City of Los Angeles
Department of Traffic

Downtown Los Angeles

May 1970

DEPARTMENT OF TRAFFIC

S. S. TAYLOR, City Traffic Engineer

CORDON COUNT

DOWNTOWN LOS ANGELES

MAY 1970

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Introduction

The Department of Traffic conducts annual cordon counts of Downtown Los Angeles in order to provide data for traffic planning purposes.

This report represents the 1970 Cordon Count of Downtown Los Angeles for a typical 16-hour Wednesday in May, from 6 AM to 10 PM.

The cordon count study method provides statistical data on the magnitude of the daily influx of vehicles and persons into the downtown area and of the concentration for either within the area.

Since 1963, the boundaries of the cordon area have been Temple Street, Los Angeles Street, Pico Boulevard and Figueroa Street. This cordon area, which encompasses the Central Business District, is slightly in excess of one square mile.

At the convergence of numerous intraregional transportation routes, for both private and public modes of travel, Downtown Los Angeles is readily accessible from virtually all sections of the metropolitan region. The expanding freeway network is increasing the accessibility of the downtown area to all outlying and rapidly growing suburban communities of this vast metropolis.

The regional transportation routes traversing the cordon area serve trips with a destination beyond downtown as well as trips destined for the downtown area.

Changes in the magnitude of traffic volumes on cordon surface street routes, as affected by the development of alternate routes, are noted in the historical cordon count data. The changing patterns of travel characteristics, as noted from the historical cordon count data, also provide an indication of the relative changes in the intensity or type of land use development within the downtown area.

These data also provide a valuable resource for use in projecting future traffic patterns for the downtown area.

Summary of Findings

Data from the 1970 Cordon Count of Downtown Los Angeles reveals the following summary of findings on the magnitude, concentration, and travel modes for the 16-hour period from 6 AM to 10 PM on a typical Wednesday in May:

- A total of 316,139 vehicles entered the cordon area during the 16-hour period. Approximately 89 per cent of these vehicles were private passenger cars. Classification of the remainder consisted of either commercial (trucks) or transit vehicles.

- During the 16-hour count period, a total of 617,742 persons entered the cordon area. The majority of these persons, approximately 63 per cent, arrived in a passenger vehicle. A substantial number of persons entered the cordon area via public transportation, 129,883 transit passengers, approximately 21 per cent of the total inbound persons. Pedestrians and commercial vehicle passengers accounted for 11 per cent and 5 per cent, respectively, of the remaining inbound person movements.

- Accumulation of vehicles within the cordon area reached a peak of 61,251 vehicles at 2 PM. The peak accumulation of persons, 148,289, occurred at 1:30 PM.

- In 71 of every 100 passenger vehicles entering the cordon area, there was only the driver occupant. Including vehicles with only one passenger besides the driver accounted for 94 of every 100 inbound passenger vehicles.

- Total 16-hour vehicular volume crossing the cordon boundaries has increased steadily since 1967 for an overall increase of 11 per cent.

- Two-thirds of the inbound vehicles during the morning peak hour entered the cordon area along the west and north cordon boundaries.

- Inbound volumes during the morning peak hour along the west and north boundaries are approximately 60 per cent greater than volumes in corresponding directions on parallel screenlines near the center of the cordon area.

Conclusions and Recommendations

Analyses of cordon area transportation trends evaluated in light of recent developments affecting the downtown area indicate the following:

- The more intensive development of the cordon area with the accelerated activity in high-rise buildings, which include office, apartment, hotel and multi-purpose towers, will generate substantially greater volumes of person trips when these developments, either in the construction or planning stage, are completed.

- With the present trend of increasing through volume demands and current design capacity vehicular volumes, during peak traffic hours, on the downtown freeway loop, cordon surface street routes will be required to accommodate greater volumes of non-downtown oriented trips.

- Based on the foregoing, there will be no recession in the present trend of increasing vehicular volumes crossing the cordon boundaries. It can further be anticipated that there will be a parallel trend of increasing volumes of person trips across the cordon boundaries.

- One of the most critical ground transportation problems affecting downtown development access on the west and north sides of the cordon area will become more acute with the evolving development patterns in the northwest quadrant of the cordon area.

- Circulation within the cordon area, also of prime concern for the orderly development of the area, will be more restricted with the continuing development of high-rise buildings which provide extensive off-street parking facilities as an integral part of each structure.

- Current programs to provide increased efficiency and safety or increased capacity on cordon area surface streets through traffic operations or street improvement projects must be maintained on a continuing basis as the most effective means to accommodate future traffic volume demands at acceptable levels of service.

- Alternate solutions to critical cordon area access and circulation demands are being explored in connection with studies for the development of periphery parking, by-pass routes and new techniques in freeway and transit operations and should be implemented where financially and technically feasible.

Cordon Count Procedure

In 1963, a method for extensive use of automatic counters was developed and has been used in each succeeding year. Machine counts are supplemented by manual sampling counts of vehicle type, occupancy and pedestrians. Transit bus and passenger data are furnished by the Southern California Rapid Transit District.

Through computer process, basic data on vehicle and person trips, by location and by half-hour periods, are derived. These data provide the primary source for the preparation of most of the tables and plates included herewith and for comparison with previous cordon count studies.

The counts were made on successive Wednesdays in May. Counts at selected stations were also made to provide day-of-week volume comparisons.

Reference to the term "accumulation of vehicles (or persons) crossing cordon boundaries" refers to the number of accumulated during the hours of the study, i.e., excludes initial data on accumulation prior to 6 AM. The term "accumulation" is the total number within the cordon area at any specific time by inclusion of vehicles or persons within the area at the beginning of the study.

Construction of the Convention Center complex has resulted in the permanent closure of two stations along the west boundary, 12th Street and 10th Place. Reconstruction of streets for the Bunker Hill Urban Renewal Project affected only internal street closures of Hope Street and Flower Street between Temple Street and 3rd Street.

In 1955 and 1957, the cordon area included the area northerly and westerly to the Santa Ana and Harbor Freeways, respectively. The count in 1941 included only the additional area northerly to Sunset Boulevard.

II - 1970

CORDON

COUNT

SUMMARY

DOWNTOWN CORDON COUNT

May 1970

TOTAL VEHICLES 6:00 A.M. to 10:00 P.M.

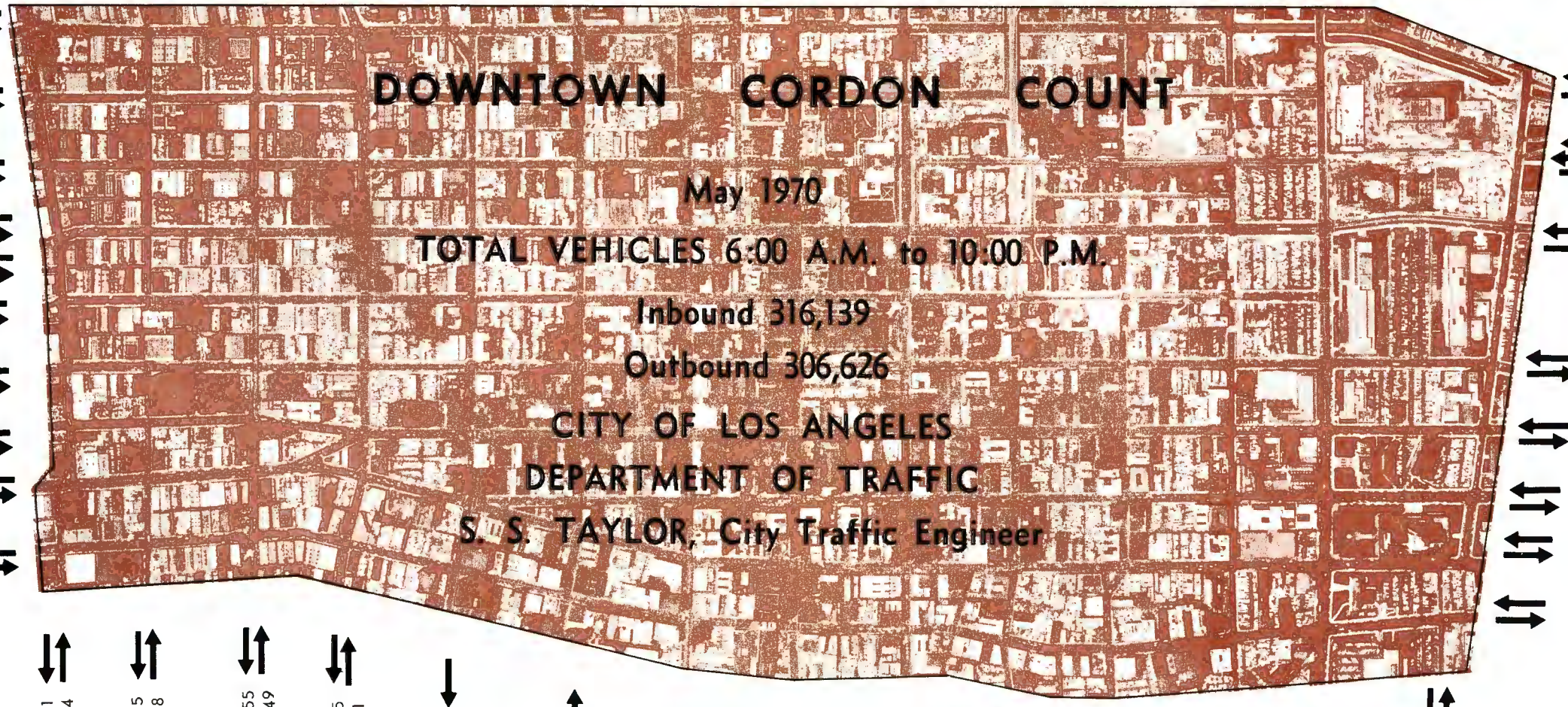
Inbound 316,139

Outbound 306,626

CITY OF LOS ANGELES

DEPARTMENT OF TRAFFIC

S. S. TAYLOR, City Traffic Engineer



PICO BLVD. 8481 8949
TWELFTH ST. 0 0
ELEVENTH ST. 4179 3887
TENTH PL. 0 0
OLYMPIC BLVD. 11109 18194
NINTH ST. 24598
EIGHTH PL. 215 855
EIGHTH ST. 17673
SEVENTH PL. 628 595
SEVENTH ST. 6834 8467
WILSHIRE BLVD. 10364 7091
SIXTH ST. 24419
FIFTH ST. 26150
LOWER FOURTH ST. FOURTH ST. VIADUCT 4724 16251
THIRD ST. 16552
SECOND ST. 7808 4861
FIRST ST. 7825 7410
DIAMOND ST. 1042 923
TEMPLE ST. 5156 5150

FIGUEROA ST. 6154 4302
FLOWER ST. 5064 5086
HOPE ST. 2737 2525
GRAND AVE. 3552 6034
MARGO ST. 408 292
OLIVE ST. 3590 2915
HILL ST. 4529 4698
BROADWAY 5434 5993
MAIN ST. 6978 7093
LOS ANGELES ST. 5337 4666

6270 8584 FIGUEROA ST.
4340 4104 4423 FREEWAY RAMPS
7671 11007 GRAND AVE.
8503 6896 HILL ST.
9026 10320 BROADWAY
15645 SPRING ST.
16391 MAIN ST.
11362 11439 LOS ANGELES ST.

