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CITY OF LOS ANGELES
DEPARTMENT OF TRANSPORTATION
DONALD R. HOWERY, General Manager

DEPARTMENT OF TRANSPORTATION
Bureau of Transportation Planning

DOWNTOWN LOS ANGELES
CORDON COUNT
OCTOBER 1984

ABSTRACT

Downtown Cordon Count Study

- o The cordon count study provides data on the volume of vehicles and persons entering and leaving the Downtown Business District of Los Angeles. The area is bounded by Temple Street, Los Angeles Street, Pico Boulevard, and Figueroa Street. This report presents the summary results of the 1984 Cordon Count of Downtown Los Angeles for a typical Wednesday in October, from 6 AM to 10 PM.
- o For this cordon count, automatic machine counts and manual counts of vehicle type, passenger car occupancy, and pedestrians provide the basic sources of data. In addition, transit bus and passenger data are furnished by the Southern California Rapid Transit District.
- o Summary data on the volume of vehicles and persons entering and leaving at each station on the perimeter of the cordon area and for the entire cordon area are calculated from the field data.

Summary Data - 1984 Cordon Count

- o During the 16-hour study period, a total of 722,700 vehicular-trips crossed the cordon boundaries at the 87 stations providing access for vehicles entering or leaving the cordon area. This represents an increase of 45,600 trips or 6.7% since the 1980 count.
- o A total of 1,435,500 person-trips entered and left the cordon area at the access stations during the 16-hour period. This represents an increase of 65,500 persons or 4.8% since the 1980 count.
- o Of the total number of person-trips entering the cordon area, 62.6% arrived in automobiles, 26.6% in transit vehicles, 3.7% in commercial vehicles (trucks), and the remaining 7.1% entered on foot.
- o At the peak vehicle accumulation time, 2 PM, 73,800 vehicles were within the cordon area. Peak accumulation of persons occurred at 1:30 PM at which time 164,000 persons were within the cordon area.
- o Average automobile occupancy dropped to 1.36 persons per vehicle over the 16-hour study period, after increasing steadily to 1.42 by 1980.
- o Bus passengers entering the cordon area increased to 193,400, continuing the increase from 185,300 in 1980.

T A B L E O F C O N T E N T S

	<u>Page No.</u>
Abstract	i
List of Tables	2
List of Plates	3
Introduction	4
Cordon Count Procedure	4
Special Conditions	5
1984 Cordon Count Data	6
Cordon Area Trends and Analyses	17
Long Term Historical Cordon Travel Trends	17
Summary Data on Person and Vehicle Trips for 1984	22
Short Term (16-year) Cordon Trend Analyses	22
Automobile Occupancy	26
Travel Trends During the Last Decade	27
Appendix A	28
Appendix B	29

List of Tables

		<u>Page No.</u>
Table 1	16-Hour Summary 1984 Cordon Count Data	8
Table 2	Summary of Vehicles by Location	9
Table 3	Summary of Persons by Location	10
Table 4	Summary of Vehicles by Half-Hour Periods	11
Table 5	Summary of Persons by Half-Hour Periods	12
Table 6	Downtown Cordon Area Passenger Mode Trends	18
Table 7	Comparison of Total Vehicle and Passenger-Car Statistics, Downtown Los Angeles, Selected Years	19
Table 8	Comparison of Total Person and Auto Passenger Statistics, Downtown Los Angeles Selected Years	20

List of Plates

		<u>Page No.</u>
Plate 1	Map of Cordon Area with 16-Hour Vehicle Volumes	7
Plate 2	Vehicles Entering and Leaving Cordon Area	13
Plate 3	Accumulation of Vehicles in Cordon Area	14
Plate 4	Persons Entering and Leaving Cordon Area	15
Plate 5	Accumulation of Persons in Cordon Area	16
Plate 6	Trends in Modal Distribution-Persons Entering Downtown Cordon Area	21

INTRODUCTION

Cordon counts have been performed since 1924 as a continuing effort to gather data on vehicular and pedestrian traffic entering and leaving downtown Los Angeles. The last Cordon Count was conducted in May of 1980. These studies yield statistical data on the daily flow of vehicles and persons into and out of the downtown area, the times of day of their heaviest concentrations, and trends in the mode of travel.

Since 1963 the boundaries of the cordon area have been Temple Street, Los Angeles Street, Pico Boulevard, and Figueroa Street. This 1.1 square mile area encompasses not only the Central Business District, but also a substantial portion of the Los Angeles Civic Center.

The Downtown Business District has traditionally been a major activity center for the Los Angeles metropolitan area. Centrally located at the crossroads of several radial freeway routes, it is the eastern edge of the Regional Core which incorporates the Wilshire - Miracle Mile District and Hollywood.

The downtown area is accessible by both public and private transportation services from virtually all sections of the County on the 490-mile freeway system. In terms of public transportation, 62 regularly scheduled local and 60 express bus routes of the SCRTD, along with five routes run by municipal operators, crossed the cordon boundaries in October 1984.

Reported herein are the results of the 1984 study.

Cordon Count Procedure

Comprehensive traffic counts were taken on the first three Wednesdays in October at virtually all streets crossing the streets bounding the cordon area.

Sixteen-hour (6 AM to 10 PM) vehicular counts were taken at all stations by automatic machine counters. Sixteen-hour (6 AM to 10 PM) manual counts of trucks, passenger vehicle occupancy, and pedestrians were taken at pre-selected locations, representing approximately half of the total stations. Fourteen-hour (6 AM to 8 PM) truck and pedestrian counts were made at the remaining stations. The manual counts were performed on the two-way streets by counting alternate directions of traffic during successive 15-minute intervals, i.e., northbound traffic from 6:00 to 6:15 AM, southbound traffic from 6:15 to 6:30 AM, northbound traffic from 6:30 to 6:45 AM, etc. On one-way streets the counting was continuous.

Transit bus and passenger data were furnished by the Southern California Rapid Transit District (SCRTD).

Basic data on vehicle- and person-trips were processed by location and by half-hour periods. These data are the primary source for most of the tables and plates included in this report.

The term "accumulation of vehicles (or persons) crossing cordon boundaries" refers to the number accumulated during the hours of the study. The "accumulation" is the total number within the cordon area at any specific time. This total includes an estimate of the number of vehicles and persons within the area at the beginning of the study.

Special Conditions

It should be mentioned that Figueroa St. and Flower St. were converted to one-way operation, south-and northbound, respectively, to facilitate traffic for the 1984 Olympics. At the time of the cordon count, Flower Street had not yet been returned to two-way operation and carried only northbound vehicular traffic at Pico Boulevard, the south cordon boundary. Southbound vehicular volumes on Figueroa Street were accordingly higher.

As in prior years, pick-up trucks and vans which are obviously used commercially were included in the truck count. Given the continuing popularity of these vehicles as personal vehicles and a tendency to leave commercial vehicles unmarked, without company name or logo, it is on occasion difficult to distinguish between commercial and personal usage.

