Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
TX-92/1940-1		

4. Title and Subtitle	5. Report Date
US-75 North Central Expressway Reconstruction: October 1991 Traffic Conditions	May 1992
	6. Performing Organization Code
7. Author(s)	8. Performing Organization Report No.
K. D. Tyer and R. A. Krammes	Research Report 1940-1
9. Performing Organization Name and Address	10. Work Unit No.
Texas Transportation Institute The Texas A&M University System College Station, TX 77843	11. Contract or Grant No. Study 2-18D-92/93-194
12. Sponsoring Agency Name and Address	13. Type of Report and Period Covered
Texas Department of Transportation District 18 Dallas, TX 75228	Interim Report (September 1991-May 1992)
	14. Sponsoring Agency Code

15. Supplementary Notes

Research performed in cooperation with the state of Texas
Research Study Title: Highway Planning and Operations for District 18

16. Abstract

This report documents the results of the traffic data collection efforts during October 1991, sixteen months after reconstruction began on the US-75 North Central Expressway south of the I-635 LBJ Freeway. Traffic conditions and patterns were monitored during October 1989 and May 1990 (before construction) and during October 1990, May 1991, and October 1991 (during the first sixteen months of the project). The traffic monitoring efforts included traffic data collection and automobile and transit user surveys. The traffic data collection efforts included screen line traffic volume counts, vehicle occupancy and classification counts, and travel time runs. The automobile and transit users surveys are documented elsewhere. The results indicate that the reconstruction activities underway during the October 1991 data collection efforts had little impact on peak period, peak direction traffic conditions and patterns in the corridor. The October 1991 volume and travel time data suggests that the construction project may be having an impact on off-peak period traffic conditions and patterns.

17. Key Words	18. Distribution Statement
Freeway Reconstruction Freeway Corridor Traffic Monitoring	No restrictions.

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	124	

US-75 NORTH CENTRAL EXPRESSWAY RECONSTRUCTION: OCTOBER 1991 TRAFFIC CONDITIONS

Report 1940-1

Prepared for

North Central Project Office
Texas Department of Transportation
District 18, Dallas

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May 1992

METRIC (SI*) CONVERSION FACTORS

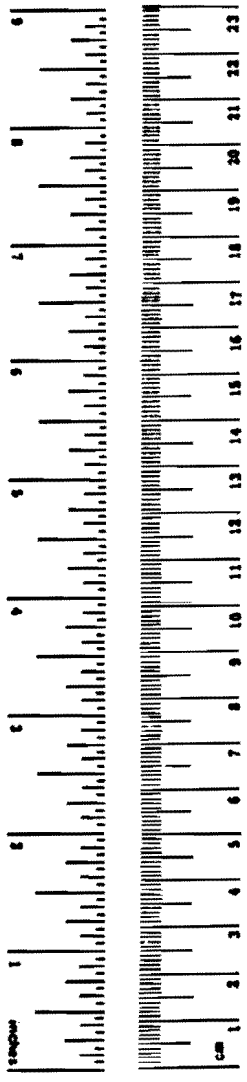
APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	2.54	centimetres	cm
ft	feet	0.3048	metres	m
yd	yards	0.914	metres	m
mi	miles	1.61	kilometres	km
AREA				
in²	square inches	645.2	centimetres squared	cm²
ft²	square feet	0.0929	metres squared	m²
yd²	square yards	0.836	metres squared	m²
mi²	square miles	2.59	kilometres squared	km²
ac	acres	0.395	hectares	ha
MASS (weight)				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams	Mg
VOLUME				
fl oz	fluid ounces	29.57	millilitres	mL
gal	gallons	3.785	litres	L
ft³	cubic feet	0.0328	metres cubed	m³
yd³	cubic yards	0.0765	metres cubed	m³

TE: Volumes greater than 1000 L shall be shown in m³.

TEMPERATURE (exact)

Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C



APPROXIMATE CONVERSIONS TO SI UNITS

Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimetres	0.039	inches	in
m	metres	3.28	feet	ft
m	metres	1.09	yards	yd
km	kilometres	0.621	miles	mi
AREA				
mm²	millimetres squared	0.0016	square inches	in²
m²	metres squared	10.764	square feet	ft²
km²	kilometres squared	0.39	square miles	mi²
ha	hectores (10 000 m²)	2.53	acres	ac
MASS (weight)				
g	grams	0.0353	ounces	oz
kg	kilograms	2.205	pounds	lb
Mg	megagrams (1 000 kg)	1.103	short tons	T
VOLUME				
mL	millilitres	0.034	fluid ounces	fl oz
L	litres	0.264	gallons	gal
m³	metres cubed	35.315	cubic feet	ft³
m³	metres cubed	1.308	cubic yards	yd³

TEMPERATURE (exact)

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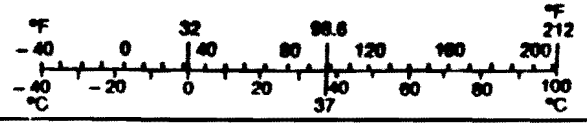

These factors conform to the requirement of FHWA Order 5190.1A.

I is the symbol for the International System of Measurements

SUMMARY

This report documents the results of the October 1991 traffic data collection efforts in the US-75 North Central Expressway corridor. The study was conducted sixteen months after reconstruction began on the US-75 North Central Expressway south of the I-635 LBJ Freeway. Traffic conditions and patterns were monitored before construction (October 1989 and May 1990) and during construction (October 1990, May 1991, and October 1991). The traffic conditions prior to construction and during the first year of construction were documented in previous reports. The traffic monitoring efforts included traffic data collection and automobile and transit user surveys. The traffic data collection efforts included screen line traffic volume counts, vehicle occupancy and classification counts, and travel time runs. The automobile and transit users surveys are documented elsewhere.

The results indicate that the reconstruction activities underway during the October 1991 traffic data collection efforts had minimal impact on traffic conditions and patterns in the corridor. The results of the October 1991 traffic data collection efforts are summarized as follows:

- Peak period, peak direction traffic patterns have not changed significantly due to the construction project. There are indications, however, that off-peak period travel north of Loop 12 has been affected by the project. An estimated 11 percent reduction in daily traffic volumes on US-75 North Central Expressway at Loop 12 occurred in October 1991. Of this estimated reduction, 39 percent occurred during the peak periods (most of which occurred in the off-peak directions), 48 percent occurred during the midday off-peak period, and the remaining 13 percent took place during the nighttime. These results indicate that the project may be having an impact on off-peak period traffic.

- Peak-period traffic on the US-75 North Central Expressway consists primarily of passenger vehicles (95-98 percent) of which 83-88 percent carry only a single-occupant. The average passenger vehicle occupancy increased slightly from May to October 1991, but it remains lower than before construction.

- Only minor changes in peak period, peak direction average travel times on the US-75 North Central Expressway between the I-635 LBJ Freeway and the Dallas central business district were observed during October 1991 as compared to before construction. The A.M. peak average travel time was approximately 1 minute longer; however, the total travel time at 7:30 a.m. was approximately 4 minutes longer. The average travel time during the P.M. peak was actually 3 minutes shorter than before construction. Off-peak period travel times were longer by as much as 12 minutes when compared to previous studies. These increases suggest that the off-peak period lane closures may be having an impact on off-peak period traffic.