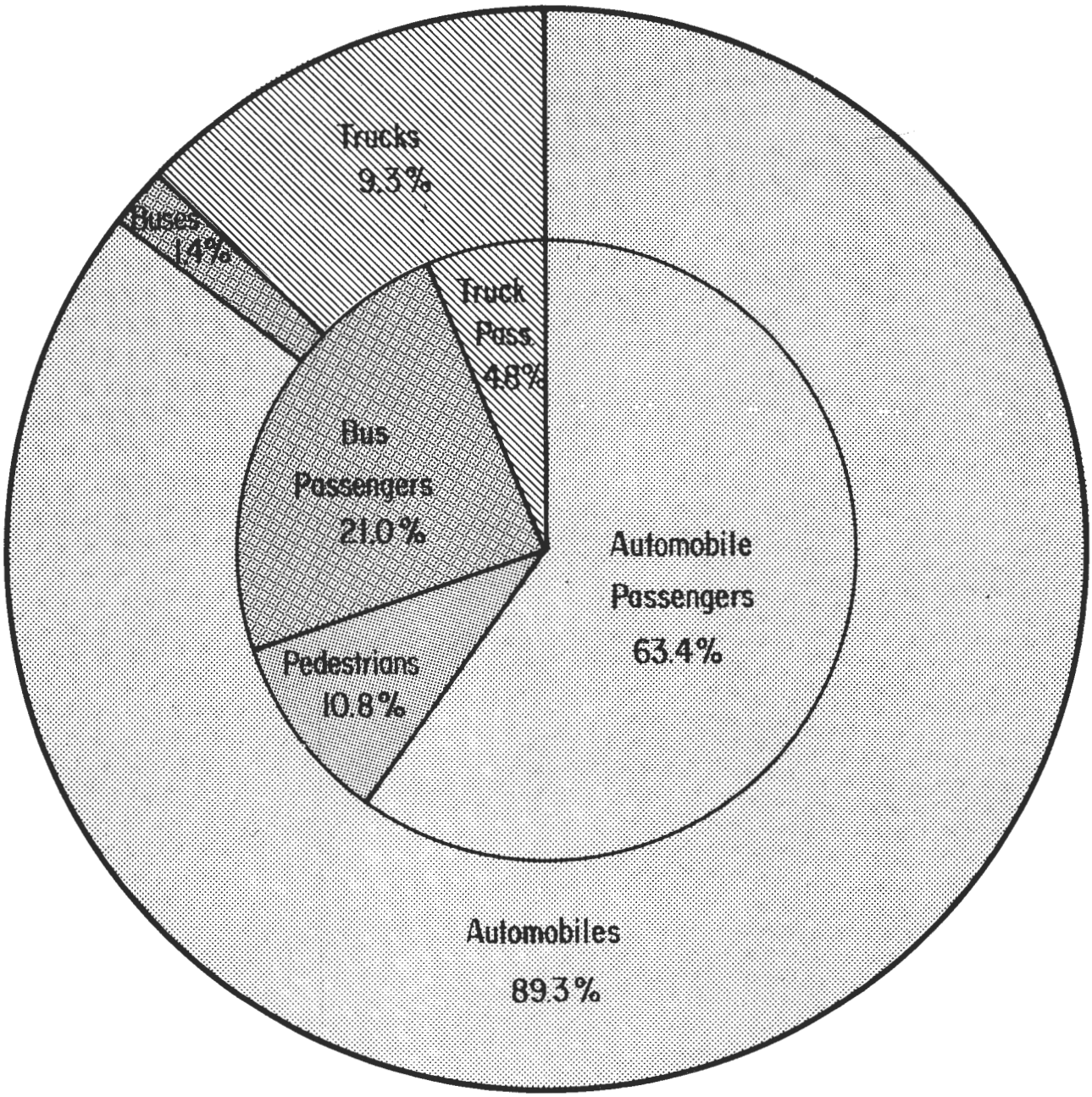
2881 3104 PICO BLVD.
2725 3798 TWELFTH ST.
2255 2449 ELEVENTH ST.
3575 4641 OLYMPIC BLVD.
9948 NINTH ST.
11780 EIGHTH ST.
5856 7106 SEVENTH ST.
10168 SIXTH ST.
8875 FIFTH ST.
724 589 WINSTON ST.
8432 FOURTH ST.
863 410 BOYD ST.
10319 THIRD ST.
3799 3885 SECOND ST.
9661 9459 FIRST ST.
6139 5566 TEMPLE ST.

500 0 500 1000
MAP SCALE IN FEET

Plate 1

N AMMONS 4-9-64

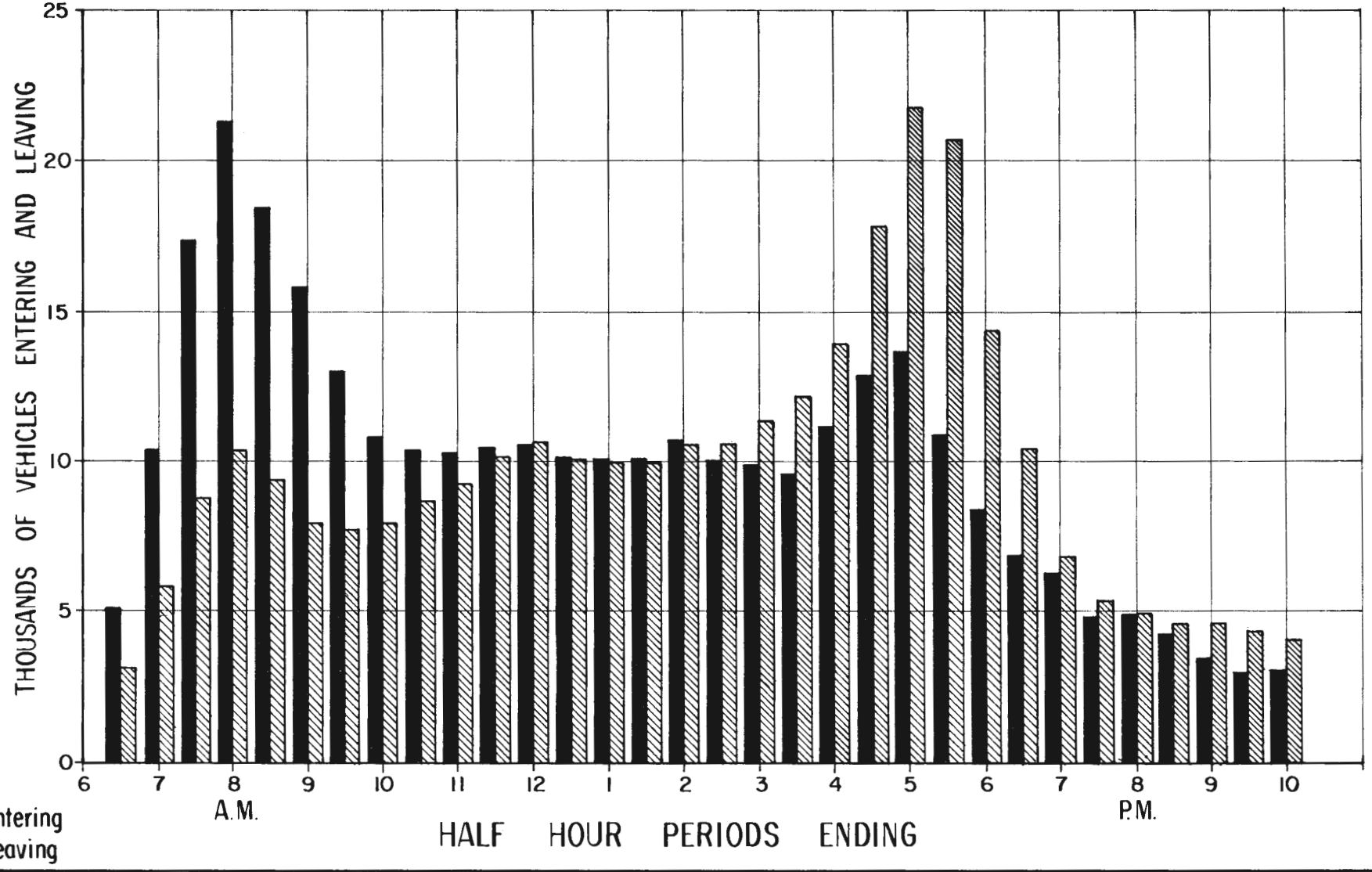
CLASSIFICATION OF VEHICLES AND MODE OF TRANSPORTATION ENTERING CORDON AREA



MAY 1970

DOWNTOWN CORDON COUNT 1970	City of Los Angeles DEPARTMENT OF TRAFFIC S. S. Taylor, City Traffic Engr.	PLATE 2