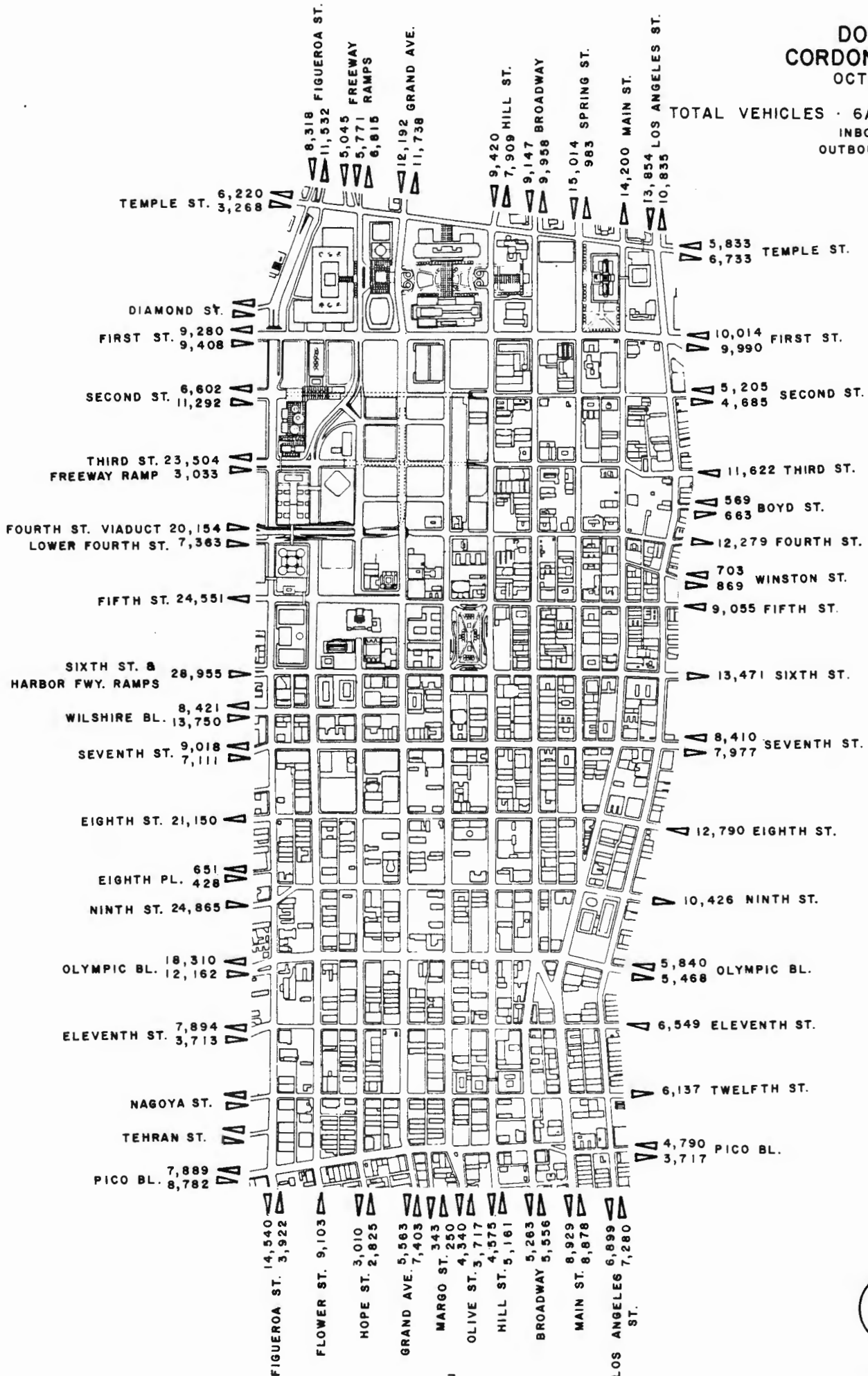
1984 CORDON COUNT DATA

The data gathered during the October 1984 cordon count have been compiled into a number of tables and depicted graphically to facilitate review and analysis.

An overview of the cordon area and vehicular volumes entering and leaving the cordon area during the study are provided in Plate 1. A summary of vehicle and person trips, by travel mode, is shown in Table 1. Comprehensive, detailed data gathered during the cordon count are tabulated and produced in Tables 2 through 5. Vehicle volumes entering and leaving the cordon area by half hour intervals are depicted in Plate 2; the accompanying accumulation of vehicles, by type, is plotted in Plate 3. Persons entering and leaving the area, and their accumulation, by travel mode, are shown in Plates 4 and 5 respectively.

PLATE I
DOWNTOWN
CORDON COUNT
OCTOBER 1984

TOTAL VEHICLES · 6AM to 10PM
INBOUND 369,112
OUTBOUND 353,597



north

Table 1
Sixteen-Hour Summary
1984 Cordon Count Data
October, Wednesday

Vehicles	In	Out
Passenger cars	334,014	320,463
Trucks and Other Vehicles	27,289	25,550
Buses	7,809	7,584
Grand Total - Vehicles	369,112	353,597

Persons		
Auto Passengers	455,344	434,448
Other Vehicle Passengers	27,289	25,550
Bus Passengers	193,401	196,940
Pedestrians	51,435	51,093
Grand Total - Persons	727,469	708,031

TABLE 2
SUMMARY OF VEHICLES BY LOCATION
DOWNTOWN LOS ANGELES, OCT 1984, 6AM - 10PM

	PASSENGER CARS		TRUCKS AND OTHER VEHICLES		BUSES		TOTAL VEHICLES	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
EAST BOUNDARY								
EAST OF LOS ANGELES ST. ON								
TEMPLE ST.	5707	6629	126	104	0	0	5833	6733
1ST ST.	9142	9088	598	542	346	360	10086	9990
2ND ST.	4899	4237	428	454	0	0	5327	4691
3RD ST.	10405	0	1024	0	193	0	11622	0
BOYD ST.	537	601	32	62	0	0	569	663
4TH ST.	0	10975	0	1117	0	187	0	12279
WINSTON ST.	618	786	85	83	0	0	703	869
5TH ST.	8046	0	832	0	468	0	9346	0
6TH ST.	0	11881	0	1105	0	485	0	13471
7TH ST.	7074	6633	1050	1049	286	295	8410	7977
8TH ST.	10491	0	2215	0	84	0	12790	0
9TH ST.	0	8822	0	1519	0	85	0	10426
OLYMPIC BLVD.	5452	5074	388	394	0	0	5840	5468
11TH ST.	5307	0	1191	0	51	0	6549	0
12TH ST.	0	5193	0	1026	0	50	0	6269
PICO BLVD.	3956	3137	834	580	0	0	4790	3717
SUB TOTAL	71634	73056	8803	8035	1428	1462	81865	82553
SOUTH BOUNDARY								
SOUTH OF PICO BLVD. ON								
LOS ANGELES ST.	6799	6397	481	502	0	0	7280	6899
MAIN ST.	7703	7947	783	613	392	369	8878	8929
BROADWAY	4859	4585	273	255	424	423	5556	5263
HILL ST.	4020	3785	266	237	875	553	5561	4575
OLIVE ST.	3071	3585	177	290	469	465	3717	4340
MARGO ST.	155	261	96	82	0	0	251	343
GRAND AVE.	6622	4885	618	512	163	166	7403	5563
HOPE ST.	2535	2631	290	379	0	0	2825	3010
FLOWER ST.	8239	0	674	0	190	0	9103	0
FIGUEROA ST.	3592	13344	330	1025	0	171	3922	14540
SUB TOTAL	47595	47420	3988	3895	2513	2147	54096	53462
WEST BOUNDARY								
WEST OF FIGUEROA ST. ON								
PICO BLVD.	7645	6954	985	759	152	176	8782	7889
11TH ST.	3341	7284	372	610	0	0	3713	7894
OLYMPIC BLVD.	11321	17195	689	948	152	167	12162	18310
9TH ST.	22707	0	2074	0	84	0	24865	0
8TH PLACE	360	573	68	78	0	0	428	651
8TH ST.	0	19483	0	1580	0	87	0	21150
7TH ST.	6364	7986	552	821	195	211	7111	9018
WILSHIRE BLVD.	12762	7393	606	644	382	384	13750	8421
HARBOR FWY OFF RAMP	17846	0	665	0	0	0	18511	0
6TH ST.	9426	0	760	0	258	0	10444	0
5TH ST.	0	22802	0	1483	0	266	0	24551
LOWER 4TH ST.	6962	0	401	0	0	0	7363	0
4TH ST. VIADUCT	18734	0	1420	0	0	0	20154	0
HARBOR FWY OFF RAMP	2897	0	136	0	0	0	3033	0
3RD ST.	0	21950	0	1654	0	0	0	23604
2ND ST.	10354	6110	938	492	0	0	11292	6602
1ST ST.	8730	8741	562	424	116	115	9408	9280
TEMPLE ST.	2722	5741	348	289	198	200	3268	6230
SUB TOTAL	142171	132212	10576	9782	1537	1606	154284	143600
NORTH BOUNDARY								
NORTH OF TEMPLE ST. ON								
FIGUEROA ST.	7887	10927	395	573	36	41	8318	11541
HARBOR FWY OFF RAMP	4828	0	217	0	0	0	5045	0
HOLLYWOOD FWY RAMPS	5300	6365	258	450	213	0	5771	6815
GRAND AVE.	11596	10971	419	256	283	512	12298	11739
HILL ST.	9000	7527	270	236	150	148	9420	7911
BROADWAY	8296	9147	394	360	457	451	9427	9958
SPRING ST.	12921	0	1023	0	1070	983	15014	983
MAIN ST.	0	12933	0	1148	0	119	0	14200
LOS ANGELES ST.	12786	9906	946	815	122	114	13854	10835
SUB TOTAL	72614	67776	3922	3838	2331	2368	78867	73982
GRAND TOTAL	334014	320464	27289	25550	7809	7583	369112	353597