ACKNOWLEDGMENTS

The authors wish to thank Mr. Stephen Ranft, Research Associate for Texas Transportation Institute at Arlington, and his staff for their assistance in collecting travel time, traffic volume, and vehicle occupancy and classification data. The authors greatly appreciate the many students at Texas Transportation Institute in College Station who contributed to the data reduction and report preparation.

DISCLAIMER

The contents of this report reflect the views of the authors who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Texas Department of Transportation. This report does not constitute a standard, specification, or regulation. It is not intended for construction, bidding, or permit purposes.

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TRAFFIC MONITORING EFFORT

This section describes the plan for monitoring the changes in corridor traffic conditions and travel patterns that result from the reconstruction of the US-75 North Central Expressway south of the I-635 LBJ Freeway. The monitoring effort has two components: (1) traffic data collection and (2) automobile and transit users survey.

Traffic Data Collection

The traffic data collection effort has three components:

- Screen line traffic volume counts,
- Vehicle occupancy and classification counts, and
- Travel time runs.

The monitoring effort closely follows the boundaries of the North Central corridor that were defined by the North Central Mobility Task Force:

- I-635 LBJ Freeway on the north,
- The Dallas central business district on the south,
- Audelia, White Rock Lake, and Buckner on the east, and
- The Dallas North Tollway on the west.

Table 1 provides a data inventory for the monitoring effort in the North Central corridor to date. Data are collected two times during the year and at the same time of the year (May and October). For comparison purposes, this report documents only data for routes that are located within the North Central corridor as defined by the Task Force. As shown in the table, data have been collected on routes that are located outside the corridor boundaries (e.g., Inwood, Lemmon, etc.) to evaluate possible diversion from the corridor. These data have been analyzed and will be documented when necessary. In order to control for seasonal variations in traffic conditions and patterns, the principal comparisons are among data collected during the same month of the year (e.g., October 1990 versus October 1991). However, traffic volumes on US-75 are seasonally adjusted so that more detailed comparisons can be made.

Screen Line Traffic Volume Counts

Screen line traffic volume counts are used to monitor traffic patterns throughout the corridor. A screen line is a line drawn either north-south or east-west through the corridor; counts are taken on each route crossing the screen line. The sum of the traffic volume counts along the screen line is the total corridor traffic volume. Changes in traffic patterns are measured as changes in individual routes' percentage of the total corridor traffic volume.

TABLE 1. North Central Expressway Corridor Data Inventory

Type of Data		Route	Before Construction		During Construction		
			October 1989	May 1990	October 1990	May 1991	October 1991
Traffic Volumes	Oak Lawn / Lemmon / Peak Screen Line	Harry Hines		X			X
		Dallas North Tollway		X	X	X	X
		Maple		X	X	X	X
		Cedar Springs		X			X
		Lemmon		X	X	X	X
		Oak Lawn		X	X	X	X
		Turtle Creek		X	X	X	X
		Cole/McKinney		X	X	X	X
		US-75		X	X	X	X
		Ross		X	X	X	X
		Live Oak		X	X	X	X
		Gaston		X	X	X	X
		Columbia		X			X
	Mockingbird / Buckner Screen Line	Harry Hines	X				X
		Denton	X				X
		Lemmon	X	X			X
		Inwood	X	X	X	X	X
		Dallas North Tollway	X	X	X	X	X
		Preston	X	X	X	X	X
		Hillcrest	X	X	X		X
		US-75	X	X	X	X	X
		Greenville	X	X	X	X	X
		Matilda	X	X	X	X	X
		Skillman	X	X	X	X	X
		Abrams	X	X			X
		Garland	X	X			X
	Loop 12 Screen Line	Midway		X	X	X	X
		Inwood		X	X	X	X
		Dallas North Tollway		X	X	X	X
		Preston		X	X	X	X
		Hillcrest		X	X	X	X
		US-75		X	X	X	X
		Greenville		X	X	X	X
		Skillman		X	X	X	X
		Abrams		X	X	X	X

TABLE 1. North Central Expressway Corridor Data Inventory (continued)

Type of Data		Route	Before Construction		During Construction		
			October 1989	May 1990	October 1990	May 1991	October 1991
Traffic Volumes	US-75 Screen Line	Hall		X		X	X
		Lemmon		X		X	X
		Haskell		X		X	X
		Fitzhugh		X		X	X
		Henderson		X		X	X
		Monticello		X		X	X
		McCommas		X		X	X
		Mockingbird		X	X	X	X
		Yale		X	X	X	X
		University		X	X	X	X
		Lovers		X	X	X	X
		Southwestern		X	X	X	X
		Caruth Haven		X	X	X	X
		Loop 12		X	X	X	X
		Park Lane		X	X	X	X
		Walnut		X	X	X	X
		Royal		X	X	X	X
		Forest		X	X	X	X
Vehicle Occupancy & Classification		US-75		X	X	X	X
		Preston		X			
		Skillman		X			
Travel Times	North - South Routes	Midway	X				
		Inwood	X	X			
		Dallas North Tollway	X	X	X	X	X
		Preston	X	X	X	X	X
		Hillcrest	X	X	X		X
		US-75 Frontage		X	X	X	X
		US-75	X	X	X	X	X
		Greenville	X	X	X	X	X
		Abrams	X	X		X	X
		Skillman	X	X		X	X
		Garland	X	X			X
	East - West Routes	Lemmon/Peak		X			
		Mockingbird		X			
		Loop 12		X		X	X
		Royal				X	X