edwards

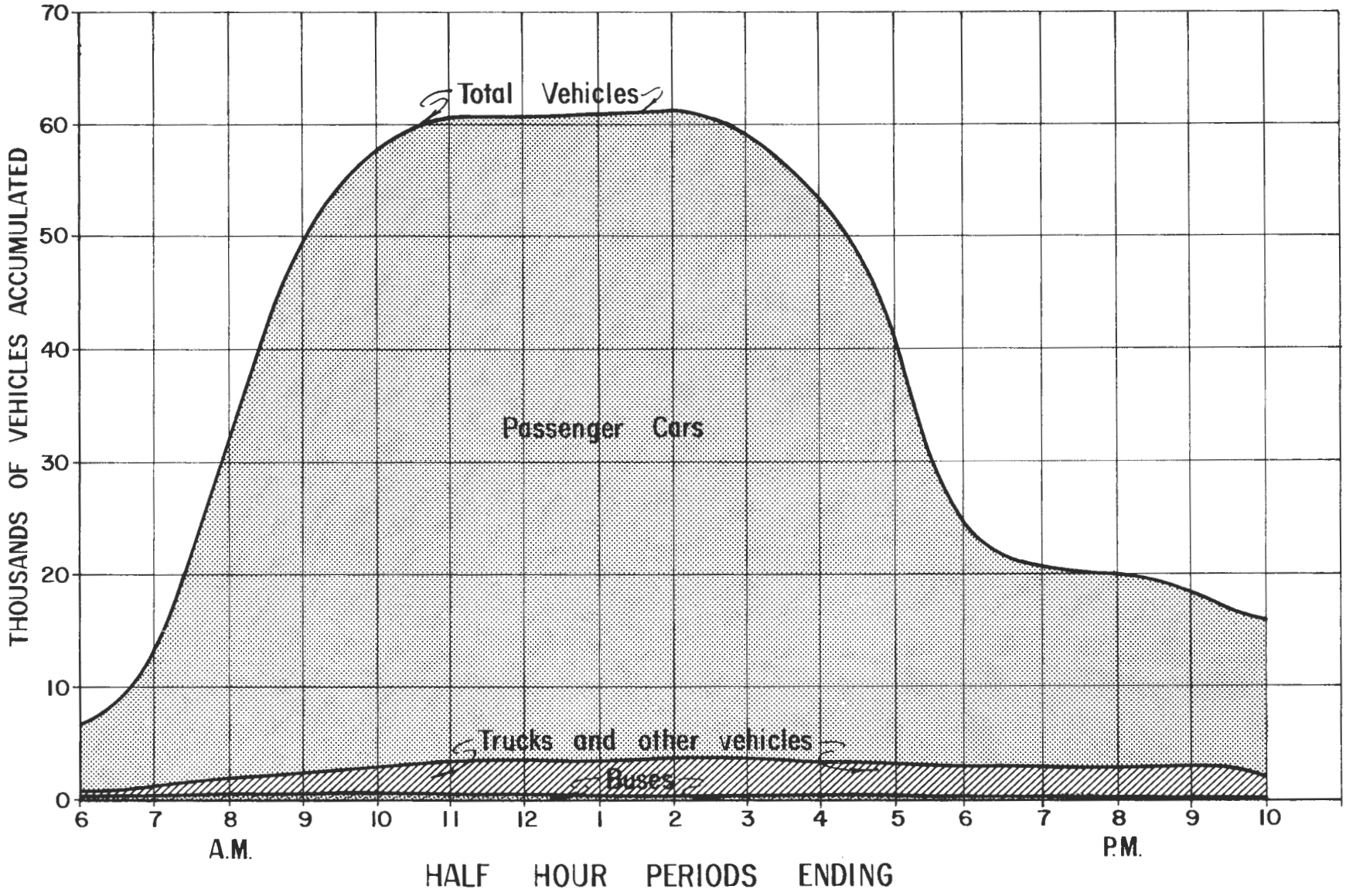


VEHICLES ENTERING AND LEAVING CORDON AREA, MAY 1970

City of Los Angeles
DEPARTMENT OF TRAFFIC
S. S. Taylor, City Traffic Engr.

PLATE 3

edwards

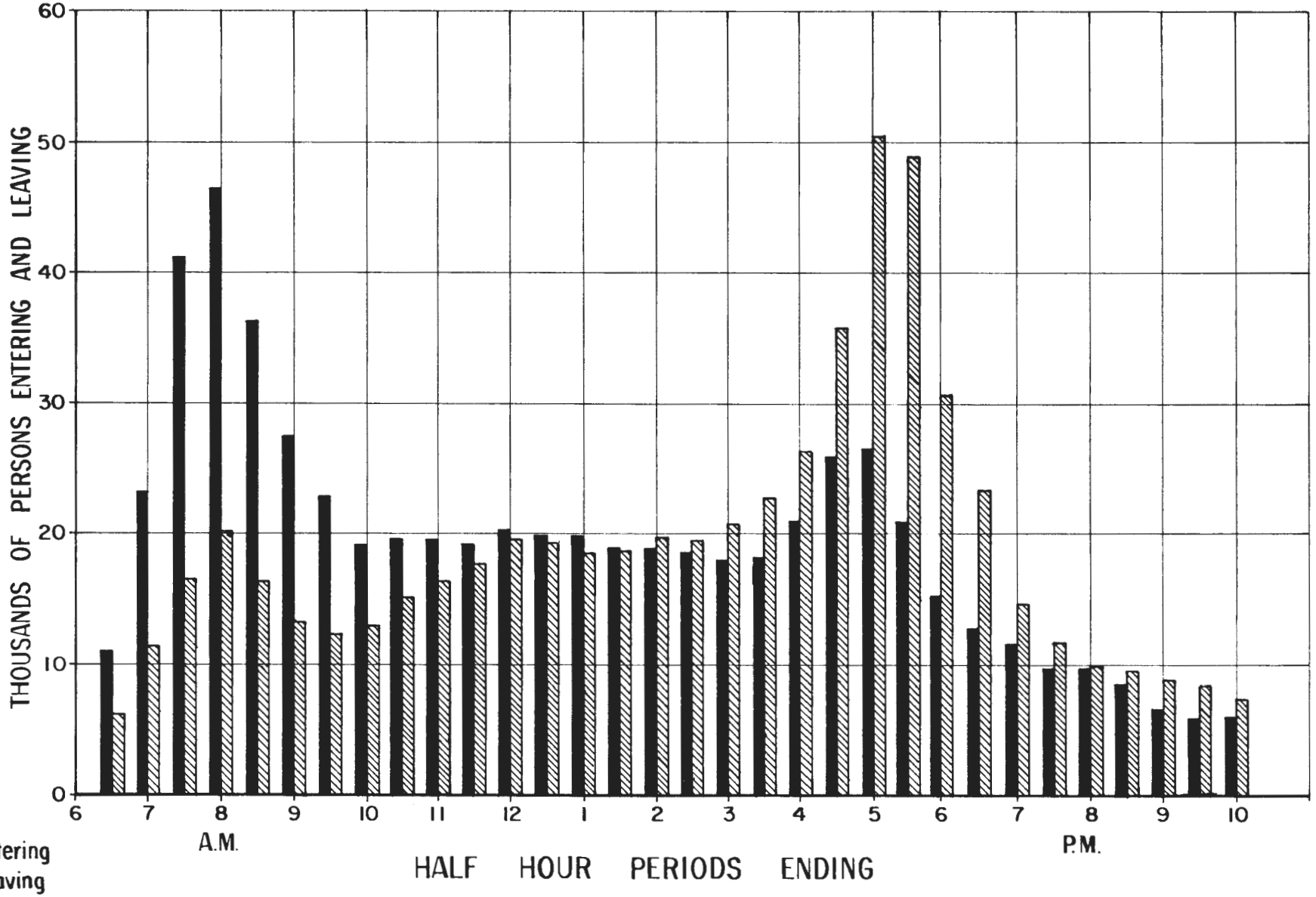


VEHICLES ACCUMULATED IN CORDON AREA, MAY 1970

City of Los Angeles
DEPARTMENT OF TRAFFIC
S. S. Taylor, City Traffic Engr.

PLATE 4

edwards

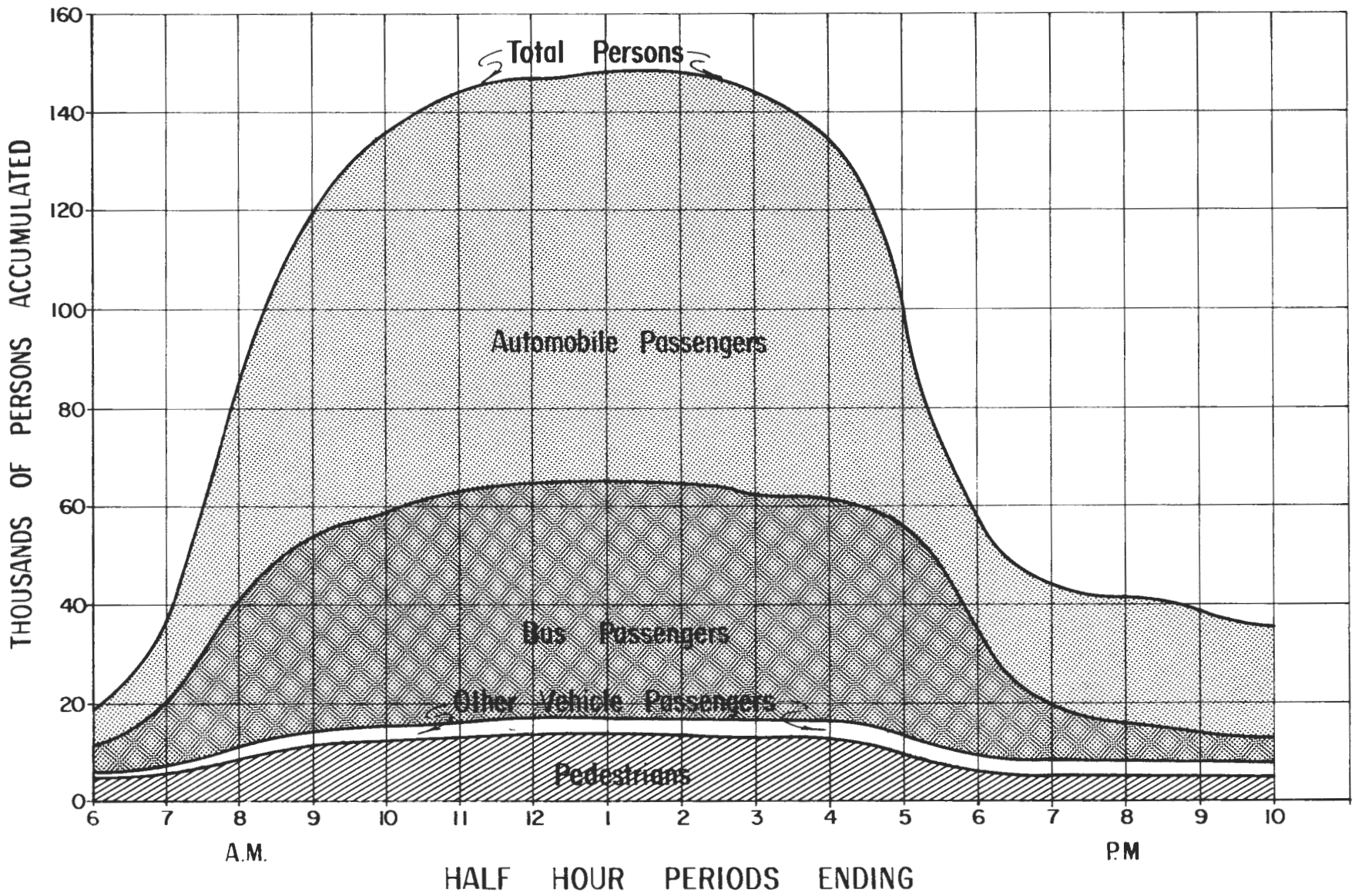


PERSONS ENTERING AND LEAVING CORDON AREA, MAY 1970

City of Los Angeles
DEPARTMENT OF TRAFFIC
S. S. Taylor, City Traffic Engr.

PLATE 5

edwards



PERSONS ACCUMULATED IN CORDON AREA, MAY 1970

City of Los Angeles
DEPARTMENT OF TRAFFIC
S. S. Taylor, City Traffic Engr.