TABLE 3
SUMMARY OF PERSONS BY LOCATION
DOWNTOWN LOS ANGELES, OCT 1984, 6AM - 10PM

	AUTO PASSENGERS		PASSENGERS IN OTHER VEHICLES		BUS PASSENGERS		PEDESTRIANS		TOTAL PERSONS	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT
EAST BOUNDARY										
EAST OF LOS ANGELES ST. ON										
TEMPLE ST.	7904	9298	126	104	0	0	1060	1294	9090	10696
1ST ST.	12636	13203	598	542	8090	7593	1434	1956	22758	23294
2ND ST.	6937	6096	428	454	0	0	1324	1262	8689	7812
3RD ST.	14544	0	1024	0	1417	0	454	427	17439	427
BOYD ST.	753	774	32	62	0	0	454	516	1239	1352
4TH ST.	0	14530	0	1117	0	1482	1093	1120	1093	18249
WINSTON ST.	869	1022	85	83	0	0	903	1045	1857	2150
5TH ST.	11377	0	832	0	16215	0	3246	3116	31670	3116
6TH ST.	0	15747	0	1105	0	15733	1999	1923	1999	34508
7TH ST.	10013	8705	1050	1049	11026	11832	3048	2530	25137	24116
8TH ST.	15318	0	2215	0	3270	0	3314	2805	24137	2305
9TH ST.	0	12526	0	1519	0	3293	2672	2956	2672	20294
OLYMPIC BLVD.	7588	7193	388	394	0	0	1418	1498	9394	9085
11TH ST.	7553	0	1191	0	1560	0	1961	2010	12265	2010
12TH ST.	0	7239	0	1026	0	1873	1751	1492	1751	11630
PICO BLVD.	5588	4362	834	580	0	0	739	940	7161	5882
SUB TOTAL	101080	100695	8803	8035	41578	41806	26890	26890	178351	177426
SOUTH BOUNDARY										
SOUTH OF PICO BLVD. ON										
LOS ANGELES ST.	9267	8855	481	502	0	0	462	366	10210	9723
MAIN ST.	10534	10967	783	613	5897	5869	522	578	17736	18027
BROADWAY	6672	6354	273	255	13205	13559	702	554	20852	20722
HILL ST.	5325	5146	266	237	6613	4358	632	512	12836	10253
OLIVE ST.	4065	4817	177	290	2376	2317	310	310	6928	7734
MARGO ST.	196	330	96	82	0	0	150	254	442	666
GRAND AVE.	8803	6512	618	512	4902	5073	734	517	15057	12614
HOPE ST.	3486	3635	290	379	0	0	610	692	4386	4706
FLOWER ST.	11363	0	674	0	5223	0	856	692	18116	580
FIGUEROA ST.	5002	18732	330	1025	0	4701	404	600	5736	25058
SUB TOTAL	64713	65348	3988	3895	38216	35877	5382	4963	112299	110083
WEST BOUNDARY										
WEST OF FIGUEROA ST. ON										
PICO BLVD.	10643	9796	985	759	5956	6950	367	514	17951	18019
11TH ST.	4519	10240	372	610	0	0	473	283	5464	11133
OLYMPIC BLVD.	15179	23578	689	948	5483	6065	1260	1143	22611	31739
9TH ST.	30528	0	2074	0	3083	0	646	568	36331	568
8TH PLACE	471	718	68	78	0	0	799	890	1338	1886
8TH ST.	0	26562	0	1580	0	3173	1541	1740	1541	33055
7TH ST.	8599	10750	552	821	6306	6478	1172	1244	16629	19293
WILSHIRE BLVD.	17283	9896	606	644	9980	11060	3194	2372	31045	23972
HARBOR FWY OFF RAMP	22977	0	665	0	0	0	0	0	23842	0
6TH ST.	12778	0	760	0	10673	0	633	458	24844	458
5TH ST.	0	30376	0	1483	0	10344	628	534	628	42737
LOWER 4TH ST.	9244	0	401	0	0	0	827	680	10472	680
4TH ST. VIADUCT	24618	0	1420	0	0	0	21	24	26059	24
HARBOR FWY OFF RAMP	3789	0	136	0	0	0	0	0	3925	0
3RD ST.	0	29063	0	1654	0	0	200	217	200	30934
2ND ST.	13656	8138	938	492	0	0	372	197	14966	6827
1ST ST.	11870	11804	562	424	4423	4224	169	162	17024	16614
TEMPLE ST.	3730	7784	348	289	6871	7193	232	184	11181	15450
SUB TOTAL	189966	178705	10576	9782	52775	55487	12534	11215	265851	255189
NORTH BOUNDARY										
NORTH OF TEMPLE ST. ON										
FIGUEROA ST.	10557	14213	395	573	1199	1432	292	350	12443	16568
HARBOR FWY OFF RAMP	6154	0	217	0	0	0	0	0	6371	0
HOLLYWOOD FWY RAMPS	6773	8330	258	450	5821	0	2	3	12854	8783
GRAND AVE.	15493	14440	419	256	10166	18210	476	387	26554	33293
HILL ST.	12569	10423	270	236	4868	5716	618	1334	18325	17709
BROADWAY	11848	12683	394	360	9952	10330	616	1025	22810	24398
SPRING ST.	18413	0	1023	0	28553	27616	1444	1469	49433	29085
MAIN ST.	0	18063	0	1148	0	359	1661	1681	1661	21251
LOS ANGELES ST.	18244	13910	946	815	273	107	1520	1776	20983	16608
SUB TOTAL	100051	92062	3922	3838	60832	63770	6629	8025	171434	167695
GRAND TOTAL	455810	436810	27289	25550	193401	196940	51435	51093	727935	710393

TABLE 4
SUMMARY OF VEHICLES BY HALF HOUR PERIODS
DOWNTOWN LOS ANGELES, OCT 1984
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
			6300			500			300			7100
630	6484	3450	9334	590	368	722	248	205	343	7322	4023	10399
700	12190	6011	15513	786	529	979	396	309	430	13372	6849	16922
730	15935	8207	23241	847	651	1175	434	380	484	17216	9238	24900
800	18516	9337	32420	1033	821	1387	399	367	516	19948	10525	34323
830	18856	9291	41985	1185	888	1684	426	339	603	20467	10518	44272
900	17812	8243	51554	1153	929	1908	323	302	624	19288	9474	54086
930	14801	8226	58129	1109	925	2092	259	240	643	16169	9391	60864
1000	12316	8138	62307	1214	1118	2188	213	200	656	13743	9456	65151
1030	10998	8727	64578	1275	1162	2301	196	186	666	12469	10075	67545
1100	11101	8652	67027	1289	1163	2427	221	179	708	12611	9994	70162
1130	10921	9897	68051	1213	1130	2510	195	185	718	12329	11212	71279
1200	11225	10720	68556	1161	1145	2526	213	170	761	12599	12035	71843
1230	11157	10788	68925	1194	1157	2563	210	176	795	12561	12121	72283
1300	10933	10462	69396	1068	1081	2550	201	181	815	12202	11724	72761
1330	11054	10279	70171	1105	1047	2608	216	177	854	12375	11503	73633
1400	10821	10723	70269	1160	1071	2697	195	207	842	12176	12001	73808
1430	10324	11111	69482	1066	927	2836	204	217	829	11594	12255	73147
1500	10872	11672	68682	1075	1004	2907	225	244	810	12172	12920	72399
1530	10366	12568	66480	1041	1257	2691	268	263	815	11675	14088	69986
1600	11838	15011	63307	1199	1213	2677	354	302	867	13391	16526	66851
1630	12183	17366	58124	984	996	2665	398	400	865	13565	18762	61654
1700	13055	19368	51811	857	901	2621	360	440	785	14272	20709	55217
1730	12740	20702	43849	739	764	2596	348	394	739	13827	21860	47184
1800	10671	16830	37690	615	687	2524	272	372	639	11558	17889	40853
1830	8176	13319	32547	536	502	2558	235	284	590	8947	14105	35695
1900	6331	10082	28796	410	419	2549	171	207	554	6912	10708	31899
1930	4931	7756	25971	331	356	2524	149	148	555	5411	8260	29050
2000	4560	5963	24568	274	290	2508	129	126	558	4963	6379	27634
2030	3639	4973	23234	228	284	2452	106	117	547	3973	5374	26233
2100	3080	4441	21873	192	271	2373	83	103	527	3355	4815	24773
2130	3331	4652	20552	195	284	2284	92	85	534	3618	5021	23370
2200	2797	3498	19851	165	210	2239	70	79	525	3032	3787	22615
TOTALS												
BY DIRECT.	334014	320463		27289	25550		7809	7584		369112	353597	
TOTALS BY MODE		654477			52839			15393			722709	
% BY MODE OF TOTAL VEHICLES		90.6%			7.3%			2.1%			100.0%	

