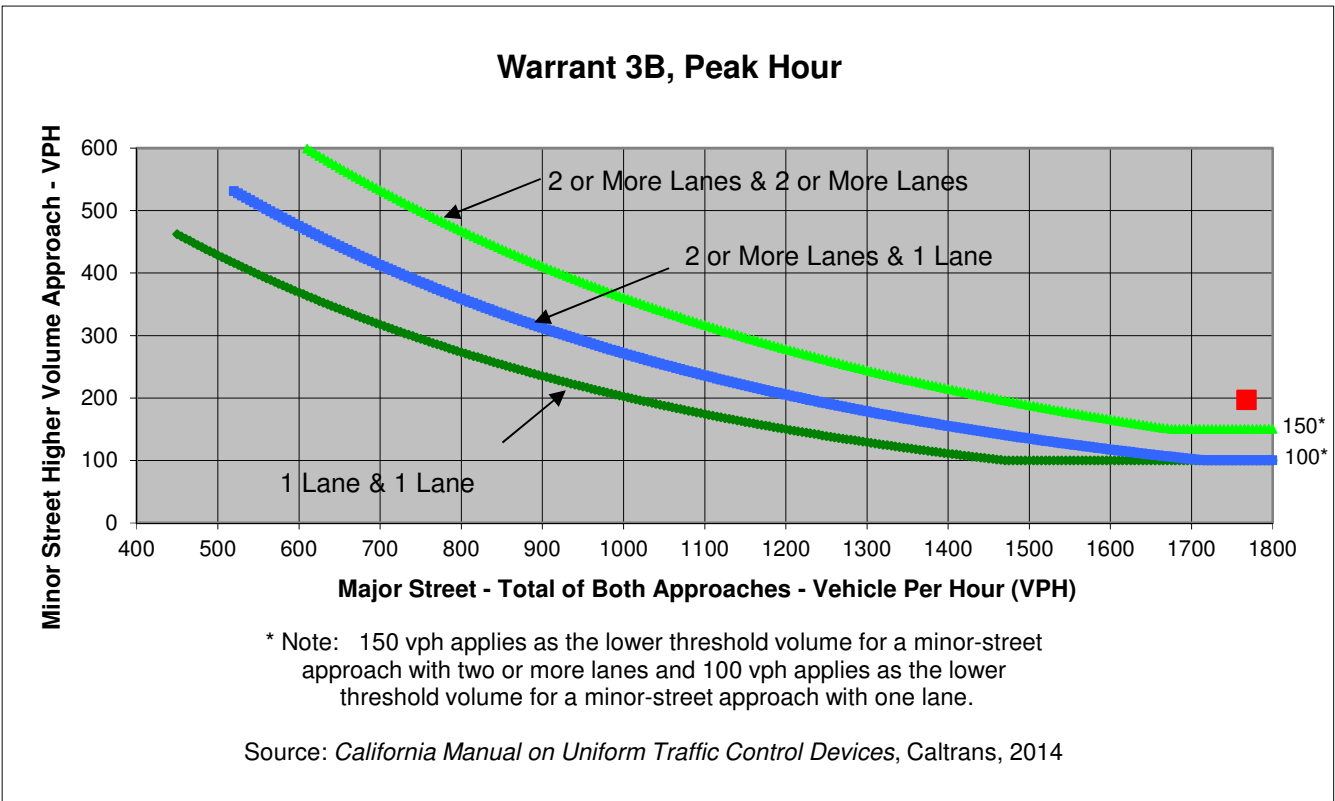
Project Hollywood Center
 Scenario CP2027_PM Residential
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	128	22	81	21
Through	1,118	351	0	0
Right	51	98	116	19
Total	1,297	471	197	40

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Argyle Ave	Driveway/Carlos Ave	
Number of Approach Lanes	2	1	YES
Traffic Volume (VPH) *	1,768	197	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

Project Hollywood Center
 Scenario CP2027_PM Residential
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	128	22	81	21
Through	1,118	351	0	0
Right	51	98	116	19
Total	1,297	471	197	40

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1355.4
Approach with Worst Case Delay	EB
Total Vehicles on Approach	197

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
CP2027_PM Residential	74.2	197	2,005
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