PLATE 6

edwards

Table 1

Sixteen-Hour Summary

1970 Cordon Count Data

May, Wednesday

	In	Out
Passenger Cars	282,136	274,857
Trucks and Other Vehicles	29,516	27,289
Buses	4,487	4,480
Grand Total - Vehicles	316,139	306,626
Auto Passengers	391,902	377,143
Other Vehicle Passengers	29,516	27,289
Bus Passengers	129,883	131,129
Pedestrians	66,441	65,997
Grand Total - Persons	617,742	601,558

Day of Week Vehicle Factor

Monday	1.03
Tuesday	1.03
Wednesday*	1.00
Thursday	1.01
Friday	1.04
Saturday	0.60
Sunday	0.38

*Base

TABLE 2

SUMMARY OF VEHICLES BY LOCATION
DOWNTOWN LOS ANGELES, MAY 1970, 6AM - 10PM

	PASSENGER CARS		TRUCKS AND OTHER VEHICLES		BUSES		TOTAL VEHICLES	
EAST BOUNDARY	IN	OUT	IN	OUT	IN	OUT	IN	OUT
EAST OF LOS ANGELES ST.ON								
TEMPLE ST.	4758	5439	719	611	89	89	5566	6139
1ST ST.	8641	8883	648	598	170	180	9459	9661
2ND ST.	3515	3335	370	464	0	0	3885	3799
3RD ST.	8567	0	1679	0	73	0	10319	0
BOYD ST.	410	863	0	0	0	0	410	863
4TH ST.	0	7270	0	1086	0	76	0	8432
WINSTON ST.	589	724	0	0	0	0	589	724
5TH ST.	7466	0	1237	0	172	0	8875	0
6TH ST.	0	8468	0	1388	0	312	0	10168
7TH ST.	5314	4486	1450	1116	342	254	7106	5856
8TH ST.	9634	0	1893	0	253	0	11780	0
9TH ST.	0	8072	0	1679	0	197	0	9948
OLYMPIC BLVD.	4120	3258	521	317	0	0	4641	3575
11TH ST.	2033	1957	416	298	0	0	2449	2255
12TH ST.	3059	2188	660	471	79	66	3798	2725
PICO BLVD.	2535	2258	569	623	0	0	3104	2881
SUB TOTAL	60641	57201	10162	8651	1178	1174	71981	67026
SOUTH BOUNDARY								
SOUTH OF PICO BLVD. ON								
LOS ANGELES ST.	4202	4726	464	611	0	0	4666	5337
MAIN ST.	5992	5851	902	932	199	195	7093	6978
BROADWAY	5199	4725	588	518	206	191	5993	5434
HILL ST.	4190	3992	403	436	105	101	4698	4529
OLIVE ST.	2618	3253	262	303	35	34	2915	3590
MARGO ST.	292	408	0	0	0	0	292	408
GRAND AVE.	5508	3089	440	376	86	87	6034	3552
HOPE ST.	2255	2497	270	240	0	0	2525	2737
FLOWER ST.	4309	4241	644	694	133	129	5086	5064
FIGUEROA ST.	3478	5216	761	872	63	66	4302	6154
SUB TOTAL	38043	37998	4734	4982	827	803	43604	43783
WEST BOUNDARY								
WEST OF FIGUEROA ST. ON								
PICO BLVD.	7637	8303	666	474	178	172	8481	8949
12TH ST.	0	0	0	0	0	0	0	0
11TH ST.	3709	3415	470	472	0	0	4179	3887
10TH PLACE	0	0	0	0	0	0	0	0
OLYMPIC BLVD.	10420	17118	573	953	116	123	11109	18194
9TH ST.	22658	0	1893	0	47	0	24598	0
8TH PLACE	215	855	0	0	0	0	215	855
8TH ST.	0	16575	0	1053	0	45	0	17673
7TH PLACE	628	595	0	0	0	0	628	595
7TH ST.	6418	7871	250	424	166	172	6834	8467
WILSHIRE BLVD.	9380	6444	818	476	166	171	10364	7091
HARBOR FWY OFF RAMP	14471	0	979	0	1	0	15451	0
6TH ST.	8059	0	668	0	241	0	8968	0
5TH ST.	0	23851	0	2076	0	223	0	26150
LOWER 4TH ST.	4439	0	285	0	0	0	4724	0
4TH ST. VIADUCT	15008	0	1243	0	0	0	16251	0
3RD ST.	0	15342	0	1210	0	0	0	16552
2ND ST.	7108	4368	700	493	0	0	7808	4861
1ST ST.	7283	6896	421	403	121	111	7825	7410
DIAMOND ST.	1042	923	0	0	0	0	1042	923
TEMPLE ST.	4284	4428	662	514	210	208	5156	5150
SUB TOTAL	122759	116984	9628	8548	1246	1225	133633	126757
NORTH BOUNDARY								
NORTH OF TEMPLE ST. ON								
FIGUEROA ST.	5985	8006	252	542	33	36	6270	8584
HARBOR FWY OFF RAMP	4142	0	198	0	0	0	4340	0
HOLLYWOOD FWY RAMPS	3695	0	296	0	113	0	4104	0
HOLLYWOOD FWY RAMPS	0	4193	0	230	0	0	0	4423
GRAND AVE.	7132	10387	340	296	199	324	7671	11007
HILL ST.	7995	6559	501	332	7	5	8503	6896
BROADWAY	7740	8884	984	1072	302	364	9026	10320
SPRING ST.	13762	0	1301	0	582	0	15645	0
MAIN ST.	0	14509	0	1333	0	549	0	16391
LOS ANGELES ST.	10242	10136	1120	1303	0	0	11362	11439
SUB TOTAL	60693	62674	4992	5108	1236	1278	66921	69060
GRAND TOTAL	282136	274857	29516	27289	4487	4480	316139	306626

TABLE 3

SUMMARY OF PERSONS BY LOCATION
DOWNTOWN LOS ANGELES, MAY 1970, 6AM - 10PM

	AUTO PASSENGERS		PASSENGERS IN OTHER VEHICLES		BUS PASSENGERS		PEDESTRIANS		TOTAL PERSONS	
EAST BOUNDARY	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
EAST OF LOS ANGELES ST. ON										
TEMPLE ST.	6277	7363	719	611	420	203	2106	1911	9522	10088
1ST ST.	11442	12486	648	598	5913	5930	1487	1559	19490	20573
2ND ST.	4699	4602	370	464	0	0	1160	1142	6229	6208
3RD ST.	11460	0	1679	0	1167	0	588	632	14894	632
BOYD ST.	531	1044	0	0	0	0	310	285	841	1329
4TH ST.	0	9624	0	1086	0	1164	927	981	927	12855
WINSTON ST.	775	930	0	0	0	0	1502	1476	2277	2406
5TH ST.	10223	0	1237	0	4172	0	4097	3699	19729	3699
6TH ST.	0	11243	0	1388	0	7450	8820	9960	8820	30041
7TH ST.	7906	6661	1450	1116	9812	8096	2116	2029	21284	17902
8TH ST.	14437	0	1893	0	6175	0	3283	3012	25788	3012
9TH ST.	0	11822	0	1679	0	5707	3156	3109	3156	22317
OLYMPIC BLVD.	5242	4043	521	317	0	0	368	411	6131	4771
11TH ST.	2541	2420	416	298	0	0	927	825	3884	3543
12TH ST.	3791	2739	660	471	1841	1542	699	663	6991	5415
PICO BLVD.	3172	2785	569	623	0	0	563	594	4304	4002
SUB TOTAL	82496	77762	10162	8651	29500	30092	32109	32288	154267	148793
SOUTH BOUNDARY										
SOUTH OF PICO BLVD. ON										
LOS ANGELES ST.	6047	6901	464	611	0	0	736	1072	7247	8584
MAIN ST.	8709	8546	902	932	5882	5651	536	491	16029	15620
BROADWAY	7603	6852	588	518	6481	7107	1537	1153	16209	15630
HILL ST.	5396	4856	403	436	3133	2957	1233	1136	10165	9385
OLIVE ST.	3363	3937	262	303	557	573	458	453	4640	5266
MARGO ST.	357	486	0	0	0	0	0	0	357	486
GRAND AVE.	7065	3744	440	376	2280	2367	337	361	10122	6848
HOPE ST.	3075	3316	270	240	0	0	2282	2201	5627	5757
FLOWER ST.	5880	5687	644	694	4416	3886	573	516	11513	10783
FIGUEROA ST.	4755	6964	761	872	2018	2146	759	689	8293	10671
SUB TOTAL	52250	51289	4734	4982	24767	24687	8451	8072	90202	89030
WEST BOUNDARY										
WEST OF FIGUEROA ST. ON										
PICO BLVD.	10218	10337	666	474	6227	6478	468	505	17579	17794
12TH ST.	0	0	0	0	0	0	0	0	0	0
11TH ST.	5082	4406	470	472	0	0	89	112	5641	4990
10TH PLACE	0	0	0	0	0	0	0	0	0	0
OLYMPIC BLVD.	14208	22159	573	953	3565	3451	682	677	19028	27240
9TH ST.	28029	0	1893	0	637	0	1787	1597	32346	1597
8TH PLACE	256	1095	0	0	0	0	360	421	616	1516
8TH ST.	0	21883	0	1053	0	615	1800	2013	1800	25564
7TH PLACE	769	751	0	0	0	0	890	736	1659	1487
7TH ST.	8020	10402	250	424	6089	6367	1854	2213	16213	19406
WILSHIRE BLVD.	13062	8700	818	476	5181	5741	2072	1701	21133	16618
HARBOR FWY OFF RAMP	20151	0	979	0	9	0	0	0	21139	0
6TH ST.	11249	0	668	0	8923	0	1304	936	22144	936
5TH ST.	0	32892	0	2076	0	7816	676	550	676	43334
LOWER 4TH ST.	6589	0	285	0	0	0	114	84	6988	84
4TH ST. VIADUCT	22002	0	1243	0	0	0	10	29	23255	29
3RD ST.	0	22121	0	1210	0	0	147	194	147	23525
2ND ST.	10463	6241	700	493	0	0	273	263	11436	6997
1ST ST.	10723	9941	421	403	4468	4293	533	544	16145	15181
DIAMOND ST.	1521	1281	0	0	0	0	0	0	1521	1281
TEMPLE ST.	6345	6381	662	514	6204	6361	302	236	13513	13492
SUB TOTAL	168687	158590	9628	8548	41303	41122	13361	12811	232979	221071
NORTH BOUNDARY										
NORTH OF TEMPLE ST. ON										
FIGUEROA ST.	7457	10297	252	542	799	901	116	135	8624	11875
HARBOR FWY OFF RAMP	5270	0	198	0	0	0	0	0	5468	0
HOLLYWOOD FWY RAMPS	4728	0	296	0	3873	0	0	0	8897	0
HOLLYWOOD FWY RAMPS	0	5347	0	230	0	0	0	0	0	5577
GRAND AVE.	9583	13334	340	296	6667	10468	623	502	17213	24590
HILL ST.	10852	8459	501	332	180	204	1480	1287	13013	10282
BROADWAY	12522	13794	984	1072	9215	10665	2426	2889	25147	28420
SPRING ST.	21844	0	1301	0	13579	0	3052	2992	39776	2992
MAIN ST.	0	22530	0	1333	0	13000	1896	1586	1896	38449
LOS ANGELES ST.	16213	15741	1120	1303	0	0	2927	3435	20260	20479
SUB TOTAL	88469	89502	4992	5108	34313	35228	12520	12826	140294	142664
GRAND TOTAL	391902	377143	29516	27289	129883	131129	66441	65997	617742	601558