TABLE 5
SUMMARY OF PERSONS BY HALF HOUR PERIODS
DOWNTOWN LOS ANGELES, OCT 1984
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
			8500			500			7300			4000			20300
630	8444	4446	12498	590	368	722	7869	4105	11064	684	518	4166	17587	9437	28450
700	16613	7302	21809	786	529	979	13760	5990	18834	1689	1193	4662	32848	15014	46284
730	21271	9925	33155	847	651	1175	17275	7701	28408	1850	1960	4552	41243	20237	67290
800	24012	11172	45995	1033	821	1387	13976	7189	35195	2219	1814	4957	41240	20996	87534
830	23504	11108	58391	1185	888	1684	12721	5511	42405	2228	1369	5816	39638	18876	108296
900	22646	10008	71029	1153	929	1908	8993	4246	47152	1670	1196	6290	34462	16379	126379
930	18753	10193	79589	1109	925	2092	6211	3451	49912	1655	1195	6750	27728	15764	138343
1000	15807	10426	84970	1214	1118	2188	5039	3373	51578	1577	1309	7018	23637	16226	145754
1030	14846	11248	88568	1275	1162	2301	4786	3561	52803	1753	1552	7219	22660	17523	150891
1100	14292	11434	91426	1289	1163	2427	5646	3914	54535	1664	1518	7365	22891	18029	155753
1130	14728	13280	92874	1213	1130	2510	4473	4092	54916	1961	1776	7550	22375	20278	157850
1200	15998	14618	94254	1161	1145	2526	5343	4308	55951	2539	2285	7804	25041	22356	160535
1230	16291	15485	95060	1194	1157	2563	5095	4377	56669	2697	2667	7834	25277	23686	162126
1300	15587	14992	95655	1068	1081	2550	4814	4769	56714	2320	2452	7702	23789	23294	162621
1330	15360	14277	96738	1105	1047	2608	4935	4858	56791	2551	2336	7917	23951	22518	164054
1400	15230	14538	97430	1160	1071	2697	4486	5718	55559	1975	1953	7939	22851	23280	163625
1430	13928	15250	96108	1066	927	2836	4852	5732	54679	1594	1899	7634	21440	23808	161257
1500	14828	15523	95413	1075	1004	2907	5062	6528	53213	1681	2082	7233	22646	25137	158766
1530	14141	16491	93063	1041	1257	2691	5667	7142	51738	1584	2272	6545	22433	27162	154037
1600	15933	20005	88991	1199	1213	2677	8024	9803	49959	2091	2141	6495	27247	33162	148122
1630	17054	23502	82543	984	996	2665	9055	14213	44801	2709	2900	6304	29802	41611	136313
1700	17983	26087	74439	857	901	2621	8198	17066	35933	2682	3011	5975	29720	47065	118968
1730	17282	27929	63792	739	764	2596	7475	15716	27692	2359	2910	5424	27855	47319	99504
1800	14490	22634	55648	615	687	2524	5146	13691	19147	1433	1803	5054	21684	38815	82373
1830	11873	19091	48430	536	502	2558	4282	10214	13215	1156	1328	4882	17847	31135	69085
1900	9283	15060	42653	410	419	2549	3049	6652	9612	705	1050	4537	13447	23181	59351
1930	7595	11841	38407	331	356	2524	1948	3749	7811	499	639	4397	10373	16585	53139
2000	7175	9679	35903	274	290	2508	1404	2812	6403	539	558	4378	9392	13339	49192
2030	5909	7980	33832	228	284	2452	1112	2055	5460	469	416	4431	7718	10735	46175
2100	4899	7244	31487	192	271	2373	851	1693	4618	330	432	4329	6272	9640	42807
2130	5142	6782	29847	195	284	2284	1193	1399	4412	336	331	4334	6866	8796	40877
2200	4447	4898	29396	165	210	2239	661	1312	3761	236	228	4342	5509	6648	39738
TOTALS BY DIR.	455344	434448		27289	25550		193401	196940		51435	51093		727469	708031	
TOTALS BY MODE	889792			52839			390341			102528			1435500		
% BY MODE OF TOTAL PERSONS	62.0%			3.7%			27.2%			7.1%			100.0%		

VEHICLES ENTERING & LEAVING AREA

OCTOBER 1984

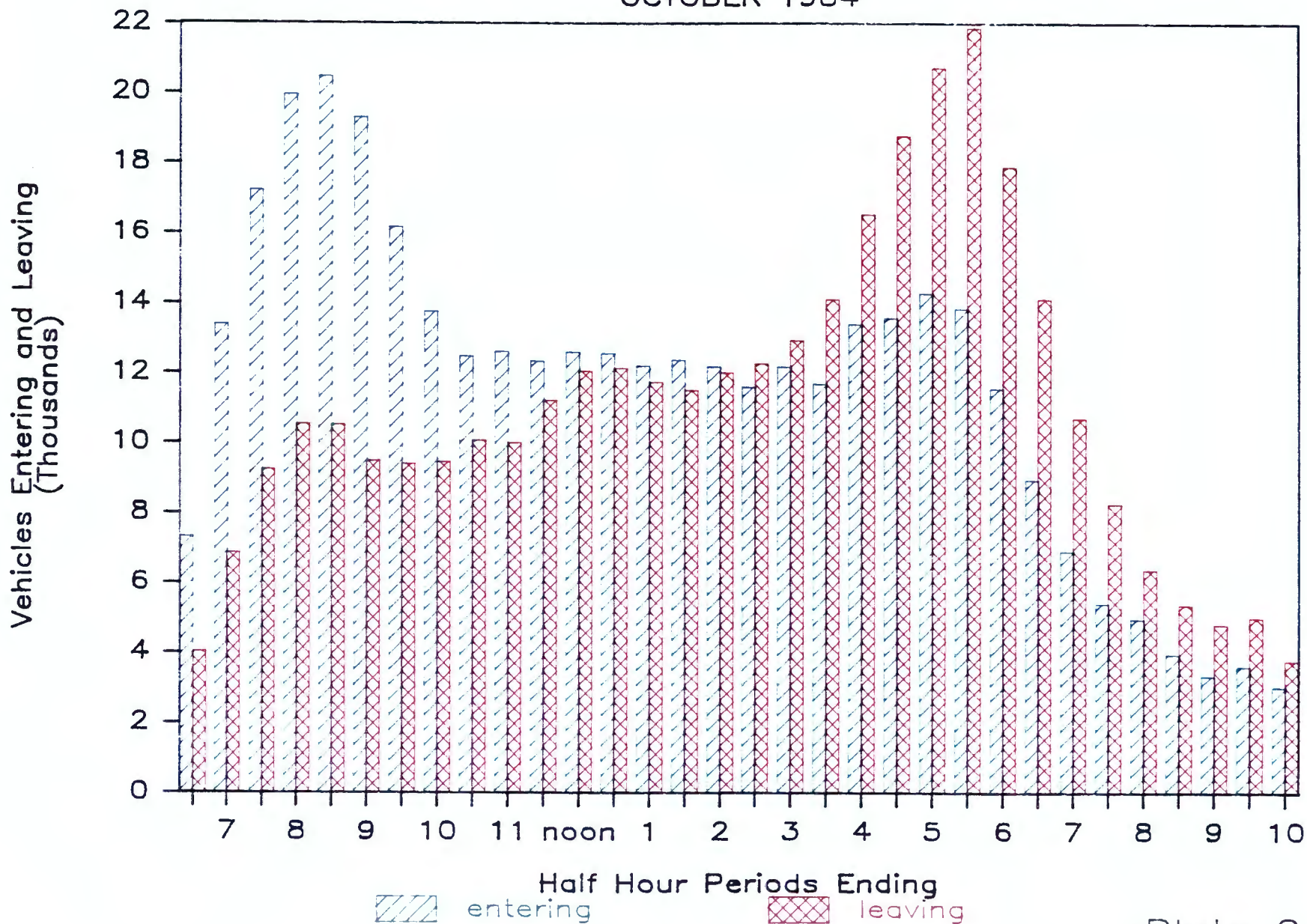
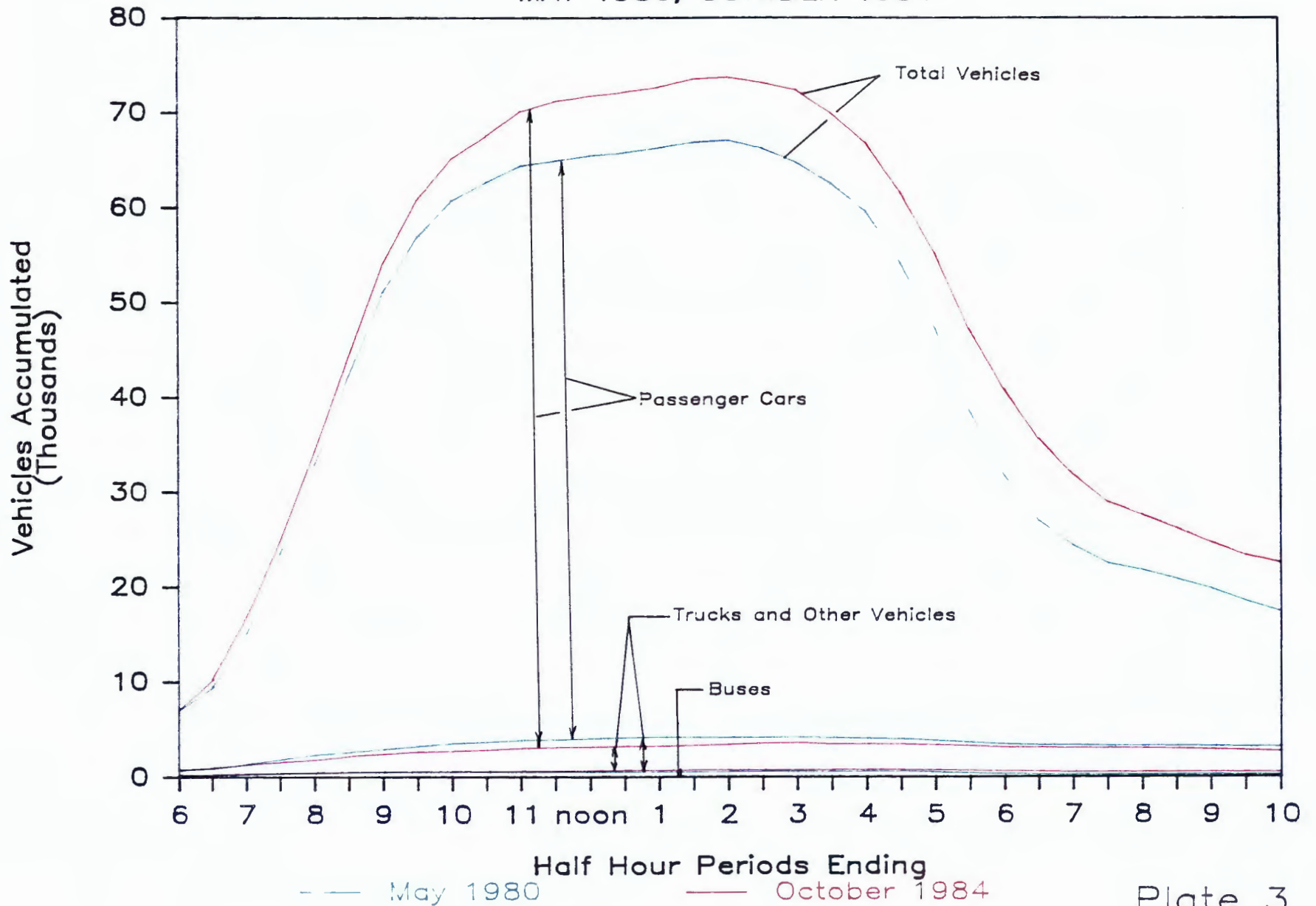