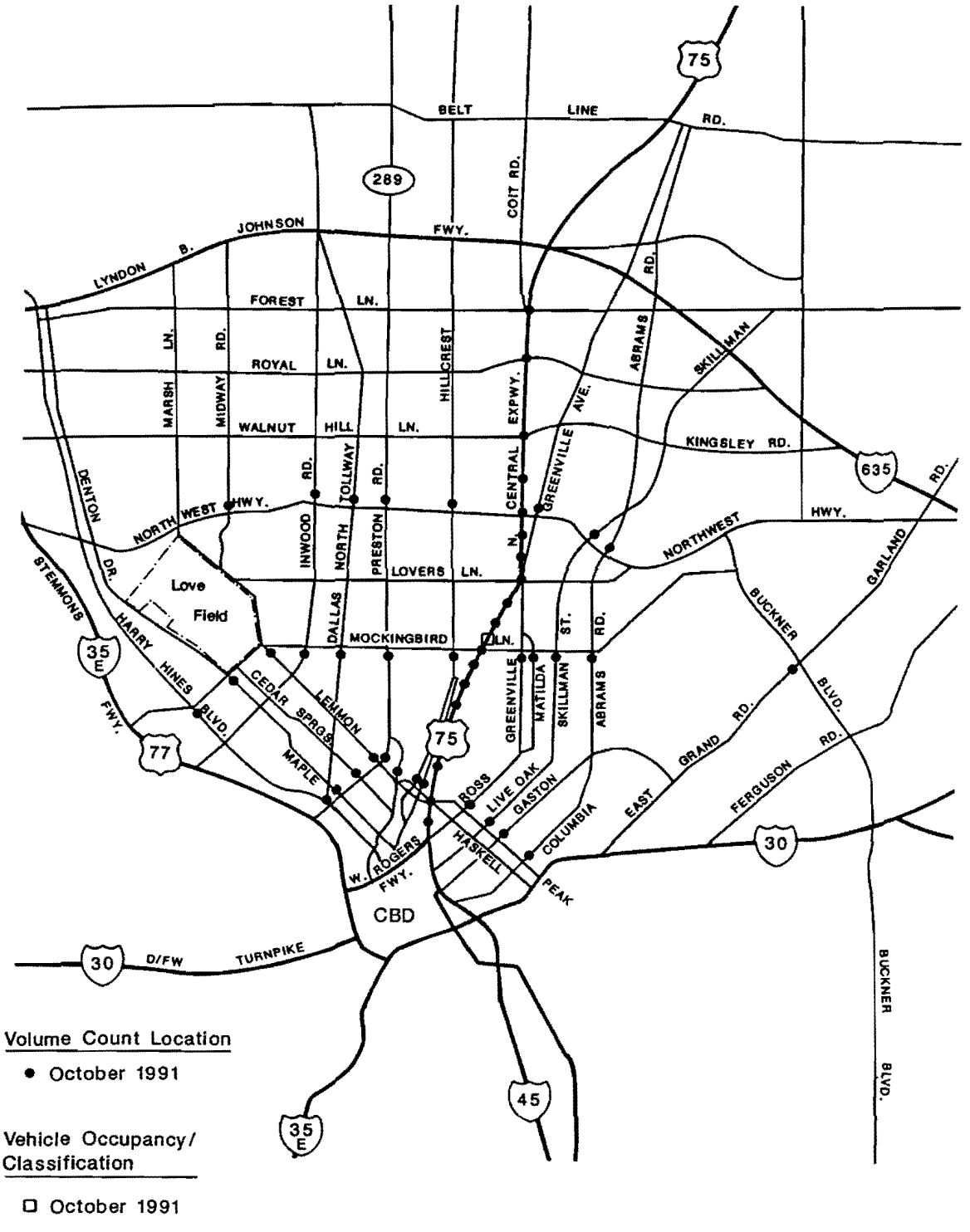


Figure 1. North Central Expressway Corridor Traffic Volume and Vehicle Occupancy and Classification Count Locations

TABLE 2. Travel Time Routes

Route	Number of Travel Time Run Repetitions				
	October 1989	May 1990	October 1990	May 1991	October 1991
US-75 (North Central Expressway)	1	2	3	3	3
US-75 Frontage Rd.	-	1	3	1	1
Dallas North Tollway/Harry Hines/Akard	1	1	1	1	1
Preston/Cedar Springs/Field	1	3	1	1	1
Hillcrest/McKinney/Akard	1	1	1	-	1
Greenville/Ross	1	3	1	1	1
Abrams/Gaston	1	1	-	1	1
Skillman/Live Oak	1	1	-	1	1
Garland/Gaston	1	1	-	-	1
Oak Lawn/**Lemmon**/Peak/Haskell	-	1	-	-	-
Mockingbird	-	1	-	-	-
Loop 12	-	1	-	1	1
Royal	-	-	-	1	1