TABLE 4

SUMMARY OF VEHICLES BY HALF HOUR PERIODS

DOWNTOWN LOS ANGELES, MAY 1970

6AM - 10PM

TIME PERIOD ENDING	PASSENGER CARS			TRUCKS OTHER VEHICLES			BUSES			TOTAL VEHICLES		
	IN	OUT	ACCUM	IN	OUT	ACCUM	IN	OUT	ACCUM	IN	OUT	ACCUM
			6000			500			100			6600
630	4450	2698	7752	480	354	626	111	97	114	5041	3149	8492
700	9356	5161	11947	817	567	876	181	146	149	10354	5874	12972
730	16201	7944	20204	882	606	1152	284	185	248	17367	8735	21604
800	19892	9395	30701	1008	672	1488	264	219	293	21164	10286	32482
830	16997	8206	39492	1103	843	1748	236	187	342	18336	9236	41582
900	14335	6746	47081	1229	984	1993	160	148	354	15724	7878	49428
930	11571	6453	52199	1299	1064	2228	141	142	353	13011	7659	54780
1000	9298	6601	54896	1324	1102	2450	122	117	358	10744	7820	57704
1030	8869	7352	56413	1367	1071	2746	126	125	359	10362	8548	59518
1100	8825	7854	57384	1284	1183	2847	122	120	361	10231	9157	60592
1130	8930	8826	57488	1325	1194	2978	121	125	357	10376	10145	60823
1200	9241	9297	57432	1216	1239	2955	117	123	351	10574	10659	60738
1230	8938	8952	57418	1102	1047	3010	121	134	338	10161	10133	60766
1300	8876	8675	57619	1106	999	3117	119	123	334	10101	9797	61070
1330	8767	8817	57569	1234	1126	3225	125	121	338	10126	10064	61132
1400	9435	9353	57651	1139	1095	3269	117	124	331	10691	10572	61251
1430	8671	9337	56985	1212	1147	3334	126	119	338	10009	10603	60657
1500	8302	9904	55383	1300	1321	3313	139	132	345	9741	11357	59041
1530	8043	10658	52768	1295	1338	3270	153	142	356	9491	12138	56394
1600	9710	12177	50301	1234	1503	3001	182	147	391	11126	13827	53693
1630	11325	16217	45409	1268	1402	2867	219	201	409	12812	17820	48685
1700	12289	20431	37267	1105	1013	2959	217	280	346	13611	21724	40572
1730	9835	19396	27706	833	936	2856	192	301	237	10860	20633	30799
1800	7442	13199	21949	626	734	2748	152	219	170	8220	14152	24867
SUB TOTAL	249598	233649		26788	24540		3847	3777		280233	261966	
1830	6137	9600	18486	568	566	2750	145	179	136	6850	10345	21372
1900	5514	6208	17792	515	431	2834	111	117	130	6140	6756	20756
1930	4344	4927	17209	313	372	2775	86	94	122	4743	5393	20106
2000	4385	4454	17140	317	293	2799	71	72	121	4773	4819	20060
2030	3783	4179	16744	307	270	2836	71	69	123	4161	4518	19703
2100	2968	4211	15501	275	306	2805	51	62	112	3294	4579	18418
2130	2696	3993	14204	183	258	2730	59	55	116	2938	4306	17050
2200	2711	3636	13279	250	253	2727	46	55	107	3007	3944	16113
SUB TOTAL	32538	41208		2728	2749		640	703		35906	44660	
GRAND TOTAL	282136	274857		29516	27289		4487	4480		316139	306626	

TABLE 5

SUMMARY OF PERSONS BY HALF HOUR PERIODS

DOWNTOWN LOS ANGELES, MAY 1970

6AM - 10PM

TIME PERIOD ENDING	AUTO PASSENGERS			PASSENGERS IN OTHER VEHICLES			BUS PASSENGERS			PEDESTRIANS			TOTAL PERSONS		
	IN	OUT	ACCUM	IN	OUT	ACCUM	IN	OUT	ACCUM	IN	OUT	ACCUM	IN	OUT	ACCUM
			7000			500			6000			4500			18000
630	6058	3635	9423	480	354	626	3452	1640	7812	828	484	4844	10818	6113	22705
700	12216	6284	15355	817	567	876	8179	3559	12432	1833	994	5683	23045	11404	34346
730	22694	9404	28645	882	606	1152	13863	4523	21772	3506	1940	7249	40945	16473	58818
800	27244	11320	44569	1008	672	1488	13642	5509	29905	4341	2636	8954	46235	20137	84916
830	21287	9761	56095	1103	843	1748	10121	3602	36424	3696	2040	10610	36207	16246	104877
900	17969	8404	65660	1229	984	1993	5442	2093	39773	2719	1770	11559	27359	13251	118985
930	14757	8075	72342	1299	1064	2228	4423	1594	42602	2017	1570	12006	22496	12303	129178
1000	12365	8220	76487	1324	1102	2450	3317	1740	44179	2128	1911	12223	19134	12973	135339
1030	12400	9352	79535	1367	1071	2746	3587	1700	46066	2455	2123	12555	19809	14246	140902
1100	12489	10749	81275	1284	1183	2847	3414	2098	47382	2456	2295	12716	19643	16325	144220
1130	12152	11863	81564	1325	1194	2978	3219	2429	48172	2580	2268	13028	19276	17754	145742
1200	12763	12499	81828	1216	1239	2955	3152	2707	48617	2995	2968	13055	20126	19413	146455
1230	12315	12085	82058	1102	1047	3010	2984	3055	48546	3511	3323	13243	19912	19510	146857
1300	12555	11567	83046	1106	999	3117	3089	3040	48595	3114	2965	13392	19864	18571	148150
1330	12350	12107	83289	1234	1126	3225	2837	2995	48437	2581	2635	13338	19002	18863	148289
1400	13228	13142	83375	1139	1095	3269	2700	3205	47932	2027	2368	12997	19094	19810	147573
1430	12488	12894	82969	1212	1147	3334	3005	3390	47547	1924	2070	12851	18629	19501	146701
1500	11714	13231	81452	1300	1321	3313	3426	4222	46751	1752	1824	12779	18192	20598	144295
1530	11194	14973	77673	1295	1338	3270	4021	4507	46265	1793	1892	12680	18303	22710	139888
1600	13203	16634	74242	1234	1503	3001	4561	5681	45145	2043	2187	12536	21041	26005	134924
1630	15174	21791	67625	1268	1402	2867	6036	8943	42238	3068	3621	11983	25546	35757	124713
1700	16610	29015	55220	1105	1013	2959	5689	15396	32531	3077	4990	10070	26481	50414	100780
1730	13526	28222	40524	833	936	2856	4283	15301	21513	1998	4261	7807	20640	48720	72700
1800	10507	17700	33331	626	734	2748	2742	9492	14763	1383	2649	6541	15258	30575	57383
SUB TOTAL	339258	312927		26788	24540		121184	112421		59825	57784		547055	507672	
1830	8701	13768	28264	568	566	2750	2367	7262	9868	1157	1853	5845	12793	23449	46727
1900	8284	9792	26756	515	431	2834	1886	3233	8521	962	1422	5385	11647	14878	43496
1930	7230	7848	26138	313	372	2775	1215	2320	7416	938	1102	5221	9696	11642	41550
2000	7710	7214	26634	317	293	2799	935	1633	6718	917	850	5288	9879	9990	41439
2030	6660	6977	26317	307	270	2836	656	1241	6133	842	808	5322	8465	9296	40608
2100	5022	6664	24675	275	306	2805	559	940	5752	673	842	5153	6529	8752	38385
2130	4368	6257	22786	183	258	2730	590	1156	5186	580	717	5016	5721	8388	35718
2200	4669	5696	21759	250	253	2727	491	923	4754	547	619	4944	5957	7491	34184
SUB TOTAL	52644	64216		2728	2749		8699	18708		6616	8213		70687	93886	
GRAND TOTAL	391902	377143		29516	27289		129883	131129		66441	65997		617742	601558	

Table 6

Comparison of Total Vehicle and Passenger Car Statistics, Downtown Los Angeles, Selected Years

CORDON COUNT

		1941	1957	1966	1967	1968	1969	1970
16-Hour Total In	Total	-	327,046	295,828	289,882	297,937	309,887	316,139
	Pass. Cars	288,000	283,097	254,694	253,203	264,011	272,977	282,136
16-Hour Total Out	Total	-	323,624	283,271	276,164	290,342	306,450	306,626
	Pass. Cars	-	278,224	244,897	242,649	258,568	271,585	274,857
High ½-Hour In	Total	18,500	22,077	20,158	20,345	20,835	20,069	21,164
	Pass. Cars	-	20,402	18,654	18,891	19,580	18,709	19,892
Same ½-Hour Out	Total	12,000	12,689	10,564	9,735	9,935	10,520	10,286
	Pass. Cars	-	11,202	9,404	8,782	9,048	9,506	9,395
High ½-Hour Out	Total	20,500	22,760	20,449	20,488	21,194	21,852	21,724
	Pass. Cars	-	20,884	18,857	18,959	19,942	20,486	20,431
Same ½-Hour In	Total	13,500	15,602	12,851	12,099	12,906	12,972	13,611
	Pass. Cars	-	13,876	11,359	10,758	11,581	11,676	12,289
Highest Veh. Accum. Incl. Initial	Total	49,000	48,306	58,889	62,100	58,002	56,523	61,251
	Pass. Cars	-	46,007	55,287	57,470	54,770	53,063	57,651

Table 7

Comparison of Total Person and Auto Passenger Statistics, Downtown Los Angeles, Selected Years

CORDON COUNT

		1941	1957	1966	1967	1968	1969	1970
16-Hour	Persons	757,120	687,906	593,689	570,928	601,361	616,795	617,742
Total In	Auto Pass.	441,647	403,015	364,034	350,323	377,689	382,248	391,902
% Auto Passengers		58	59	61	61	63	62	63
16-Hour	Persons	723,191	692,195	568,310	549,977	589,350	617,244	601,558
Total Out	Auto Pass.	415,403	402,399	339,426	337,627	370,029	382,414	377,143
% Auto Passengers		57	58	60	61	63	62	63
High	Persons	50,161	59,411	50,014	50,673	49,844	47,044	46,235
½-Hour In	Auto Pass.	25,982	31,257	28,705	28,630	29,638	27,240	27,244
% Auto Passengers		52	53	57	57	59	58	59
Same	Persons	26,298	28,010	20,539	18,914	20,175	20,921	20,137
½-Hour Out	Auto Pass.	14,499	17,100	11,784	11,003	11,596	11,766	11,327
% Auto Passengers		55	61	58	58	57	57	56
High	Persons	61,710	61,592	48,857	48,994	49,624	51,384	50,414
½-Hour Out	Auto Pass.	31,558	31,362	28,549	28,506	29,453	30,676	29,015
% Auto Passengers		51	51	58	58	59	60	58
Same	Persons	29,629	29,888	25,790	19,253	20,855	25,757	26,481
½-Hour In	Auto Pass.	18,160	19,201	15,955	12,180	13,836	15,772	16,610
% Auto Passengers		61	64	62	63	66	61	63
High	Persons	174,758	132,618	138,600	136,194	129,969	128,415	130,289
Accum.*	Auto Pass.	67,593	57,128	81,017	74,162	74,238	69,837	76,375
% Auto Passengers		39	43	58	54	59	54	59

*Persons Crossing Cordon

III - CORDON AREA TRENDS AND ANALYSES

Regional and Downtown Growth Patterns

Since the turn of the century, the Los Angeles Metropolitan area has experienced a phenomenal growth and significant changes in transportation systems. Since the advent of the automobile, cordon count studies have revealed an insight into the changing characteristics of Downtown Los Angeles travel patterns as affected by the regional growth and changes in transport systems. Downtown Los Angeles, in relation to areas encompassed by the County and City of Los Angeles, is shown on Plates 7 and 8, respectively.