Plate 2

VEHICLES ACCUMULATED IN AREA

MAY 1980, OCTOBER 1984



PERSONS ENTERING & LEAVING AREA

OCTOBER 1984

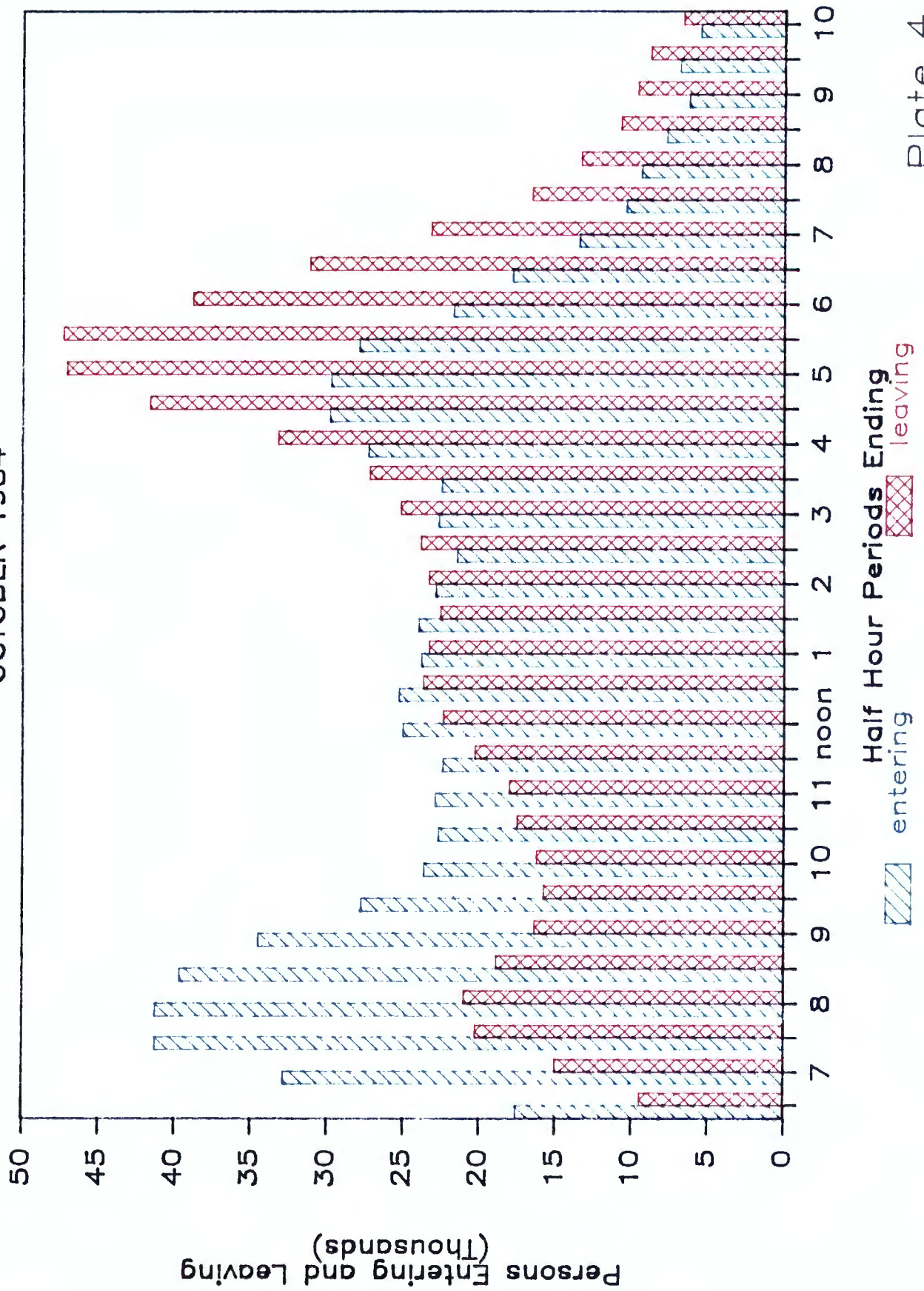
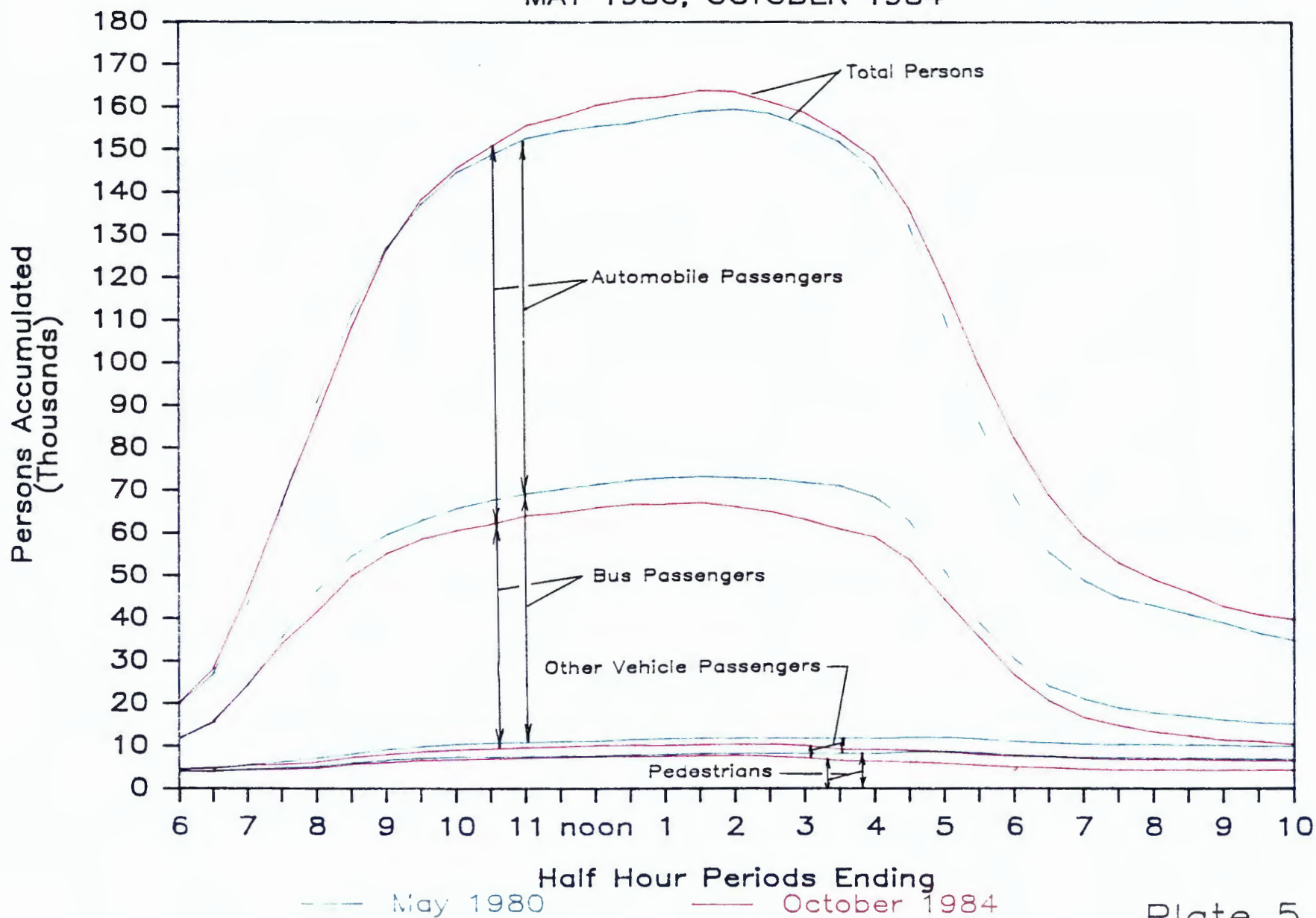