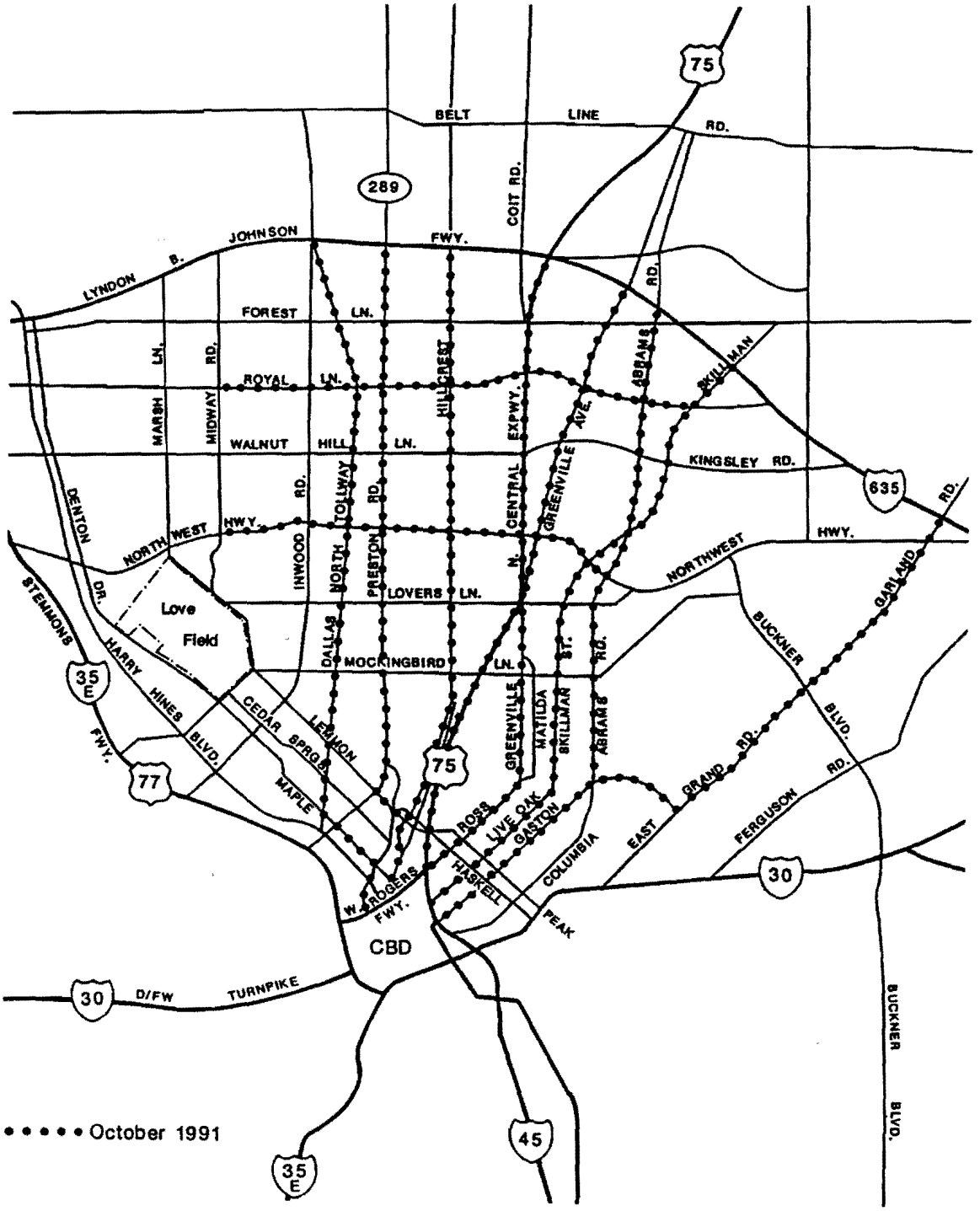


Figure 2. Travel Time Routes in the North Central Expressway Corridor

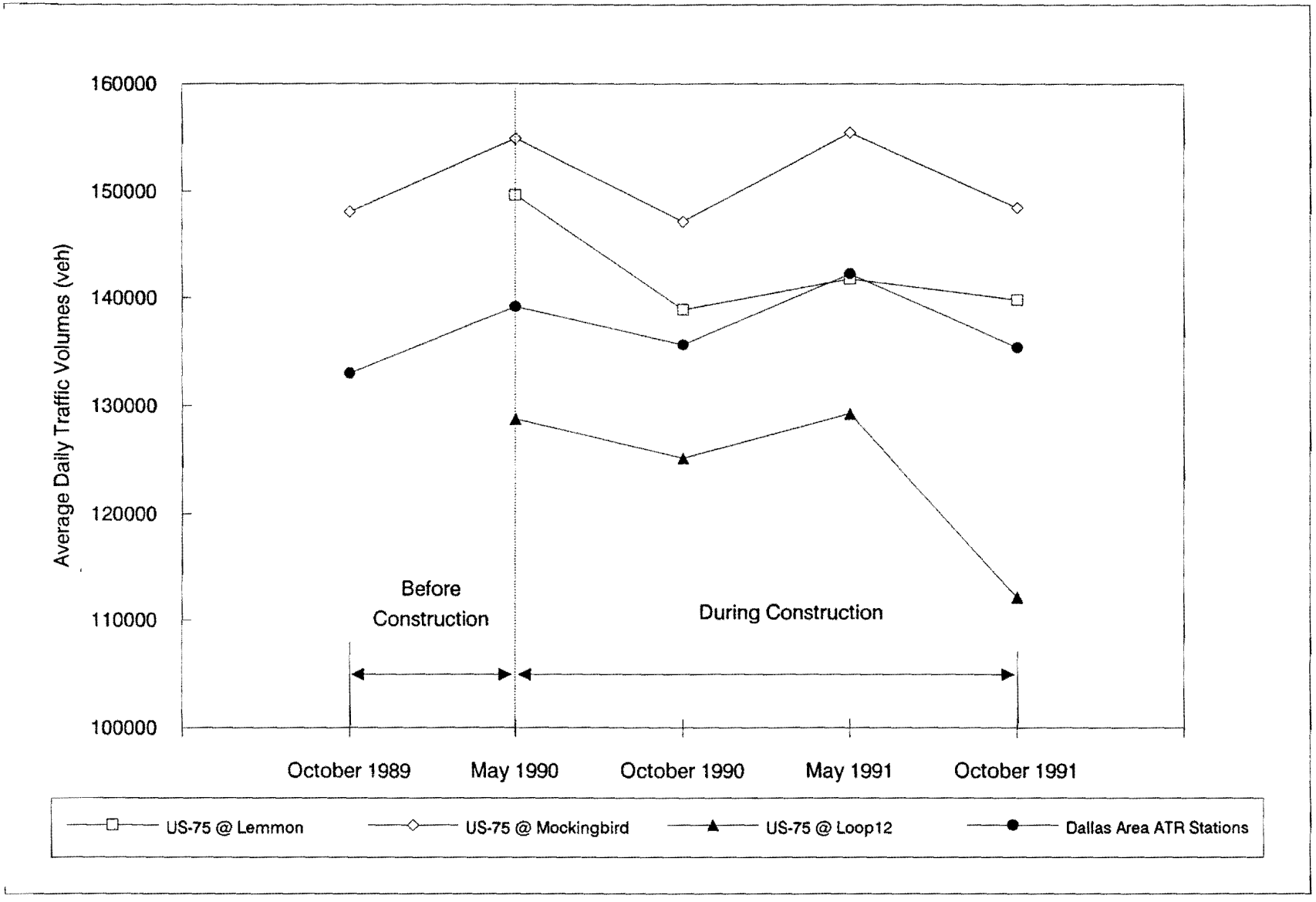


Figure 3. Daily Traffic Volumes on US-75 Compared to Automatic Traffic Recorder Stations in the Dallas Area

TABLE 3. Changes in Daily Traffic Volumes on US-75 During October 1991

Screen Line Count Location	Direction	Daily Traffic Volumes				
		Before (May 1990)	During Construction (October 1991)			
		Observed	Estimated[a]	Observed	Change	% Change
Lemmon	Northbound	76,060	73,047	72,211	-836	-1
	Southbound	73,618	70,702	67,631	-3,071	-4
	Total	149,678	143,749	139,842	-3,907	-3
Mockingbird	Northbound	79,212	78,241	75,633	-2,608	-3
	Southbound	75,727	74,799	72,893	-1,906	-2
	Total	154,939	153,040	148,526	-4,514	-3
Loop 12	Northbound	64,100	66,722	58,743	-7,979	-12
	Southbound	60,677	59,450	53,421	-6,029	-10
	Total	128,777	126,172	112,164	-14,008	-11

[a]Volumes were estimated by seasonally adjusting May 1990 before volumes.

detours and off-peak period lane closures (i.e., from 9:00 a.m. to 3:00 p.m.) were established, the 11 percent decrease in daily traffic volumes is feasible. The reduction in volume occurred primarily during the off-peak period.

Figure 4 shows the distribution of observed US-75 traffic volumes at Loop 12 throughout the day. The observed traffic volumes in October 1991 appear to have decreased during all periods of the day. The estimated October 1991 volumes (i.e., seasonally adjusted May 1990 volumes) compared to the observed October 1991 volumes also indicate decreases in both peak period and off-peak period traffic. Approximately 39 percent of the estimated reduction occurred during the A.M. and P.M. peak periods, 48 percent during the midday off-peak period, and the remaining 13 percent at nighttime. The majority of the reduction in US-75 traffic volumes occurred during the midday hours; however, a considerable decrease in traffic (20 percent) was observed during the A.M. peak period (most of which occurred in the off-peak direction). Traffic during the P.M. peak period had the smallest reduction (5 percent) in estimated volume throughout the day. Furthermore, directional volumes indicated that the northbound traffic decreased more than the southbound traffic in the peak periods and at nighttime. During the midday off-peak period, 75 percent of the total traffic reduction took place on the southbound mainlanes, whereas only 25 percent of the change occurred in northbound traffic.

At the Oaklawn/Lemmon/Peak screen line, the corridor-wide traffic patterns show only minor fluctuations (less than 3 percent) in each route's percentage of total screen line traffic between October 1990 and October 1991. Figures B-1 through B-3 summarize each route's percentage of the total screen line volume for the A.M. and P.M. peak and 24-hour periods.

At the Mockingbird/Buckner screen line, no route's percentage of the total screen line traffic volume changed by more than 4 percent between October 1989, October 1990, and October 1991. Figures B-4 and B-5 show an increase in US-75 traffic during the A.M. and P.M. peak periods in October 1991 as compared to October 1989 volumes. Only minor differences (less than 3 percent), however, were observed in the total 24-hour volume as shown in Figure B-6.

At the Loop 12 screen line, the percentage of the total 24-hour screen line volume by route is summarized in Figure B-9. Fluctuations in each route's percentage of the total screen line traffic between October 1990 and October 1991 were less than 5 percent but were larger than those at the other screen lines. The volumes observed in October 1991 indicate a shift in traffic away from US-75 and an increase in traffic using the Dallas North Tollway (DNT). Figures B-7 and B-8 for the A.M. and P.M peak periods, respectively, generally show similar results.