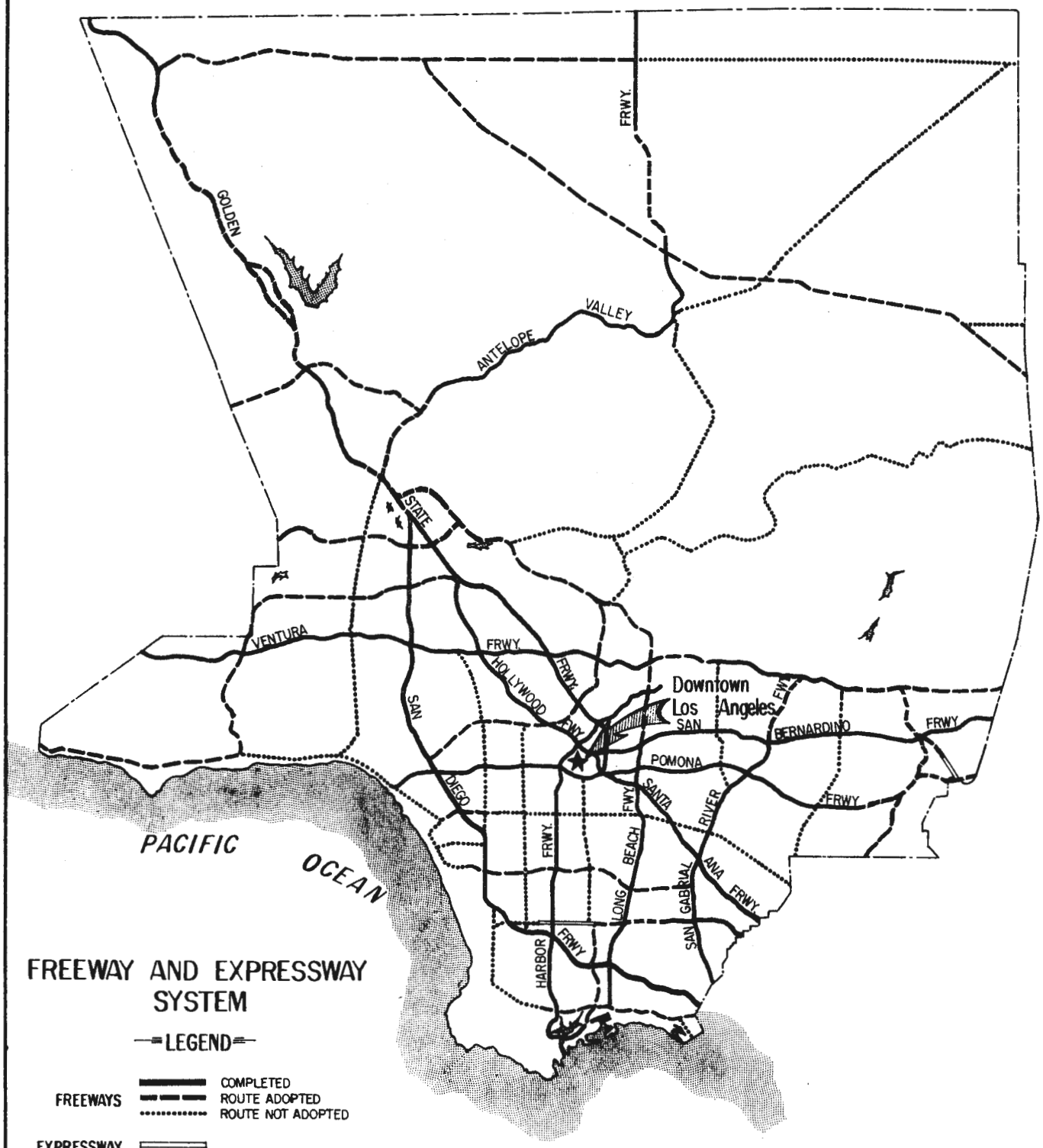
Population growth trends for Los Angeles County and City are shown on Table 8.

During the explosive population growth of the first two decades of the 20th Century, transportation services for the area were rendered primarily by an extensive intra-urban electric railway network. With the rapid population growth in the next two decades, 1920 to 1940, the area became more and more dependent upon the automobile for transportation. Subsequent to World War II, continuing growth and expansion of the urbanized area has been accompanied by increased mobility provided by the developing regional freeway network. During this period, car ownership increased at a greater pace than the population growth. For the City of Los Angeles in 1940, there were 2.75 persons per registered passenger vehicle. Increasing car ownership has resulted in a rate of 2.05 persons per registered passenger vehicle in 1970.

Downtown Los Angeles at the hub of the metropolitan area is the most intensive and concentrated business district in Southern California. Total 16-hour motor vehicle volumes crossing Downtown or Central City cordon boundaries have exceeded one-half million vehicles since the extensive use of the automobile for private transportation in the late 1920's. The earliest recorded counts, in 1929 and 1936, encompassed an area bounded by Sunset Boulevard, San Pedro Street, Washington Boulevard, and Figueroa Street, approximately double the present cordon area. The areas involved are included on the Downtown and Central City area map, Plate 9. Comparison of selected data from the historical cordon count studies is shown on Table 9. Initial development of the regional freeway network consisted primarily of routes adjoining the downtown area and extension of these radial routes to outlying suburban communities. The general trend of decreasing 16-hour vehicular volumes crossing the cordon boundaries subsequent to World War II was primarily the result of diversion of non-downtown oriented trips to the expanding freeway network. There has been a trend of steadily increasing cordon area vehicular travel since 1967, subsequent to the completion of the Santa Monica Freeway route, last leg of the downtown loop, in the early part of 1965.

As noted in Table 9, the volume of inbound vehicles during the morning peak traffic hours, 7 AM to 9 AM, for the 1970 Cordon Count is at the same level of the highest volumes recorded previously in 1957. From a traffic operations standpoint, the volume demands during peak traffic hours are the most critical concern. Analyses of current peak hour conditions are contained in the following section.

LOS ANGELES - COUNTY



FREEWAY AND EXPRESSWAY SYSTEM

—LEGEND—

FREEWAYS
- COMPLETED
- ROUTE ADOPTED
- ROUTE NOT ADOPTED

EXPRESSWAY

JANUARY 1970

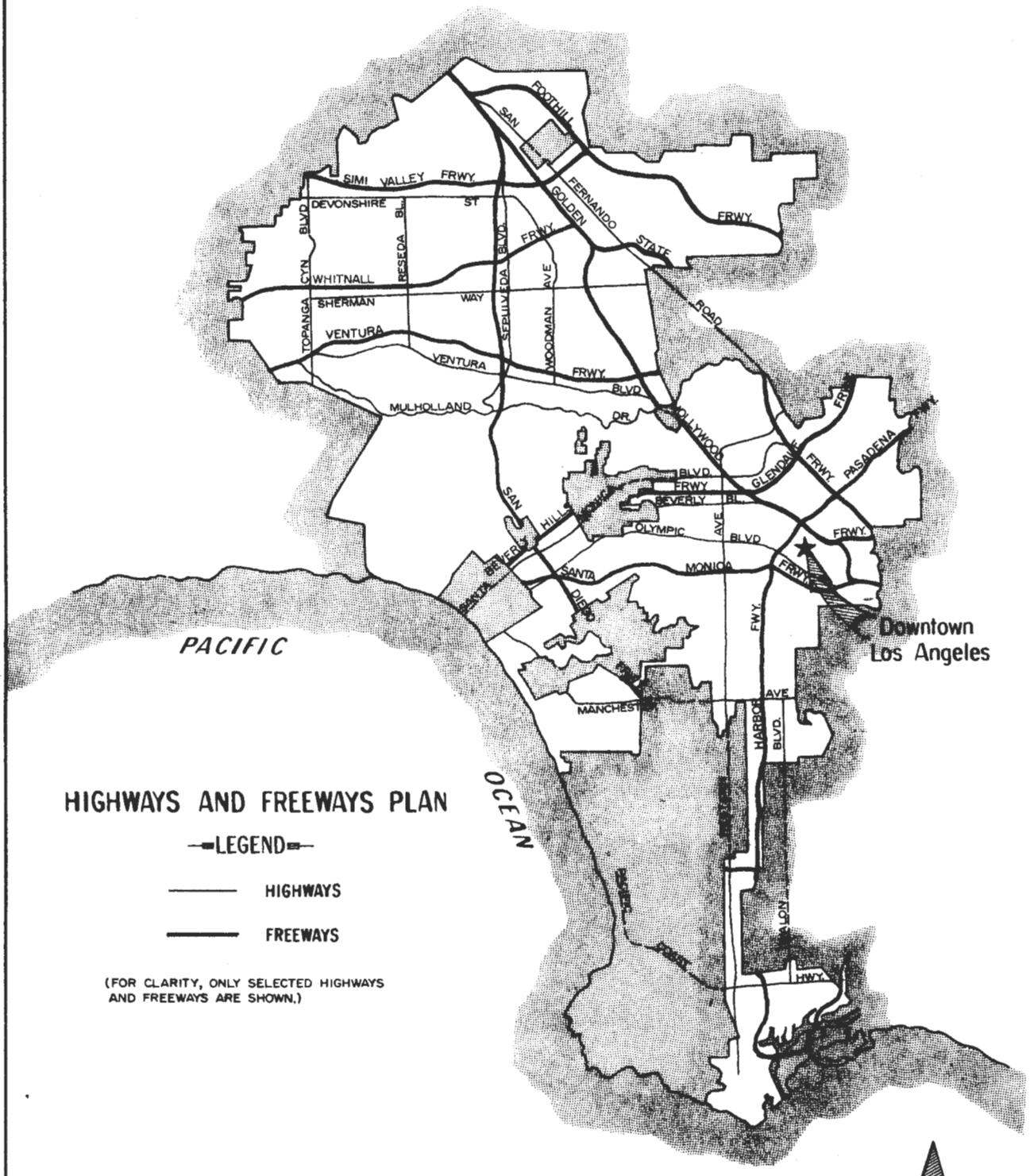
SOURCE
CALIFORNIA STATE DIVISION OF HIGHWAYS MAP

SCALE: 1" = TEN MILES

DOWNTOWN CORDON COUNT 1970	City of Los Angeles DEPARTMENT OF TRAFFIC S. S. Taylor, City Traffic Engr.	PLATE 7

edwards

LOS ANGELES - CITY



HIGHWAYS AND FREEWAYS PLAN

—LEGEND—

——— HIGHWAYS

▬▬▬ FREEWAYS

(FOR CLARITY, ONLY SELECTED HIGHWAYS AND FREEWAYS ARE SHOWN.)

