



City Of Los Angeles
Department Of Transportation

MANUAL TRAFFIC COUNT SUMMARY

STREET:

North/South SAN DIEGO FWY NB ON/OFF RAMPS

East/West SANTA MONICA BL

Day: MONDAY Date: August 31, 2009 Weather: SUNNY

Hours: 7-10AM 1-4PM Chekrs: CERULLE

School Day: YES District: WESTERN I/S CODE 14123

	<u>N/B</u>	<u>S/B</u>	<u>E/B</u>	<u>W/B</u>
DUAL-WHEELED	205	0	256	145
BIKES	2	0	7	16
BUSES	56	0	70	37

	<u>N/B</u>	<u>TIME</u>	<u>S/B</u>	<u>TIME</u>	<u>E/B</u>	<u>TIME</u>	<u>W/B</u>	<u>TIME</u>
<i>AM PK 15 MIN</i>	461	7.00	0	7.00	545	8.15	520	8.45
<i>PM PK 15 MIN</i>	440	3.45	0	1.00	597	2.45	544	1.15
<i>AM PK HOUR</i>	1728	8.00	0	7.00	2071	8.15	1951	8.30
<i>PM PK HOUR</i>	1646	3.00	0	1.00	2311	2.45	1745	1.15

NORTHBOUND Approach
SAN DIEGO FWY NB OFF RAMP

Hours	<u>Lt</u>	<u>Th</u>	<u>Rt</u>	<u>Total</u>
7-8	618	320	689	1627
8-9	692	359	677	1728
9-10	606	331	661	1598
1-2	514	229	789	1532
2-3	504	272	733	1509
3-4	529	381	736	1646
TOTAL	3463	1892	4285	9640

SOUTHBOUND Approach
SAN DIEGO FWY NB ON RAMP

Hours	<u>Lt</u>	<u>Th</u>	<u>Rt</u>	<u>Total</u>
7-8	0	0	0	0
8-9	0	0	0	0
9-10	0	0	0	0
1-2	0	0	0	0
2-3	0	0	0	0
3-4	0	0	0	0
TOTAL	0	0	0	0

TOTAL

XING S/L

XING N/L

N-S	<u>Ped</u>	<u>Sch</u>	<u>Ped</u>	<u>Sch</u>
1627	22	0	0	0
1728	17	0	0	0
1598	28	0	0	0
1532	44	0	0	0
1509	23	0	0	0
1646	25	0	0	0
9640	159	0	0	0

EASTBOUND Approach

Hours	<u>Lt</u>	<u>Th</u>	<u>Rt</u>	<u>Total</u>
7-8	404	1390	0	1794
8-9	501	1562	0	2063
9-10	398	1665	0	2063
1-2	418	1432	0	1850
2-3	554	1574	0	2128
3-4	602	1700	0	2302
TOTAL	2877	9323	0	12200

WESTBOUND Approach

Hours	<u>Lt</u>	<u>Th</u>	<u>Rt</u>	<u>Total</u>
7-8	0	992	100	1092
8-9	0	1469	288	1757
9-10	0	1508	270	1778
1-2	0	1429	256	1685
2-3	0	1304	167	1471
3-4	0	1288	236	1524
TOTAL	0	7990	1317	9307

TOTAL

XING W/L

XING E/L

E-W	<u>Ped</u>	<u>Sch</u>	<u>Ped</u>	<u>Sch</u>
2886	0	0	0	0
3820	0	0	11	0
3841	0	0	11	0
3535	0	0	4	0
3599	0	0	4	0
3826	0	0	6	2
21507	0	0	36	2

CHECK 161 0 7 54

FETSIM COUNT SHEET

City of Los Angeles
Department of Transportation
(R 3-89)

North/South St: SAN DIEGO FWY NB ON/OFF RAMPs

East/West St: SANTA MONICA BL

Date: August 31, 2009

NOTE: THESE COUNTS WERE CALCULATED IN ACCORDANCE WITH THE COUNT DEFINITION OUTLINED

Peak hour volumes were calculated by determining the 1/2 hour during which the total volume on all approaches was a maximum, i.e., from 7.00-7.30 or from 4.15-4.45. Then these volumes were multiplied by 2 to get the hourly volumes. These numbers are not the same as the ones in the Traffic Count Summary forms.