TABLE 4. Average Passenger Vehicle Occupancy on US-75

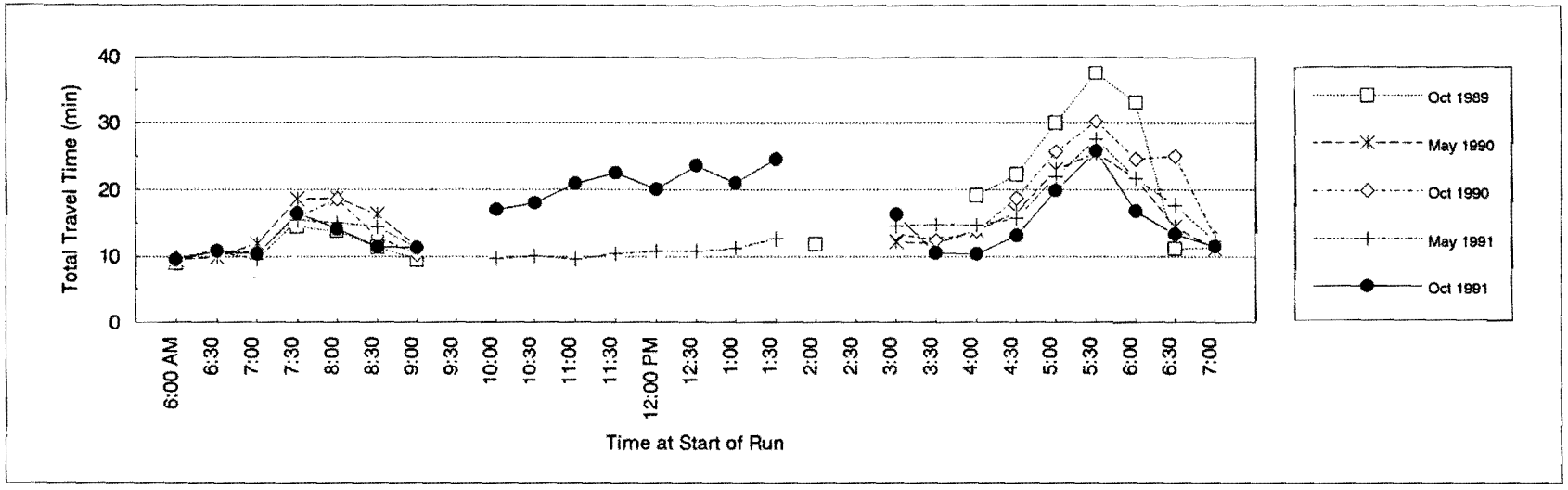
Time Period	Direction	Average Occupancy (persons/vehicle)			
		May 1990	October 1990	May 1991	October 1991
A.M. Peak	Northbound	1.23	1.18	1.14	1.19
	Southbound[a]	1.19	1.08	1.08	1.09
	Both	1.20	1.12	1.11	1.14
P.M. Peak	Northbound[a]	1.19	1.17	1.16	1.18
	Southbound	1.28	1.26	1.18	1.25
	Both	1.22	1.21	1.17	1.21

[a]Peak direction.

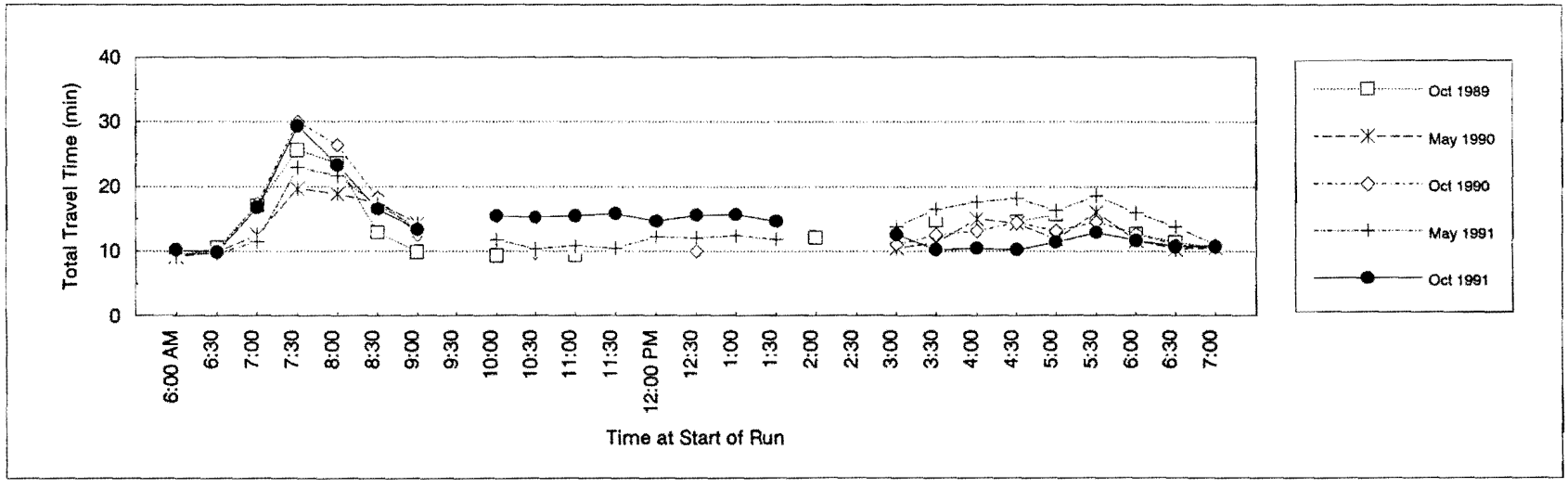
TABLE 5. Vehicle Classification on US-75

Time Period	Vehicle Type	Percent of Vehicles							
		May 1990		October		May 1991		October 1991	
		NB	SB	NB	SB	NB	SB	NB	SB
A.M. Peak	Passenger Vehicle	89.56	95.0	93.3	96.5	92.8	96.03	94.82	96.84
	Commercial Truck	9.39	3.98	5.70	2.38	6.13	3.06	4.20	2.36
	Bus	0.98	0.83	0.93	0.99	0.89	0.83	0.95	0.77
	Motorcycle	0.07	0.17	0.07	0.10	0.10	0.08	0.03	0.03
P.M. Peak	Passenger Vehicle	94.40	94.3	94.4	94.1	95.6	95.40	97.53	96.29
	Commercial Truck	3.78	4.40	4.36	4.83	3.08	3.83	1.59	2.92
	Bus	1.04	1.10	0.97	0.88	1.03	0.67	0.87	0.77
	Motorcycle	0.28	0.10	0.18	0.10	0.24	0.10	0.01	0.02

Note: Peak period, peak direction data are underlined.