JUNE 1970

SOURCE
LOS ANGELES CITY PLANNING COMMISSION
HIGHWAYS AND FREEWAYS ELEMENT.

SCALE: 1" = SIX & ONE-HALF MILES

DOWNTOWN CORDON COUNT 1970	City of Los Angeles DEPARTMENT OF TRAFFIC S. S. Taylor, City Traffic Engr.	PLATE 8

edwards

TABLE 8

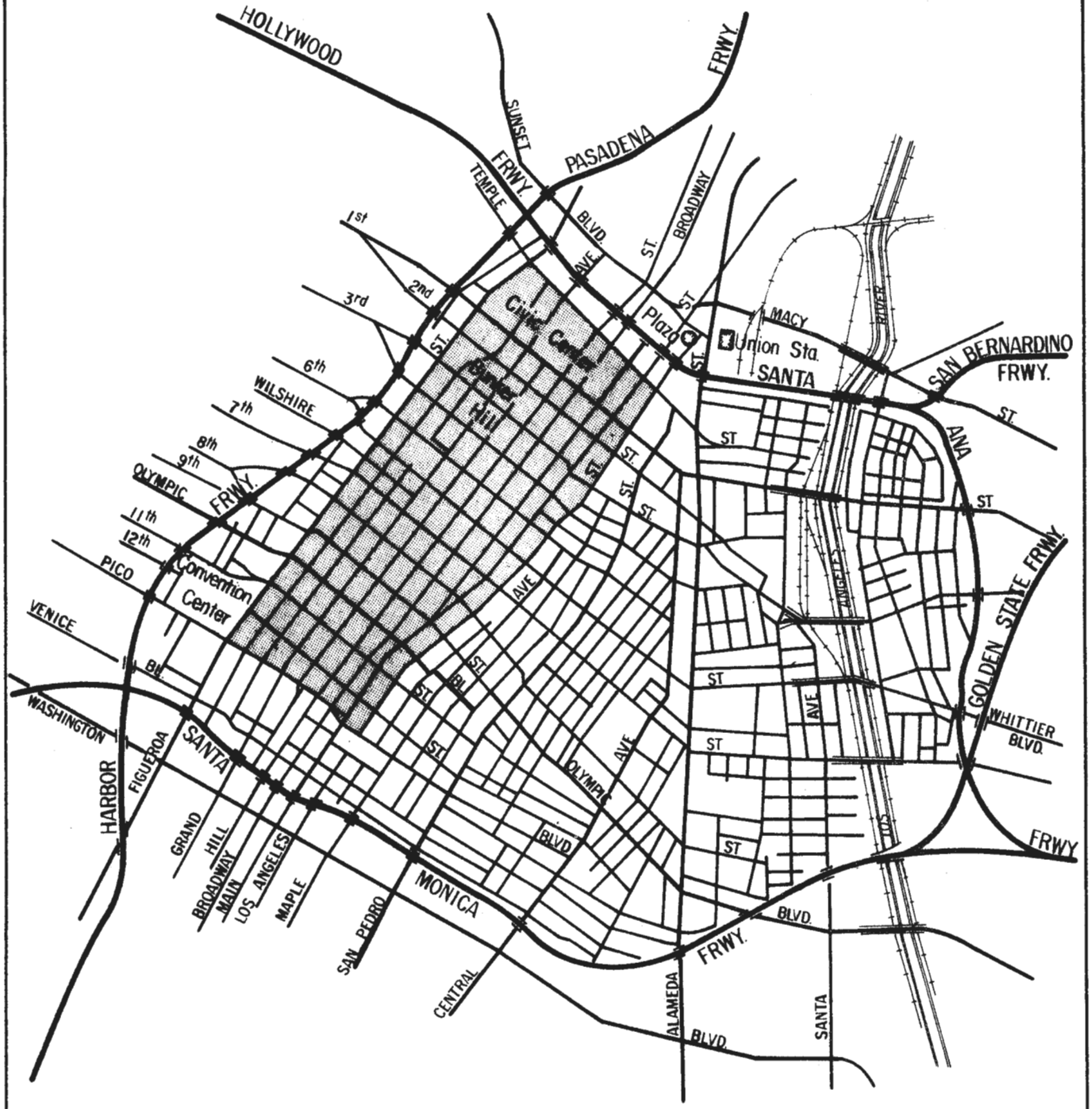
Population Growth - 1900 to 1970
Los Angeles County and City

	County	Los Angeles City
Population - 1900	170,298	102,479
% City	60%	---
Absolute Gains		
1900 - 1920	766,157	474,194
1920 - 1940	1,849,188	928,604
1940 - 1960	3,253,128	968,984
1950 - 1970	2,819,046	812,042
Growth Rate		
1900 - 1920	450%	463%
1920 - 1940	197%	161%
1940 - 1960	117%	64%
1950 - 1970	68%	41%
Population	6,970,733*	2,782,400*
% City	40%	---
Area-Square Miles	4,068.6	463.7

Source: U.S. Department of Commerce, Bureau of Census

*Preliminary 1970 Census Data

LOS ANGELES DOWNTOWN AND CENTRAL CITY AREA



▒ – CORDON AREA

SCALE: 1" = 2,800'

DOWNTOWN CORDON COUNT 1970	City of Los Angeles DEPARTMENT OF TRAFFIC S. S. Taylor, City Traffic Engr.	PLATE 9

edwards

TABLE 9

Comparison of Selected Data
from Historical Cordon Count Studies

Cordon Count	16-Hour Volume Crossing Cordon Boundaries		Peak Accumulation		Inbound Volume 7 AM to 9 AM	
	Vehicles	Persons	Vehicles	Persons	Vehicles	Persons
1929[1]	531,474	N.A.	N.A.	N.A.	N.A.	N.A.
1936[1]	573,008	N.A.	55,115*	N.A.	57,966	N.A.
1941[2]	624,413	1,714,064	49,072*	183,058*	62,251	189,301
1957[3]	650,670	1,379,331	48,278	140,944	72,566	181,170
1967[3]	566,046	1,120,905	62,100	154,194	69,992	152,444
1970[3]	622,765	1,219,300	61,251	148,289	72,591	150,746

Sources

[1]"Traffic Survey - Los Angeles Metropolitan Area, 1937" Automobile Club of Southern California

[2]Los Angeles County Regional Planning Commission

[3]Los Angeles City, Department of Traffic

N.A. - Not Available

*Modified Data - to include initial accumulation

Cordon Area Transportation Trend Analyses

Analysis of the latest cordon count data reveals a continuation of the recent trend of increasing vehicular volumes crossing the cordon boundaries. Since 1967, there has been a steady increase in the 16-hour volume of motor vehicles crossing the cordon boundaries. The volume in May 1970, 622,765 vehicles, represented an increase of approximately 11 per cent over the volume counted in the 1967 study. The current trend is a reversal of the downward trend that developed between 1964 and 1967.

The extension of the Santa Monica Freeway westerly from Vermont Avenue to its present terminus in the City of Santa Monica in the early part of 1965 was the most significant development affecting the downward trend. This extension resulted in the diversion of through trips from cordon surface street routes. With traffic volume demands on the downtown freeway loop presently at or above design capacity levels, especially during peak traffic hours, cordon surface street routes are being utilized by increasingly greater volumes of through, or non-downtown oriented trips.

Automobiles provide the dominant means of transportation for persons entering the cordon area. A more detailed statistical analysis of the manual occupancy counts, Table 10, provides an indication as to the extent of the use of the automobile for private transportation. As shown on this Table, over two-thirds of the inbound passenger vehicles during the 16-hour study period had only a driver-occupant.

Peak hour volume demands are the most critical concern from a traffic operations viewpoint. A statistical analysis has been made of composite peak hour volumes on cordon area surface street routes from the 1970 Cordon Count data.

For this purpose, a comparison has been made of total peak hour vehicular volume on all surface streets for two parallel screenlines, one on the exterior and the other in the interior, for each of the four cardinal boundaries of the cordon area. This comparison, Table 11, reveals an expected pattern of diminishing volumes from the periphery toward the center of the cordon area. One exception to this pattern is noted on the east cordon boundary where there is an increase in volume on the interior screenline.

This comparison on Table 11 reveals a peak hour volume of 39,600 vehicles inbound on the perimeter of the cordon area during the morning peak hour. Two-thirds of this volume, or 26,700 vehicles, entered the cordon area on surface streets along the west and north boundaries. A similar condition prevails for outbound patterns during the afternoon peak hour.

The critical volume demand on the west and north sides of the cordon area can be attributed primarily to the interrelationship of origins

of commuters, destinations within the area, and transportation services rendered between these locations. As indicated by a recent parking study of the Central Business District,[1] over 50 per cent of the downtown parkers surveyed were residents of communities located within the two corridor sectors in the northwest quadrant from the downtown area. In terms of available parking supply, a substantial proportion of the commuter destinations are in the northwest quadrant of the cordon area. For the commuter trips between these locations, the most direct access is provided by the Harbor and Hollywood Freeways, which are located in close proximity to the west and north sides of the cordon area, respectively.

As noted from the 1970 Cordon Count summary data, public transportation accommodated a substantial proportion of the total inbound person movements. Further analysis reveals that during the morning peak hour transit patronage represented a greater proportion of the total inbound person movements than the proportion served by the public transportation system for the 16-hour study period, 32 per cent versus 21 per cent. As noted from the data on peak concentrations, approximately one-third of the persons with a destination in the cordon area, which constitutes the majority of person accumulations, arrived via public transportation.