A.M. Format

0	0
602	666
366	0
224	0

P.M. LINK Format

0	0	0
526	434	752
614	1746	0
248	1258	0

TRAFFIC COUNT SUMMARY Format

SB APPROACH

	Lt	Rt	Lt	Th	Rt	
AM	602	666	0	434	0	9.30
PM	526	752	0	0	0	3.30

WB APPROACH

	Lt	Rt	Lt	Th	Rt
AM	366	0	0	1746	224
PM	614	0	0	1258	248

	CALCULATION WORKSPACE										
%											
%											
%											
%											
%											
%											
%											
%	NORTHBOUND AM										
%											
%	Period	Total Vehicles			Cross	Hour	D.W	Pedestrns			Period
%	Endng	L	T	R	Tot.	Tot.	Veh.	Bus	Ped	Sch	Begng
%	----	-----	----	----	-----	-----	-----	-----	-----	-----	-----
%	7.15	182	87	192	461	1627	7	0	2	0	7.00
%	7.30	139	56	146	341	1615	8	2	9	0	7.15
%	7.45	170	82	173	425	1709	15	2	8	0	7.30
%	8.00	127	95	178	400	1712	6	3	3	0	7.45
%	8.15	204	97	148	449	1728	5	2	4	0	8.00
%	8.30	165	91	179	435	1688	7	1	7	0	8.15
%	8.45	164	89	175	428	1647	9	1	0	0	8.30
%	9.00	159	82	175	416	1622	11	4	6	0	8.45
%	9.15	155	87	167	409	1598	13	1	8	0	9.00
%	9.30	150	83	161	394		11	2	6	0	9.15
%	9.45	152	81	170	403		17	1	8	0	9.30
%	10.00	149	80	163	392		11	2	6	0	9.45
%										
%	NORTHBOUND PM										
%											
%	Period	Total Vehicles			Cross	Hour	D.W	Pedestrns			Period
%	Endng	L	T	R	Tot.	Tot.	Veh.	Bus	Ped	Sch	Begng
%	----	-----	----	----	-----	-----	-----	-----	-----	-----	-----
%	1.15	122	60	178	360	1532	10	2	9	0	1.00
%	1.30	125	56	207	388	1531	6	4	7	0	1.15
%	1.45	131	56	189	376	1512	2	3	14	0	1.30
%	2.00	136	57	215	408	1543	8	2	14	0	1.45
%	2.15	123	44	192	359	1509	12	4	13	0	2.00
%	2.30	120	71	178	369	1531	5	5	3	0	2.15
%	2.45	137	83	187	407	1571	8	2	5	0	2.30
%	3.00	124	74	176	374	1580	4	2	2	0	2.45
%	3.15	128	77	176	381	1646	10	2	10	0	3.00
%	3.30	138	87	184	409		8	2	7	0	3.15
%	3.45	127	103	186	416		3	5	3	0	3.30
%	4.00	136	114	190	440		9	2	5	0	3.45
%										
%	EASTBOUND AM										
%											
%	Period	Total Vehicles			Cross	Hour	D.W	Pedestrns			Period
%	Endng	L	T	R	Tot.	Tot.	Veh.	Bus	Ped	Sch	Begng
%	----	-----	----	----	-----	-----	-----	-----	-----	-----	-----
%	7.15	53	331	0	384	1794	10	7	0	0	7.00
%	7.30	109	328	0	437	1930	11	3	0	0	7.15
%	7.45	123	348	0	471	2038	15	3	0	0	7.30
%	8.00	119	383	0	502	2037	11	3	0	0	7.45
%	8.15	132	388	0	520	2063	8	3	0	0	8.00
%	8.30	134	411	0	545	2071	8	4	0	0	8.15
%	8.45	116	354	0	470	1987	6	0	0	0	8.30
%	9.00										

[illegible]

%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %%%%%%%%% %

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SOUTHBOUND AM

Period	Total Vehicles			Cross	Hour	D.W	Pedestrns			Period
Endng	L	T	R	Tot.	Tot.	Veh.	Bus	Ped	Sch	Begng
----	----	----	----	----	----	----	----	----	----	----
7.15	0	0	0	0	0	0	0	0	0	7.00
7.30	0	0	0	0	0	0	0	0	0	7.15
7.45	0	0	0	0	0	0	0	0	0	7.30
8.00	0	0	0	0	0	0	0	0	0	7.45
8.15	0	0	0	0	0	0	0	0	0	8.00
8.30	0	0	0	0	0	0	0	0	0	8.15
8.45	0	0	0	0	0	0	0	0	0	8.30
9.00	0	0	0	0	0	0	0	0	0	8.45
9.15	0	0	0	0	0	0	0	0	0	9.00
9.30	0	0	0	0		0	0	0	0	9.15
9.45	0	0	0	0		0	0	0	0	9.30
10.00	0	0	0	0		0	0	0	0	9.45