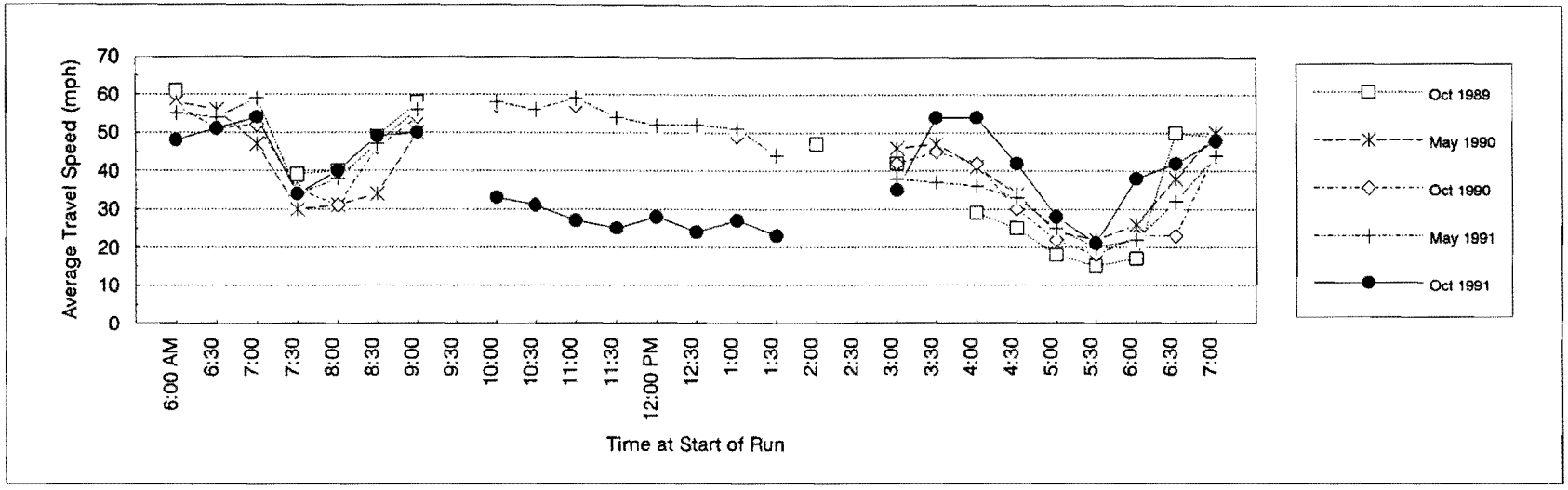


a) Northbound

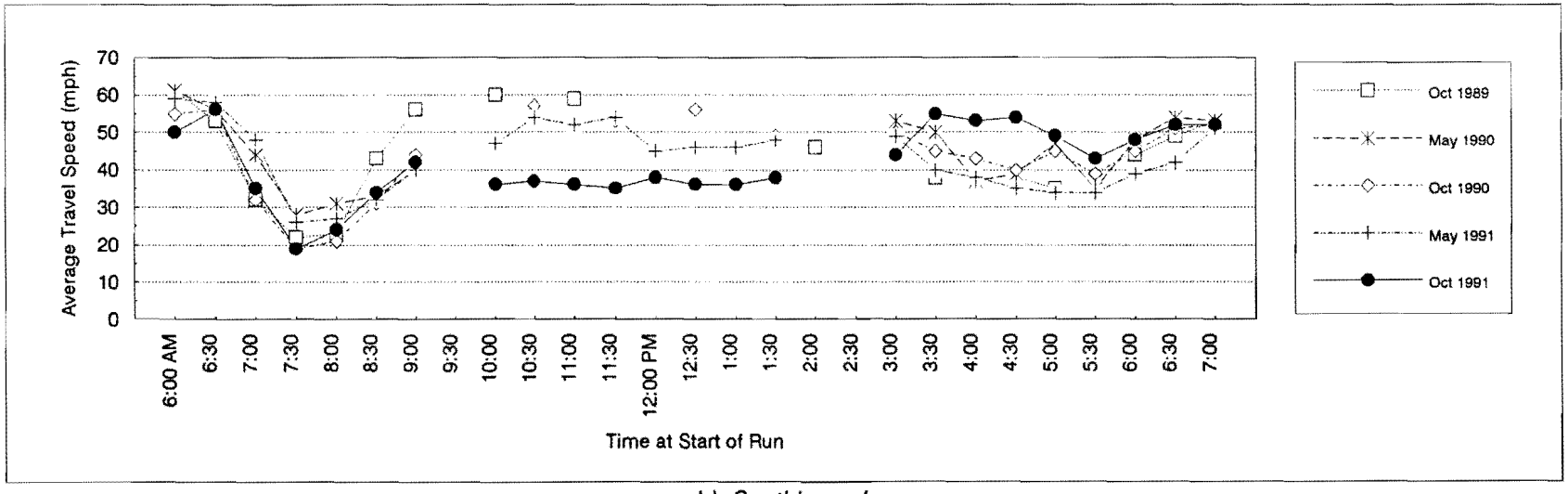


b) Southbound

Figure 5. Total Travel Time on US-75 Between I-635 and Central Business District



a) Northbound



b) Southbound

Figure 6. Average Travel Speed on US-75 Between I-635 and Central Business District

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APPENDIX A

OCTOBER 1991 SCREEN LINE TRAFFIC VOLUMES

TABLE A-1. Oak Lawn/Lemmon/Peak Screen Line Average Traffic Volumes (October 1991): Northbound

Hour Ending	Route													Total
	Harry Hines	DNT	Maple	Cedar Springs	Lemmon	Oak Lawn	Turtle Creek	McKinney	US-75	Ross	Live Oak	Gaston	Columbia	
1	57	255	87	170	198	119	43	59	933	94	65	95	79	2253
2	40	146	50	86	124	68	23	37	555	78	33	49	50	1338
3	25	122	36	66	113	48	20	29	372	51	16	32	44	975
4	24	74	22	39	62	28	11	8	275	22	17	22	18	622
5	25	103	21	25	96	23	7	12	340	20	11	19	29	731
6	111	315	43	70	229	33	13	15	903	38	35	30	60	1897
7	655	1423	123	161	783	118	36	53	3312	101	83	111	117	7076
8	1205	2812	229	359	1315	380	127	160	4674	272	168	239	202	12142
9	996	2881	319	350	1177	600	244	246	4517	406	236	255	239	12465
10	535	1832	312	346	884	560	259	221	3537	429	247	302	262	9726
11	491	1730	322	370	853	564	294	250	3288	468	304	384	311	9630
12	588	2255	477	592	1265	705	456	406	3863	642	545	606	437	12836
13	673	2235	512	669	1606	870	544	510	3819	739	635	629	492	13930
14	653	2170	505	606	1347	841	523	489	3873	587	479	519	387	12979
15	660	2434	434	651	1254	757	456	487	3868	639	481	584	464	13168
16	608	2915	440	651	1132	737	455	446	4327	699	574	773	645	14401
17	719	4237	496	802	1344	812	712	669	5277	1136	1079	1235	1122	19639
18	921	5336	565	1017	1655	1133	1291	1192	5033	1566	1671	1568	1587	24536
19	446	3975	383	803	1309	817	787	696	4903	895	824	779	624	17240
20	224	1899	277	600	1024	568	444	367	3894	431	380	462	314	10885
21	223	1248	232	516	839	461	298	283	3274	315	260	406	219	8574
22	176	1065	223	488	691	392	272	255	2725	281	215	294	200	7277
23	177	905	193	422	821	304	250	242	2451	252	163	249	158	6386
24	123	666	162	324	425	200	131	166	2198	180	126	195	144	5039
24 Hr. Total	10356	43034	6461	10179	20347	11137	7695	7298	72211	10340	8646	9839	8204	225745

TABLE A-2. Oak Lawn/Lemmon/Peak Screen Line Average Traffic Volumes (October 1991): Southbound