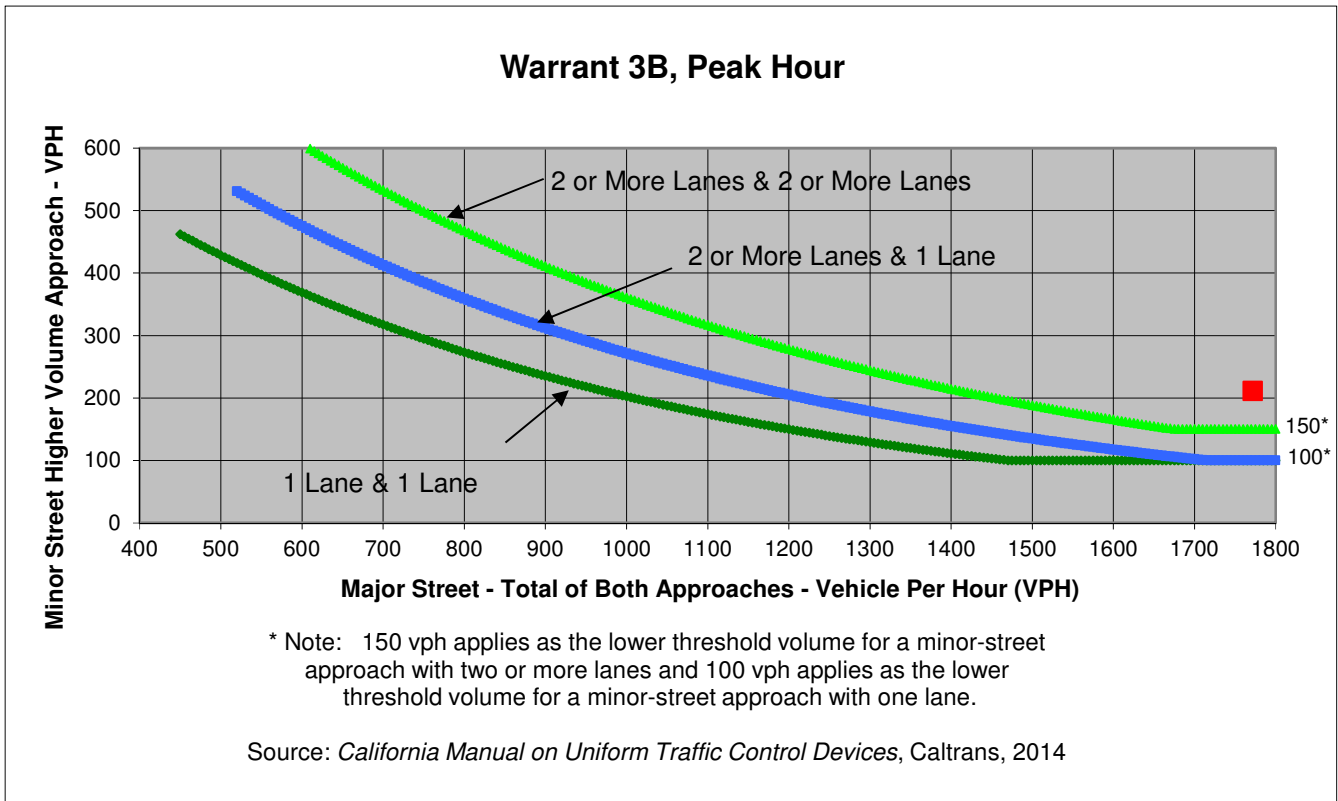
Project Hollywood Center
 Scenario CP2027_PM Hotel
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	131	22	86	21
Through	1,118	351	0	0
Right	51	99	125	19
Total	1,300	472	211	40

Major Street Direction

x	North/South
	East/West



	Major Street	Minor Street	Warrant Met
	Argyle Ave	Driveway/Carlos Ave	
Number of Approach Lanes	2	1	YES
Traffic Volume (VPH) *	1,772	211	

* Note: Traffic Volume for Major Street is Total Volume of Both Approaches.
 Traffic Volume for Minor Street is the Volume of High Volume Approach.

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Major Street Argyle Ave
 Minor Street Driveway/Carlos Ave

Project Hollywood Center
 Scenario CP2027_PM Hotel
 Peak Hour PM

Turn Movement Volumes

	NB	SB	EB	WB
Left	131	22	86	21
Through	1,118	351	0	0
Right	51	99	125	19
Total	1,300	472	211	40

Major Street Direction

x	North/South
	East/West

Intersection Geometry

Number of Approach Lanes for Minor Street	1
Total Approaches	4

Worst Case Delay for Minor Street

Stopped Delay (seconds per vehicle)	1468.2
Approach with Worst Case Delay	EB
Total Vehicles on Approach	211

Warrant 3A, Peak Hour			
	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Served (vph)
CP2027_PM Hotel	86.1	211	2,023
Limiting Value	4	100	800
Condition Satisfied?	Met	Met	Met
Warrant Met	<u>YES</u>		