.....%

SOUTHBOUND PM

Period	Total Vehicles			Cross	Hour	D.W	Pedestrns			Period
Endng	L	T	R	Tot.	Tot.	Veh.	Bus	Ped	Sch	Begng
----	----	----	----	----	----	----	----	----	----	----
1.15	0	0	0	0	0	0	0	0	0	1.00
1.30	0	0	0	0	0	0	0	0	0	1.15
1.45	0	0	0	0	0	0	0	0	0	1.30
2.00	0	0	0	0	0	0	0	0	0	1.45
2.15	0	0	0	0	0	0	0	0	0	2.00
2.30	0	0	0	0	0	0	0	0	0	2.15
2.45	0	0	0	0	0	0	0	0	0	2.30
3.00	0	0	0	0	0	0	0	0	0	2.45
3.15	0	0	0	0	0	0	0	0	0	3.00
3.30	0	0	0	0		0	0	0	0	3.15
3.45	0	0	0	0		0	0	0	0	3.30
4.00	0	0	0	0		0	0	0	0	3.45

%

WESTBOUND AM

Period	Total Vehicles			Cross	Hour	D.W	Pedestrns			Period
Endng	L	T	R	Tot.	Tot.	Veh.	Bus	Ped	Sch	Begng
----	----	----	----	----	----	----	----	----	----	----
7.15	0	230	22	252	1092	6	0	0	0	7.00
7.30	0	240	24	264	1230	3	1	0	0	7.15
7.45	0	230	36	266	1394	7	1	0	0	7.30
8.00	0	292	18	310	1547	1	3	0	0	7.45
8.15	0	332	58	390	1757	7	2	0	0	8.00
8.30	0	349	79	428	1864	8	3	4	0	8.15
8.45	0	349	70	419	1951	6	3	3	0	8.30
9.00	0	439	81	520	1899	17	5	4	0	8.45
9.15	0	417	80	497	1778	16	2	4	0	9.00
9.30	0	437	78	515		11	1	2	0	9.15
9.45	0	316	51	367		8	2	2	0	9.30
10.00	0	338	61	399		8	0	3	0	9.45

.....%

WESTBOUND PM

WESTBOUND PM											%
Period	Total Vehicles			Cross	Hour	D.W		Pedestrns		Period	%
Endng	L	T	R	Tot.	Tot.	Veh.	Bus	Ped	Sch	Begng	%
----	----	----	----	----	----	----	----	----	----	----	----
1.15	0	270	62	332	1685	1	1	3	0	1.00	%
1.30	0	460	84	544	1745	4	2	0	0	1.15	%
1.45	0	359	52	411	1608	7	3	1	0	1.30	%
2.00	0	340	58	398	1533	3	0	0	0	1.45	%
2.15	0	348	44	392	1471	1	2	1	0	2.00	%
2.30	0	351	56	407	1440	4	2	0	0	2.15	%
2.45	0	306	30	336	1443	1	1	3	0	2.30	%
3.00	0	299	37	336	1480	0	0	0	0	2.45	%
3.15	0	308	53	361	1524	7	0	1	2	3.00	%
3.30	0	351	59	410		7	2	2	0	3.15	%
3.45	0	310	63	373		3	0	0	0	3.30	%
4.00	0	319	61	380		9	1	3	0	3.45	%
											%
%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%%%%%%%%	%

*

EB				WB			
TOT	L	T	R	TOT	L	T	R
0	162	659	0	821	0	470	46
0	232	676	0	908	0	470	60
0	242	731	0	973	0	522	54
0	251	771	0	1022	0	624	76
0	266	799	0	1065	0	681	137
0	250	765	0	1015	0	698	149
0	235	763	0	998	0	788	151
0	250	806	0	1056	0	856	161
0	215	774	0	989	0	854	158
0	181	813	0	994	0	753	129
0	183	891	0	1074	0	654	112