Hour Ending	Route													Total
	Harry Hines	DNT	Maple	Cedar Springs	Lemmon	Oak Lawn	Turtle Creek	Cole	US-75	Ross	Live Oak	Gaston	Columbia	
1	64	166	95	156	227	93	25	54	764	78	35	51	29	1838
2	39	79	82	114	168	54	10	28	458	43	20	33	25	1151
3	33	69	85	109	100	50	10	29	383	47	17	16	18	966
4	22	48	39	48	68	22	8	13	279	38	15	17	15	632
5	24	77	28	29	53	19	9	12	311	44	30	30	33	699
6	59	255	46	64	95	37	30	40	928	93	89	107	74	1916
7	216	1519	158	142	363	183	122	130	3053	393	413	461	348	7502
8	532	4916	402	406	997	650	638	614	5316	1169	1732	1284	1271	19927
9	730	5287	474	524	1343	914	1120	925	5409	1195	1875	1262	1036	22094
10	643	3497	372	488	954	658	591	338	4002	610	655	609	395	13813
11	607	2181	362	442	852	619	385	292	3517	539	454	467	260	10978
12	677	2180	429	441	959	719	444	368	3440	516	492	466	280	11410
13	747	2151	517	533	1360	867	573	485	3806	719	678	590	427	13454
14	740	2469	522	524	1337	869	595	469	4304	702	631	589	403	14154
15	745	2518	441	510	1203	778	451	401	4116	577	489	521	383	13133
16	996	2646	450	514	1383	689	369	389	4385	574	414	456	394	13658
17	1541	3228	461	545	1562	702	374	507	4370	632	413	414	339	15087
18	1611	3516	496	587	1636	758	419	476	4621	539	394	367	252	15672
19	714	2808	399	518	1290	708	397	397	3721	442	373	372	219	12359
20	374	1790	244	478	969	597	282	327	3192	335	286	298	181	9353
21	236	1034	194	383	672	431	166	221	2228	242	164	206	134	6310
22	190	905	172	348	599	393	141	211	2015	218	128	165	104	5590
23	148	645	147	304	520	300	92	133	1728	175	109	153	98	4551
24	145	348	132	274	443	187	55	98	1285	133	71	101	79	3352
24 Hr. Total	11834	44331	6746	8480	19150	11298	7307	6955	67631	10055	9978	9037	6797	219598

TABLE A-3. Mockingbird/Buckner Screen Line Average Traffic Volumes (October 1991): Northbound

Hour Ending	Route									Total
	DNT	Preston	Hillcrest	US-75	Greenville	Matilda	Skillman	Abrams	Garland	
1	237	34	12	1055	107	38	64	71	133	1751
2	121	21	8	631	61	22	31	43	72	1009
3	110	15	4	514	44	21	23	34	66	831
4	72	6	2	336	14	11	15	30	50	537
5	93	7	1	395	9	11	20	22	69	628
6	286	27	7	1062	22	22	45	70	185	1725
7	1286	88	54	3499	76	96	208	281	512	6099
8	2463	271	230	4429	111	336	622	660	879	10001
9	2753	387	333	4333	102	389	654	784	828	10562
10	1880	376	283	3625	106	277	491	718	751	8507
11	1621	407	302	3443	128	232	441	615	831	8020
12	2016	473	351	4202	145	254	517	716	1004	9680
13	2104	494	407	4188	200	337	605	766	1072	10172
14	2097	494	383	4128	191	343	525	750	1047	9957
15	2288	513	386	4411	183	330	566	801	1173	10650
16	2565	499	378	4721	176	376	689	832	1298	11533
17	3798	538	510	5169	137	453	958	929	1523	14015
18	4929	609	744	5315	104	762	1224	1246	1832	16766
19	3931	544	522	5151	142	526	882	1012	1390	14101
20	2031	390	291	4387	156	299	479	709	1002	9745
21	1145	261	199	3258	183	210	320	450	599	6626
22	1015	257	147	2962	220	179	254	414	580	6029
23	877	192	98	2563	197	102	174	263	427	4892
24	489	95	54	1856	179	82	128	173	275	3330
24 Hr. Total	40207	6998	5704	75633	2993	5708	9934	12391	17600	177168

TABLE A-4. Mockingbird/Buckner Screen Line Average Traffic Volumes (October 1991): Southbound

Hour Ending	Route									Total
	DNT	Preston	Hillcrest	US-75	Greenville	Matilda	Skillman	Abrams	Garland	
1	177	31	11	839	128	16	53	77	134	1466
2	82	14	4	549	67	8	29	46	62	861
3	63	11	4	437	47	7	25	37	41	673
4	38	7	1	288	22	3	8	24	32	424
5	68	14	3	359	16	2	11	23	52	547
6	242	22	8	1045	27	2	42	55	198	1641
7	1530	114	44	3841	147	7	292	213	884	7071
8	4616	510	333	5618	658	55	1231	791	1849	15661
9	5085	884	570	5565	772	59	1279	890	1596	16700
10	3102	603	276	4242	466	59	455	644	1082	10929
11	2076	553	244	3503	459	61	347	572	990	8804
12	2146	586	285	3632	623	79	382	655	933	9321
13	2096	676	329	4053	687	108	446	730	1058	10182
14	2411	740	340	4159	653	90	413	668	1081	10554
15	2289	718	387	4137	656	101	437	735	1081	10541
16	2432	659	387	4643	661	103	458	742	1130	11215
17	2871	665	398	4825	704	110	509	718	1153	11954
18	2987	689	390	4928	822	169	601	889	1189	12663
19	2503	622	299	4136	778	153	568	901	1151	11109
20	1561	535	223	3548	678	125	445	749	855	8720
21	916	340	147	2461	521	96	315	559	618	5973
22	828	270	140	2557	488	84	302	462	539	5670
23	582	148	67	2073	375	57	211	322	399	4234
24	328	87	29	1455	263	39	134	173	249	2756
24 Hr. Total	41029	9499	4918	72893	10718	1593	8994	11674	18355	179672

TABLE A-5. Loop 12 (Northwest Highway) Screen Line Average Traffic Volumes (October 1991): Northbound

Hour Ending	Route							Total
	DNT	Preston	Hillcrest	US-75	Greenville	Skillman	Abrams	
1	237	36	30	952	223	195	121	1795
2	125	10	12	599	142	93	79	1061
3	105	8	12	493	127	94	56	894
4	71	11	6	264	42	56	41	491
5	95	12	7	290	31	46	23	504
6	318	29	24	805	48	72	65	1360
7	1449	105	113	2037	214	226	237	4381
8	3087	392	412	3228	692	568	514	8893
9	2801	496	554	2842	914	579	662	8847
10	1775	526	458	2993	625	458	544	7379
11	1603	586	486	2967	737	482	556	7417
12	1959	719	512	3391	874	601	601	8657
13	1969	772	579	3660	1185	723	706	9595
14	2112	777	564	3840	1135	687	677	9791
15	2333	813	613	3900	985	784	707	10136
16	2748	754	638	4108	1010	986	767	11011
17	4106	727	687	3872	1279	1516	825	13014
18	5028	885	898	3463	1896	2404	966	15539
19	3704	756	659	3398	1565	1839	929	12850
20	1757	497	382	3010	1037	970	780	8433
21	1127	371	295	2523	795	752	604	6467
22	1134	319	290	2105	713	668	485	5715
23	945	191	163	2372	613	489	344	5116
24	527	83	68	1631	435	354	224	3321
24 Hr. Total	41115	9877	8461	58743	17316	15643	11512	162667