Plate 4

PERSONS ACCUMULATED IN AREA

MAY 1980, OCTOBER 1984



CORDON AREA TRENDS AND ANALYSES

Long Term Historical Cordon Travel Trends

The earliest recorded data on Downtown cordon area travel activity, taken in 1924, included only passenger volume data, no pedestrian trips, and encompassed only the 13 hours from 6 AM to 7 PM. That study disclosed that over 1.2 million passengers crossed the cordon boundaries during the 13-hour study period. Of that total, 61% were passengers in public transportation facilities and the remaining 39% were passengers in private transportation vehicles, either automobiles or commercial vehicles. The boundaries of this and other early cordon counts are described in Appendix A.

The only other recorded study including data on person trips prior to World War II was conducted in 1941. For the 13-hour period of that study, a total of nearly 1.3 million passengers entered and left the cordon area. That study disclosed a reversal in travel mode from the 1924 study, i.e., public transportation passengers represented 39% of the total passengers crossing the cordon boundaries and the remaining 61% were occupants in private vehicles.

Comparable 13-hour passenger volume data for the 1984 study and for selected other cordon studies are shown in Appendix B. Comparisons of the entire 16-hour vehicle and person trip statistics are made in Tables 6, 7 and 8.

The trend in regard to inbound cordon person trips for the entire 16-hour period, from 6 AM to 10 PM, by the various modes from 1963 to date, is depicted on Plate 6.

TABLE 6

Downtown Cordon Area Passenger Mode Trends
16 Hours - 6 AM to 10 PM

Passenger Volumes Crossing Cordon Boundaries					Proportional Rates By Passenger Mode				
Year	Auto. Pass.	Comm. Veh Pass.	Transit Pass.	Total Pass.	Year	Auto. Pass.	Comm. Veh Pass.	Transit Pass.	Total Pass.
1963	723,996	66,043	282,407	1,072,446	1963	67.5	6.2	26.3	100.0
1968	747,718	56,886	260,790	1,065,394	1968	70.2	5.3	24.5	100.0
1972	767,063	60,023	250,027	1,077,113	1972	71.2	5.6	23.2	100.0
1974	725,428	56,898	303,876	1,086,202	1974	66.8	5.2	28.0	100.0
1976	791,564	51,602	324,113	1,167,279	1976	67.8	4.4	27.8	100.0
1978	840,952	64,678	327,291	1,232,921	1978	68.2	5.2	26.6	100.0
1980	860,787	51,050	372,347	1,284,184	1980	67.0	4.0	29.0	100.0
1984	889,792	52,839	390,341	1,332,972	1984	66.7	4.0	29.3	100.0

Table 2
Comparison of Total Vehicle and Passenger Car
Statistics, Downtown Los Angeles, Selected Years

CORDON COUNT

		1941	1957	1963	1972	1974	1976	1978	1980	1984
16-Hour	Total	--	327,046	291,506	319,245	306,663	324,920	351,105	343,800	364,112
Total In	Pass. Cars	288,000	283,097	253,731	283,229	271,899	291,060	312,100	311,326	334,014
16-Hour	Total	--	323,624	285,970	310,339	296,228	308,445	332,602	333,347	353,597
Total Out	Pass. Cars	--	278,224	247,836	277,039	263,671	278,699	295,848	303,349	320,463
High	Total	18,500	22,077	19,267	19,927	18,350	19,104	20,647	19,811	20,467
1/2-Hour In	Pass. Cars	--	20,402	16,870	18,554	16,912	17,653	18,991	18,437	18,856
Same	Total	12,000	12,689	10,912	11,150	9,895	9,944	10,919	10,396	10,518
1/2-Hour Out	Pass. Cars	--	11,202	9,349	10,180	8,875	8,983	9,817	9,512	9,291
High	Total	20,500	22,760	19,730	22,182	19,550	20,023	21,092	21,078	21,860
1/2-Hour Out	Pass. Cars	--	20,884	17,176	20,575	17,881	18,515	19,669	19,935	20,702
Same	Total	13,500	15,602	12,893	14,069	13,115	13,513	12,725	12,306	13,827
1/2-Hour In	Pass. Cars	--	13,876	11,131	12,735	11,902	12,246	11,523	11,346	12,740
Highest Veh.	Total	49,000	48,306	--	58,789	58,576	65,215	68,088	67,083	73,808
Hocum, Inc.	Pass. Cars	--	46,007	--	53,641	54,094	59,730	64,130	629,938	70,269
Initial										