EB				WB			
TOT	L	T	R	TOT	L	T	R
0	185	674	0	859	0	730	146
0	214	716	0	930	0	819	136
0	233	758	0	991	0	699	110
0	261	785	0	1046	0	688	102
0	270	733	0	1003	0	699	100
0	272	756	0	1028	0	657	86
0	284	841	0	1125	0	605	67
0	298	846	0	1144	0	607	90
0	295	827	0	1122	0	659	112
0	304	863	0	1167	0	661	122
0	307	873	0	1180	0	629	124

2. TAKE MAX 1/2 HOUR VOLUMES AND MULTIPLY BY TWO TO GET HOURLY VOLUMES
CONSISTENT WITH DEFINITION OF VOLUME IN FETSIM '89 ORIENTATION MANUAL.

B. ALT-W WILL EXECUTE THE PRINTING MACRO FOR THIS FETSIM COUNT
CAN THEN SIMPLY

HIT ALT-S TO PRINT THE SUMMARY SHEET AND THEN ALT-W TO PRINT
OUR SHEETS.

TION

TRAFFIC SIGNAL WARRANTS

CALC DATE: August 31, 2009

CHK DATE:

DISTRICT: WESTERN

Major St: SANTA MONICA BL
Minor St: SAN DIEGO FWY NB ON/OFF RAMPs

Critical Approach Speed: mph
Critical Approach Speed: mph

Critical speed of major street traffic >=40 mph

OR

In built up area of isolated community of =< 10,000 population

..... RURAL(R)

OTHERWISE

..... URBAN (U)

WARRANT 1- Minimum Vehicular Volume 100% SATISFIED YES NO
80% SATISFIED YES NO

MINIMUM REQUIREMENTS
(80% SHOWN IN BRACKETS)

APPROACH	U	R	U	R	Hour					
LANES	1		2 or	more	7-8	8-9	9-10	1-2	2-3	3-4
Both Approaches	500	350	600	420						
Major Street	(400)	(280)	(480)	(336)	2886	3820	3841	3535	3599	3826
Highest Approach	150	105	200	140						
Minor street	(120)	(84)	(160)	(112)	1627	1728	1598	1532	1509	1646

NOTE: Heavier left turn movement from Major Street included when LT-phasing is proposed

WARRANT2- Interruption of ContinuousTraffic 100% SATISFIED YES NO
80% SATISFIED YES NO

MINIMUM REQUIREMENTS
(80% SHOWN IN BRACKETS)

APPROACH	U	R	U	R	Hour					
LANES	1		2 or	more	7-8	8-9	9-10	1-2	2-3	3-4
Both Approaches	750	525	900	630						
Major Street	(600)	(420)	(720)	(504)	2886	3820	3841	3535	3599	3826
Highest Approach	75	53	100	70						
Minor Street	(60)	(42)	(80)	(56)	1627	1728	1598	1532	1509	1646

*NOTE: Heavier left turn movement from Major Street included when LT-phasing is proposed

WARRANT 3- Minimum Pedetrian Volume 100% SATISFIED YES NO
80% SATISFIED YES NO

MINIMUM REQUIREMENTS
(80% SHOWN IN BRACKETS)

			Hour							
			U	R	7-8	8-9	9-10	1-2	2-3	3-4
Both Approaches	no		600	420						
Major Street	median		(480)	(336)	2886	3820	3841	3535	3599	3826
	Raised		1000	700						
Volume	4'median		(800)	(560)						
Peds on highest volume			150	105						
x-walk xing major st			(120)	(84)	0	11	11	4	4	8

IF MIDBLOCK SIGNAL PROPOSED

MIN. REQUIREMENT DISTANCE TO NEAREST ESTABLISHED CROSSWALK FULFILLED
150 FEET N/E: FT S/W: FT YES NO

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right of way assignment must be shown.