In order to more clearly illustrate the trends in various modes of transport for persons entering the cordon area, the data from the historical cordon count studies has been plotted on a graph with a semi-logrithmic scale, Plate 10. For the annual series counts between 1963 and 1970, a straight line on a linear basis indicates a constant rate in increasing or decreasing magnitude with an inclining or declining slope, respectively.

There are numerous interrelated factors which have had an effect on the magnitude of total person trips and on the volume of trips by each mode of transport. Some of the most important factors were: the expanding regional freeway network; increasing automobile ownership; dispersion of population growth at increasing distance from the downtown area and from available public transportation services; and changes in the intensity of land use and nature of uses with proportionately greater development for financial, governmental and other administrative or service functions as opposed to retail and related type uses.

Analytical data on proportional rates for each mode of transport is illustrated on Plate 11. Comparison of this chart with the graph, Plate 10, provides a more complete understanding of the trends in person trips for the cordon area. For example, as indicated on Plate 10, the magnitude of persons entering the cordon area in motor vehicles, excluding transit, was on a downward trend until the recent reversal in 1968. Motor vehicle passengers as a per cent of total person trips has been on a general increase since the earliest recorded data of person trips in 1941 as noted on Plate 11.

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[1] Los Angeles Central Business District Parking Study - Volume 1, 1967, Wilbur Smith and Associates

TABLE 10

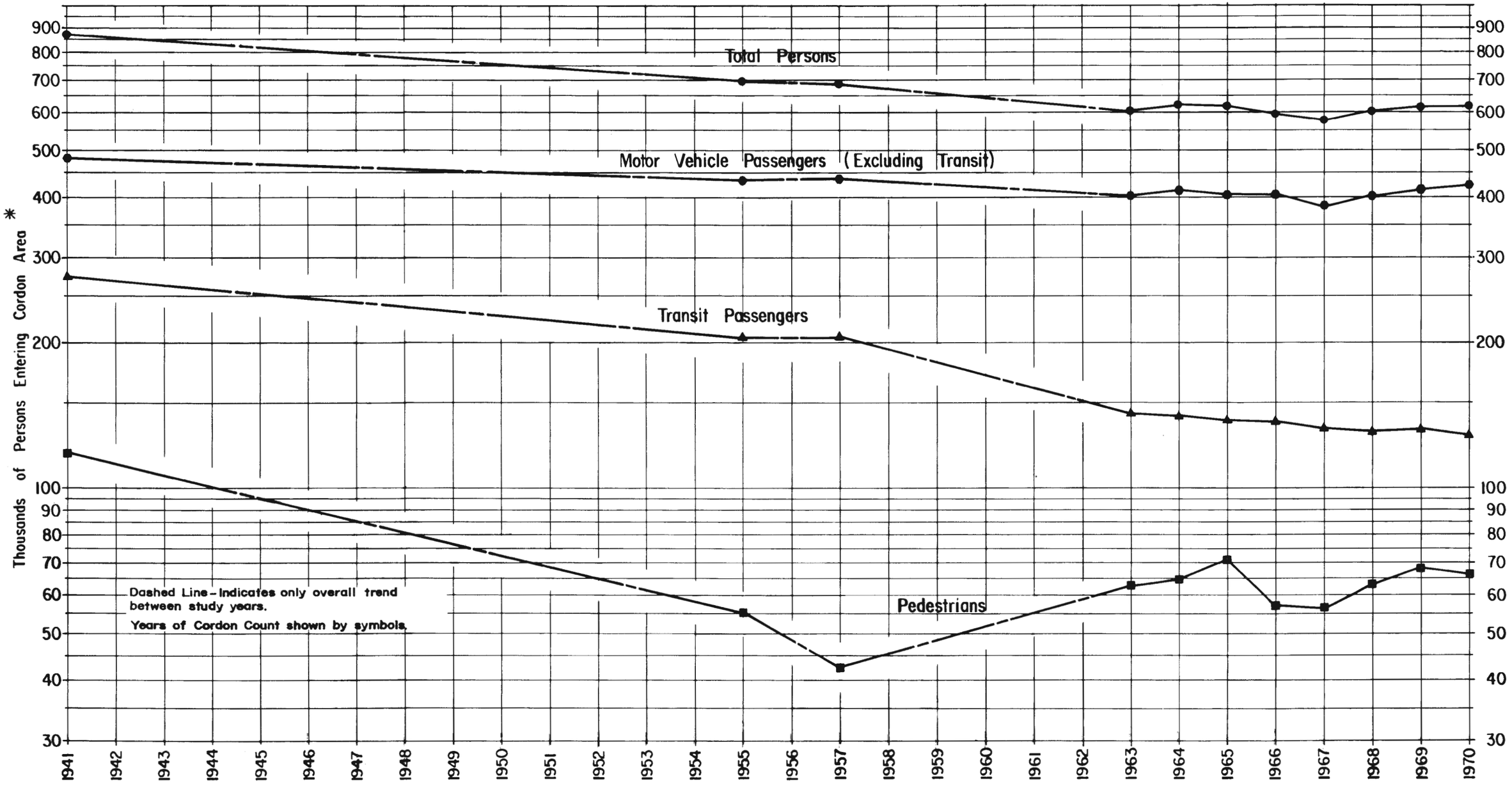
Number of Occupants in Passenger Vehicles
Entering Cordon Area - May 1970

Number of Occupants/Pass. Veh.	Percentage of Total Passenger Vehicles		
	6 AM to 6 PM	6 PM to 10 PM	16 Hour
One	72.48	58.02	70.60
Two	21.93	30.31	23.02
Three	3.74	7.30	4.21
Four	1.35	2.88	1.55
Five	0.37	0.90	0.43
Six or More	0.13	0.59	0.19
	100%	100%	100%
Average Occupancy Per Vehicle	1.36	1.60	1.39

TABLE 11

Comparison of Cordon Screenline
Vehicular Volumes - May 1970

Screenlines	Inbound AM Peak Hour	Outbound PM Peak Hour
West Cordon Streets Temple St. to Pico Bl., Incl.		
W/O Figueroa St.	16,300	16,700
W/O Grand Ave.	10,700	13,700
North Cordon Streets Figueroa St. to Los Angeles St., Incl.		
N/O Temple St.	10,400	10,700
N/O 6th St.	6,200	6,200
East Cordon Streets Temple St. to Pico Bl., Incl.		
E/O Los Angeles St.	6,700	8,200
E/O Broadway	7,000	8,900
South Cordon Streets Figueroa St. to Los Angeles St., Incl.		
S/O Pico Bl.	6,200	6,300
S/O Olympic Bl.	4,600	6,200



YEAR
of
CORDON COUNT STUDY

* 16 Hour period from 6 AM to 10 PM

TRENDS IN MODAL DISTRIBUTION - PERSONS ENTERING DOWNTOWN CORDON AREA

City of Los Angeles
DEPARTMENT OF TRAFFIC
S. S. Taylor, City Traffic Engr.

PLATE 10

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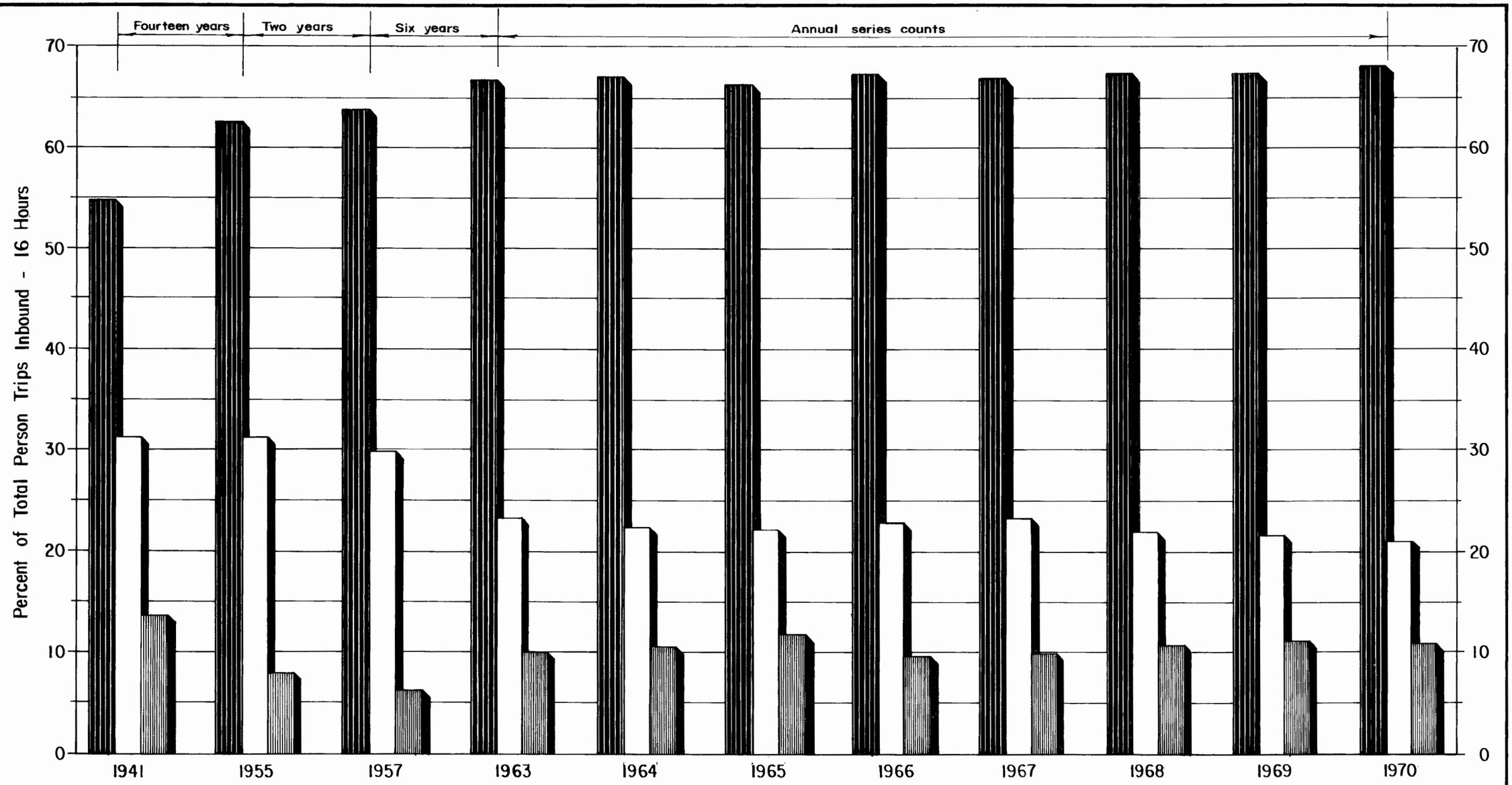

TRENDS IN PROPORTIONAL RATES BY TRANSPORT MODES FOR DOWNTOWN CORDON AREA

City of Los Angeles
DEPARTMENT OF TRAFFIC
S. S. Taylor, City Traffic Engr.

PLATE 11

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