Table 3

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

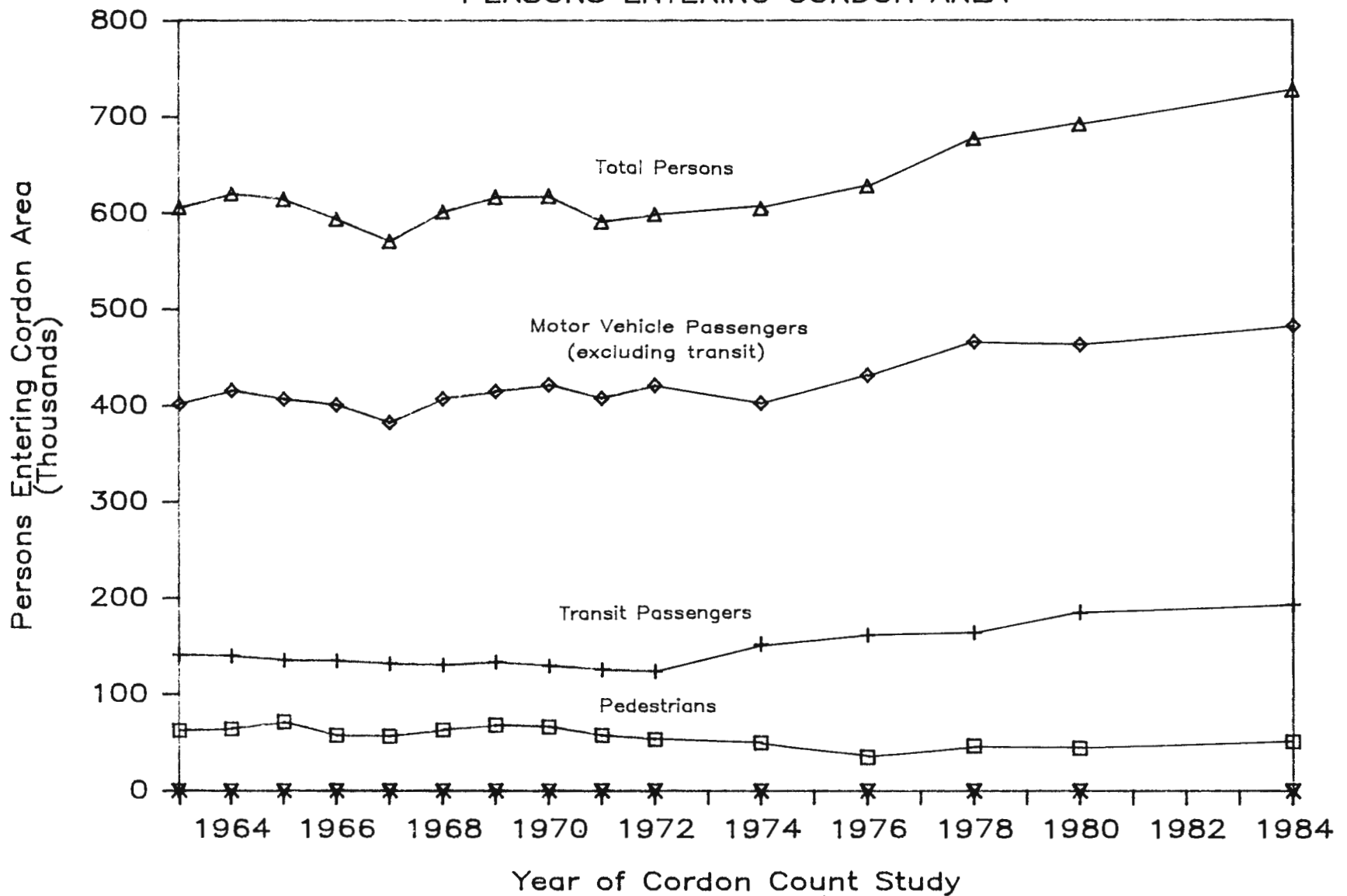
CORDON COUNT

		1941	1957	1963	1972	1974	1976	1978	1980	1984
16-Hour	Persons	757,120	687,906	605,730	598,673	605,029	628,515	627,365	692,338	727,469
Total In	Auto Pass.	441,647	403,015	368,844	389,768	372,979	403,821	432,517	435,982	455,344
	2Auto Passengers	58	53	61	65	62	64	64	63	63
16-Hour	Persons	723,191	692,195	589,964	582,094	578,002	607,334	646,885	677,629	708,031
Total Out	Auto Pass.	415,403	402,399	355,152	377,295	352,449	387,743	408,435	424,805	434,448
	2Auto Passengers	57	58	60	65	61	64	63	63	61
High	Persons	50,161	59,411	50,922	42,433	43,524	43,438	43,149	45,355	41,243
1/2-Hour In	Auto Pass.	25,982	31,247	27,505	25,053	23,071	24,009	24,805	25,010	21,271
	2Auto Passengers	52	53	54	59	53	55	57	55	52
Same	Persons	26,298	28,010	20,852	20,881	19,331	19,650	21,171	21,032	20,237
1/2-Hour Out	Auto Pass.	14,499	17,100	11,608	12,425	10,899	11,304	12,125	11,715	9,925
	2Auto Passengers	55	61	56	59	56	58	57	56	47
High	Persons	61,710	61,592	47,588	49,198	48,232	48,886	47,318	49,705	47,319
1/2-Hour Out	Auto Pass.	31,558	31,362	27,167	28,611	24,264	26,076	26,013	28,721	27,929
	2Auto Passengers	51	51	57	58	50	53	55	58	59
Same	Persons	29,629	29,888	26,519	25,856	25,045	26,450	28,941	24,697	27,855
1/2-Hour In	Auto Pass.	18,160	19,201	15,973	17,068	15,571	16,709	18,369	15,938	17,282
	2Auto Passengers	61	64	60	66	62	63	63	65	62
High	Persons	124,758	132,618	--	122,729	135,071	135,061	131,362	139,456	143,754
Accum*	Auto Pass.	67,543	57,128	--	68,224	68,450	75,739	75,188	78,090	88,238
	2Auto Passengers	39	43	--	55	51	56	57	56	61

*Persons Crossing Cordon

TRENDS IN MODAL DISTRIBUTION

PERSONS ENTERING CORDON AREA



Summary Data on Person and Vehicle Trips for 1984

A total of 722,700 vehicles crossed the cordon boundaries during the 16-hour study period from 6AM to 10PM. During the 16-hour study period, a total of 1,435,500 persons entered and left the cordon area. Of the total persons entering the cordon area, 62.6% arrived in automobiles, 26.6% in transit vehicles, 3.7% in trucks, and the remainder, 7.1% entered on foot.

The peak arrival period for bus passengers was between 6:30 AM and 8:30 AM, when 155,000 persons entered the cordon area. Of these persons, 55.1% came by automobile, 37.3% by bus, 2.5% in commercial vehicles, and 5.1% on foot.

The auto passenger peak arrival period extended one-half hour beyond the bus peak period, from 6:30 AM to 9:00 AM. Of the 189,400 persons entering the cordon area, 57.0% traveled by automobile, 35.2% by bus, 2.7 in commercial vehicles, and 5.1% on foot.

The peak departure period from the cordon area was from 4:00 P.M to 6:30 P.M. Of the 206,000 departing passengers, 57.9% were automobile passengers, 34.4% bus passengers, 1.9% traveled by commercial vehicle, and 5.8% were pedestrians.

The peak person accumulation was at 1:30 PM, when a total of 164,100 persons were within the cordon area. Peak accumulation of vehicles occurred at 2:00 PM, when a total of 73,800 vehicles were within the cordon area.

Short Term (16-year) Cordon Trend Analyses

As is evident from Plate 6, generally increasing volumes of person trips have been crossing the cordon boundaries since 1968. During these years, travel mode patterns have also changed significantly. To provide some insight in regard to these changes in travel patterns and modes, analyses have been made of the cordon data from the biennial studies conducted from 1968 to 1980, and the 1984 study.

Peak Period Person-Trip Volume Trend:

Comparison of bus and automobile person trip volumes during the inbound transit and automobile peak periods shows a slight decrease in mode split to transit since 1980; however, there is a significant increase in transit mode split since 1968.

<u>Inbound Person Trips</u>				
<u>Time</u>	<u>Year</u>	<u>Auto Pass. Volume</u> <u>% Total Persons</u>	<u>Bus Pass. Volume</u> <u>% Total Persons</u>	<u>Total</u> <u>Persons</u>
6:30-8:30 AM (Peak arrival period - bus pass.)	1984	85,400 55.1%	57,732 37.3%	154,969
	1980	86,063 54.7%	60,017 38.1%	157,394
	1968	85,515 57.8%	47,035 31.8%	147,940
6:30-9:00 AM (Peak arrival period - auto pass.)	1984	108,046 57.0%	66,725 35.2%	189,431
	1980	106,502 56.6%	67,630 35.9%	188,216
	1968	103,615 58.4%	53,702 30.3%	177,422

Cordon data for inbound person trips reveal that the maximum half-hour volumes (7:00 to 7:30 AM, 7:30-8:00 AM) are decreasing, while volumes in the preceding and following hour are increasing, creating a flatter, but broader based arrival profile, which represents a slight overall increase in person trips. Thus there is a decrease in total person trips in 1984 from 1980 during the 6:30 AM to 8:30 AM period as seen in the above table, but an increase, if either of the adjacent half-hour volumes is included in the analysis.

Inbound person trips in 1984 for the morning peak two-hour period (7-9AM) were generally at the same level as recorded in 1980 and 1968, while person trips during the 7-8 AM period decreased significantly, as indicated in the following table.

<u>Inbound Person Trips</u>					
	<u>1968</u>	<u>1980</u>	<u>Percent</u> <u>change</u>	<u>1984</u>	<u>Percent</u> <u>change</u> <u>since 1968</u>
Peak hour (7-8 AM)	89,958	88,381	-1.8%	82,483	-8.3%
Peak Two Hours (7-9 AM)	156,115	156,955	+0.5%	156,583	+0.3%
Peak Three Hours (6-9 AM)	187,129	203,157	+8.6%	207,018	+10.6%

More detailed study of the cordon data for the 16-year period reveals that person-trip volumes for the two half-hour periods preceding the peak-hour period have changed significantly. The volumes of inbound persons for the half-hour periods from 6:00 to 6:30 AM and 6:30 to 7:00 AM have increased progressively from 1968 through 1984, with one exception in 1974. In 1984, the volume of 50,435 inbound persons for the combined two half-hour periods from 6:00 to 7:00 AM was 62.6% greater than the volume of 31,014 persons recorded in 1968, and 9.2% greater than the 1980 volume. This is in sharp contrast to the 8% reduction, as detailed above, for the peak-hour period (7-8 AM) over the 16-year period. For the total 2-hour period, 6-8 AM, the 1984 volume of 132,918 persons was an increase of 9.9% over the 1968 inbound volume of 120,972 persons.