WARRANT 4 - Schools Crossings

Not Applicable
See School Crossings Warrant Sheet

WARRANT 5 - Progressive Movement

SATISFIED

YES

NO

MINIMUM REQUIREMENTS

DISTANCE TO NEAREST SIGNAL

FULFILLED

> 1000 ft

N

S

E

W

YES

NO

ON ONE WAY ISOLATED ST. OR ST. WITH ONE WAY TRAFFIC SIGNIFICANCE AND ADJACENT SIGNALS ARE SO FAR APART THAT NECESSARY PLATOONING IL SPEED CONTROL WOULD BE LOST.
ON 2-WAY ST. WHERE ADJACENT SIGNALS DO NOT PROVIDE NECESSARY PLATOONING & SPEED CONTROL. PROPOSED SIGNALS COULD CONSTITUTE A PROGRESSIVE SIGNAL SYSTEM

YES

NO

WARRANT 6 - Accident Experience

SATISFIED

YES

NO

REQUIREMENT

WARRANT

(X)

FULFILLED

ONE WARRANT

WARRANT 1 - MINIMUM VEHICULAR VOLUME

SATISFIED

OR

80%

WARRANT 2 - INTERRUPTION OF CONTINUOUS TRAFFIC

OR

WARRANT 3 - MINIMUM PEDESTRIAN VOLUME

YES

NO

SIGNAL WILL NOT SERIOUSLY DISRUPT PROGRESSIVE TRAFFIC FLOW

ADEQUATE TRIAL OF LESS RESTRICTIVE REMEDIES HAS FAILED TO REDUCE ACC. FREQ.

ACC WITHIN A 12 MON. PERIOD SUSCEPTIBLE OF CORR. IL INVOLVING INJURY OR > \$200 DAMAGE

MINIMUM REQUIREMENT

NUMBER OF ACCIDENTS

3 OR MORE

YES

NO

* NOTE: Left turn accidents can be included when LT-phasing is proposed

WARRANT 7 - Systems Warrant

SATISFIED

YES

NO

Minimum Volume Requirement

ENTERING VOLUMES - ALL APPROACHES
DURING TYPICAL WEEKDAY PEAK HOUR

(X)

FULFILLED

800 VEH/HR

5750

veh/hr

DURING EACH OF ANY 5 HRS OF A SAT AND/OR SUNDAY

veh/hr

YES

NO

CHARACTERISTICS OF MAJOR ROUTES

MAJOR S/INOR ST

HWY SYSTEM SERVING AS PRINCIPLE NETWORK FOR THROUGH TRAFFIC

CONNECTS AREAS OF PRINCIPLE TRAFFIC GENERATION

RURAL OR SUBURBAN HWY OUTSIDE OF, ENTERING, OR TRAVERSING A CITY

HAS SURFACE STREET FWY OR EXPWAY RAMP TERMINALS

APPEARS AS MAJOR ROUTE ON AN OFFICIAL PLAN

ANY MAJOR ROUTE CHARACTERISTICS MET, BOTH STREETS

YES

NO

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right of way assignment must be shown.

WARRANT 8 - Combination of Warrants	SATISFIED	YES	NO
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REQUIREMENT	WARRANT	(X)	FULFILLED
TWO WARRANTS	1 - MINIMUM VEHICULAR VOLUME		
SATISFIED	2 - INTERRUPTION OF CONTINUOUS TRAFFIC		
80%	3 - MINIMUM PEDESTRIAN VOLUME		YES NO

WARRANT 9 - Four Hour Volume	SATISFIED	YES	NO
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Approach Lanes	One	2 or more	Hour 8-9	Hour 3-4	Hour 9-10	Hour 2-3
Both Approaches, Major Street			3820	3826	3841	3599
Highest Approaches, Minor Street			1728	1646	1598	1509

*Refer to Fig. 9-2A (URBAN AREAS) or Figure 9-2B (RURAL AREAS) to determine if this warrant is satisfied.

WARRANT 10 - Peak Hour Delay	SATISFIED	YES	NO
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1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; and		YES	NO
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; and		YES	NO
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches		YES	NO

WARRANT 11 - Peak Hour Volume	SATISFIED*	YES	NO
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Approach Lanes	One	2 or more	Hour 8-9
Both Approaches , Major Street			3820
Highest Approaches, Minor Street			1728

*Refer to Fig. 9-2C (URBAN AREAS) or Figure 9-2D (RURAL AREAS) to determine if this warrant is satisfied.

— The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right of way assignment must be shown.

CALCULATIONS

MAX OF WARRANT PAIRS	5548		CH	CI	CJ	CK	CL	CM
NEXT MAX	5472	TOTAL EACH CELL	4513	5548	5439	5067	5108	5472
NEXT MAX	5439							
NEXT MAX	5108		MAX		NEXT		NEXT	
			5548		4513		4513	
			5472		0		0	
			5548		5439		0	
			5548		5067		5067	
			5548		5108		5108	
			5548		0		0	