It can be surmised that the work pattern shift over the 16-year study period is a result of an increasing number of employees on a flexible work hour schedule away from standard work periods, or on programs other than the normal 5-day, 40-hour work week. The shift could also be due to changes in travel time made to avoid congestion.

Analyses of Person-Destination Trends:

Travel data on inbound trips at the cordon boundaries include trips by public transit, automobile, truck, and on foot which merely pass through the cordon area, as well as trips which have a destination within the area. To provide insight on the latter, an analysis has been made of cordon accumulation data, which reflect a great majority of person trips having a destination within the cordon area.

Person accumulation data were calculated from the cordon studies for 1968, 1980 and 1984 for the 2-hour period from 6 to 8 AM. These calculations did not include initial accumulation:

Accumulation Rates by Travel Mode

<u>Year</u>	<u>Auto Pass.</u>	<u>Comm. Veh. Pass.</u>	<u>Transit Pass.</u>	<u>Pedestrian</u>
1984	53.6%	1.5%	43.3%	1.6%
1980	48.7%	2.1%	47.3%	1.9%
1968	54.6%	1.6%	38.3%	5.5%

A sixteen year comparison, 1968 to 1984, was made of accumulation by transportation mode during the period of maximum total accumulation.

<u>Rates by Travel Mode</u>					
<u>Year</u>	<u>Time Period</u>	<u>Auto Pass.</u>	<u>Comm. Veh. Pass.</u>	<u>Transit Pass.</u>	<u>Pedestrians</u>
1984	1-1:30PM	59.0%	1.6%	34.6%	4.8%
1980	1:30-2PM	54.3%	2.3%	38.2%	5.2%
1968	1-1:30 PM	54.9%	2.0%	34.2%	8.9%

Vehicle Accumulation Patterns:

The accumulation of vehicles by half hour periods in the cordon area in 1984 is compared with 1980 values in Plate 3. The shape of the "total vehicles" curve is remarkably similar to the 1980 curve, although the maximum accumulation, at 2 PM, was 10.7% higher, with 74,300 vehicles. Vehicular accumulation stayed at approximately 90% of this maximum value from 10:30 AM to 4 PM.

The 1968 to 1984 cordon study data on vehicles within the cordon area at the peak accumulation period indicate a relatively stable trend from 1968 to 1974, an increase to 1978, a slight decrease in 1980, and a new high in 1984.

Comparison of data for 1984 with 1980 data discloses that the amount of the increase in vehicle accumulation was roughly constant from 11AM to 10PM. An increase in vehicle accumulation began at 11 AM, and remained constant to 10 PM.

Automobile Occupancy:

The 1984 automobile occupancy rate, calculated by dividing the 16-hour total number of auto passengers by the corresponding number of passenger vehicles, was determined to be 1.36 for both inbound and outbound automobiles.

A similar calculation for the 13-hour period between 6 AM and 7 PM, which encompassed 93% of the total inbound passenger vehicles and 92% of the total inbound auto passengers, and 90% of the outbound vehicles and 89% of the total outbound auto passengers, revealed lower occupancy rates of 1.35 and 1.33 for inbound and outbound traffic respectively.

The automobile occupancy rate for inbound vehicles during the morning peak arrival period, 6:30 AM - 9 AM was 1.30, while the occupancy rate for outbound automobiles during the evening peak departure period, 4:00PM-6:30PM was 1.36.

The comparable passenger car occupancy rates for 1980 and 1984 are summarized here:

<u>Year</u>	<u>1980</u>	<u>1984</u>
16-hr. inbound	1.40	1.36
16 hr. outbound (6 AM to 10 PM)	1.40	1.36
13-hr. inbound	1.38	1.35
13-hr. outbound (6 AM to 7 PM)	1.38	1.33
2 1/2hr. inbound (6:30 AM to 9 AM)	1.33	1.30
2 1/2 hr. outbound (4:00 PM to 6:30 PM)	1.43	1.36

Average automobile occupancy rates during the last decade are summarized below by various time periods during the day:

<u>Average Automobile Occupancy</u>					
	1974	1976	1978	1980	1984
6 AM to 10 AM (4 hours)	1.31	1.31	1.31	1.34	1.27
10 AM to 2 PM (4 hours)	1.36	1.39	1.38	1.40	1.38
2 PM to 6 PM (4 hours)	1.38	1.38	1.39	1.41	1.35
6 PM to 10 PM (4 hours)	1.58	1.57	1.69	1.68	1.52
6 AM to 7 PM (13 hours)	1.34	1.36	1.36	1.38	1.34
6 AM to 10 PM (16 hours)	1.37	1.38	1.40	1.42	1.36

TRAVEL TRENDS DURING THE LAST DECADE, 1974-1984

Significant travel trends and travel mode changes have occurred from 1974 to 1984. The volume of persons entering and leaving the cordon area over the total 16-hour study period has increased steadily. The volume of 1,435,500 person-trips across the cordon boundaries represented an overall increase of 252,469 person-trips, or 21% since 1974.

Peak accumulation of persons within the cordon area occurred between 1:00PM and 1:30PM, as opposed to 1:30PM to 2:00PM in 1974. A total of 164,050 persons accumulated, an increase of 8% over 152,070 persons in 1974. Accumulation of vehicles during the peak period, 1:30AM to 2:00PM, rose to 73,800 vehicles, an increase of 26%, over the 58,575 vehicle in 1974.

In 1984 the 16-hour automobile occupancy rate dropped to 1.36 after increasing steadily to 1.42 in 1980.

In 1984 the mode split during the peak traffic hours between 6:30 AM and 8:30 AM increased to 55.1% auto passengers over 54.7% in 1980, and 51.5% in 1974. Transit partonage decreased to 37.3% from 38.1 in 1980 during the same hours.

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APPENDIX A
(Excerpt from the 1963 Downtown Los Angeles Cordon Count report)

INTRODUCTION

Counts of the traffic in the downtown Los Angeles area have been made for many years, dating back to 1924. The data obtained from these counts is made available to interested agencies for use in certain aspects of civic and commercial planning. Information is obtained on all traffic entering and leaving the downtown area during a typical 16-hour period from 6 a.m. to 10 p.m.

The earliest counts were made with boundaries set at Sunset Boulevard, Figueroa Street, Washington Boulevard and either Main Street, Los Angeles Street or San Pedro Street .

In the late thirties, the boundaries of Sunset Boulevard, Figueroa Street, Pico Boulevard and Los Angeles Street were established. Boundaries were later expanded to include the freeways encircling the downtown area.

Previous counts were made by using a large group of people who manually counted vehicles and pedestrians at points where all streets crossed the cordon boundaries.

Prior to the 1963 count, it was decided that the purposes of the study could be accomplished by making use of automatic traffic volume counts supplemented with manual sampling counts of pedestrians and vehicle occupancy. This resulted in greatly reduced costs for the study. To facilitate this new technique, the cordon boundaries were re-established at Figueroa Street, Pico Boulevard, Los Angeles Street and Temple Street.

APPENDIX B

Downtown Cordon Area Passenger Mode Trends 13 Hours - 6 AM to 7 PM

Passenger Volumes Crossing Cordon Boundaries

Proportional Rates By Passenger Mode

Year	Auto. Pass.	Comm. Veh Pass.	Transit Pass.	Total Pass.	Year	Auto. Pass.	Comm. Veh Pass.	Transit Pass.	Total Pass.
1924 (1)	393,322	74,252	741,124	1,208,698	1924	32.5	6.2	61.3	100.0
1941 (2)	715,057	72,724	501,503	1,291,284	1941	55.4	5.8	38.8	100.0
1957 (3)	717,591	70,650	394,171	1,182,412	1957	60.7	6.0	33.3	100.0
1963 (3)	648,414	60,416	267,033	975,863	1963	66.4	6.2	27.4	100.0
1968 (3)	672,310	54,140	247,840	974,290	1968	69.0	5.6	25.4	100.0
1972 (3)	691,198	56,738	238,880	986,816	1972	70.0	5.8	24.2	100.0
1974 (3)	657,874	53,994	290,010	1,001,878	1974	65.7	5.4	28.9	100.0
1976 (3)	710,960	49,187	308,730	1,068,877	1976	66.5	4.6	28.9	100.0
1978 (3)	749,841	61,545	311,589	1,122,975	1978	66.8	5.5	27.7	100.0
1980 (3)	775,405	48,413	355,136	1,178,954	1980	65.8	4.1	30.1	100.0
1984 (3)	806,201	49,759	370,152	1,226,112	1984	65.7	4.1	30.2	100.0

- (1) Report on a Comprehensive Rapid Transit Plan for City and County of Los Angeles, Kelker, DeLeuw and Company, 1925
- (2) Los Angeles County Regional Planning Commission
- (3) Los Angeles City, Department of Transportation