TABLE A-6. Loop 12 (Northwest Highway) Screen Line Average Traffic Volumes (October 1991): Southbound

Hour Ending	Route							Total
	DNT	Preston	Hillcrest	US-75	Greenville	Skillman	Abrams	
1	135	20	29	763	184	124	97	1352
2	69	12	16	418	112	66	55	749
3	69	9	9	336	94	52	45	615
4	36	7	8	257	28	40	26	401
5	64	11	7	317	26	60	32	516
6	362	39	28	881	54	170	53	1586
7	2102	213	153	2864	307	790	221	6649
8	5382	791	681	3027	1775	2344	585	14584
9	5230	1183	906	2725	1694	1962	586	14286
10	2895	805	702	2881	929	920	562	9693
11	2119	803	625	2224	926	723	556	7976
12	2262	883	716	2358	1199	715	592	8725
13	2265	977	737	2528	1581	783	650	9521
14	2417	990	748	2701	1415	797	643	9712
15	2459	1000	684	2792	1230	755	682	9601
16	2699	935	705	3268	1240	735	653	10235
17	3201	936	886	3723	1246	841	747	11581
18	3603	965	1026	3247	1466	1023	862	12191
19	2680	768	861	3758	1149	962	831	11008
20	1671	531	412	3453	947	756	676	8445
21	1008	283	238	2698	819	584	557	6187
22	892	216	209	2590	708	487	407	5509
23	638	148	136	2178	575	358	282	4316
24	313	73	68	1434	383	258	176	2705
24 Hr. Total	44571	12597	10590	53421	20087	16304	10574	168144

TABLE A-7. US-75 Screen Line Average Traffic Volumes (October 1991): Eastbound

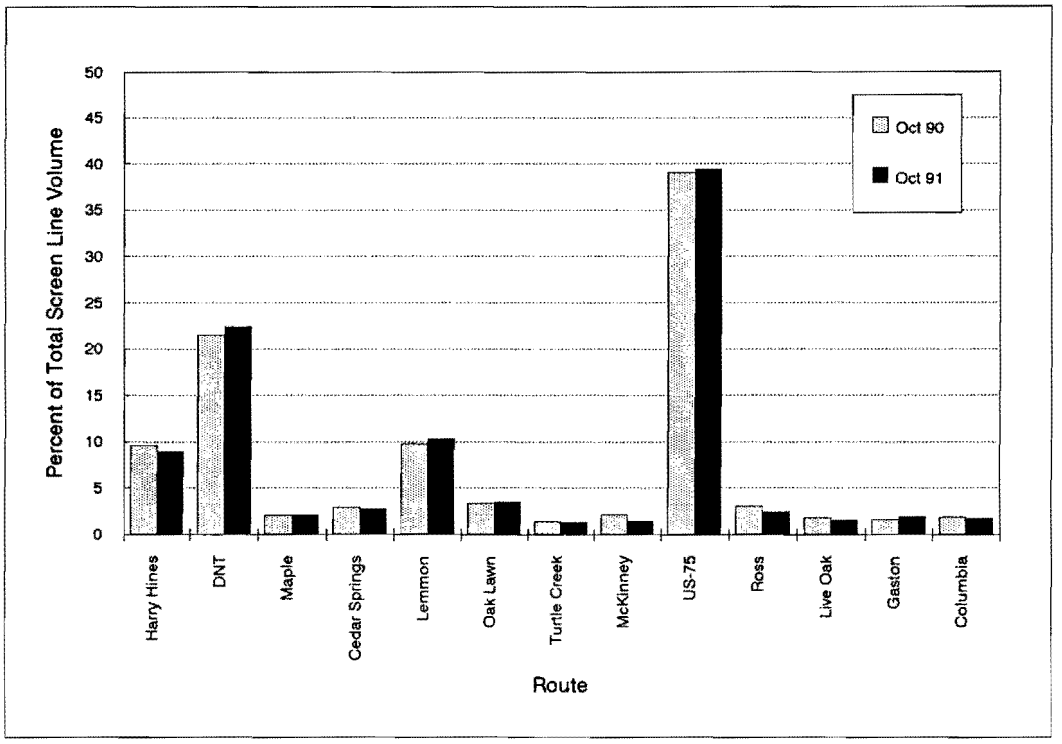
Hour Ending	Route																		Total
	Hall	Lemmon	Haskell	Fitzhugh	Henderson	Monticello	McCommas	Mockingbird	Yale	University	Lovers	South western	Caruth Haven	Loop 12	Park Lane	Walnut	Royal	Forest	
1	20	146	60	251	157	14	33	147	60	51	95	19	33	252	126	92	70	76	1698
2	13	89	41	151	88	4	22	74	28	35	58	8	6	141	56	47	30	35	925
3	10	68	20	157	74	5	19	55	16	20	31	6	4	114	49	49	28	21	746
4	6	31	19	80	31	2	5	42	10	9	14	2	3	71	32	35	16	19	429
5	6	23	21	69	22	2	4	32	6	5	13	4	2	45	25	38	16	22	354
6	7	63	51	94	41	5	8	55	9	12	30	10	6	79	35	68	49	58	679
7	29	233	242	247	137	16	27	147	36	25	75	35	31	293	108	439	249	247	2616
8	59	457	509	462	271	39	45	311	112	62	211	120	69	759	437	991	934	679	6526
9	63	604	572	623	392	68	99	431	238	143	373	199	103	954	641	1611	1191	786	9090
10	80	627	389	634	434	71	181	642	198	181	408	175	72	903	463	1223	770	798	8251
11	103	632	331	628	463	94	153	656	192	180	447	179	74	936	483	999	651	954	8156
12	128	710	385	756	577	148	249	908	240	243	613	214	85	1181	575	955	750	1219	9936
13	148	786	515	884	716	159	260	1031	314	323	728	262	125	1190	896	1030	833	1392	11591
14	130	829	493	857	710	141	222	916	286	247	681	233	105	1337	825	1186	873	1300	11371
15	144	819	420	874	683	124	222	970	301	274	708	210	87	1538	779	1189	868	1343	11553
16	161	844	392	980	700	140	219	1034	328	352	826	250	75	2004	828	1300	1093	1365	12890
17	197	1064	533	1163	853	207	411	1206	286	316	918	372	101	2545	1004	1472	1540	1779	15966
18	307	1324	534	1241	1110	427	771	1469	336	515	1186	630	112	2924	1319	1851	2086	1889	20031
19	171	865	356	1071	888	268	497	1273	236	347	1018	449	120	2401	1197	1571	1429	1622	15778
20	116	600	253	882	773	154	304	1114	216	256	664	253	104	1745	935	1081	756	880	11084
21	77	419	183	600	661	115	212	922	182	227	641	171	98	1602	768	667	441	529	8515
22	62	371	200	607	591	89	190	860	233	262	548	146	92	1416	818	539	393	402	7820
23	53	373	155	505	435	62	128	627	177	189	392	85	65	799	412	399	239	229	5322
24	29	226	114	393	313	38	74	349	125	102	259	41	42	479	278	223	147	175	3407
24 Hr. Total	2121	12198	6785	14208	11118	2392	4354	15268	4167	4376	10936	4074	1614	25708	13090	19053	15455	17813	184731

TABLE A-8. US-75 Screen Line Average Traffic Volume (October 1991): Westbound

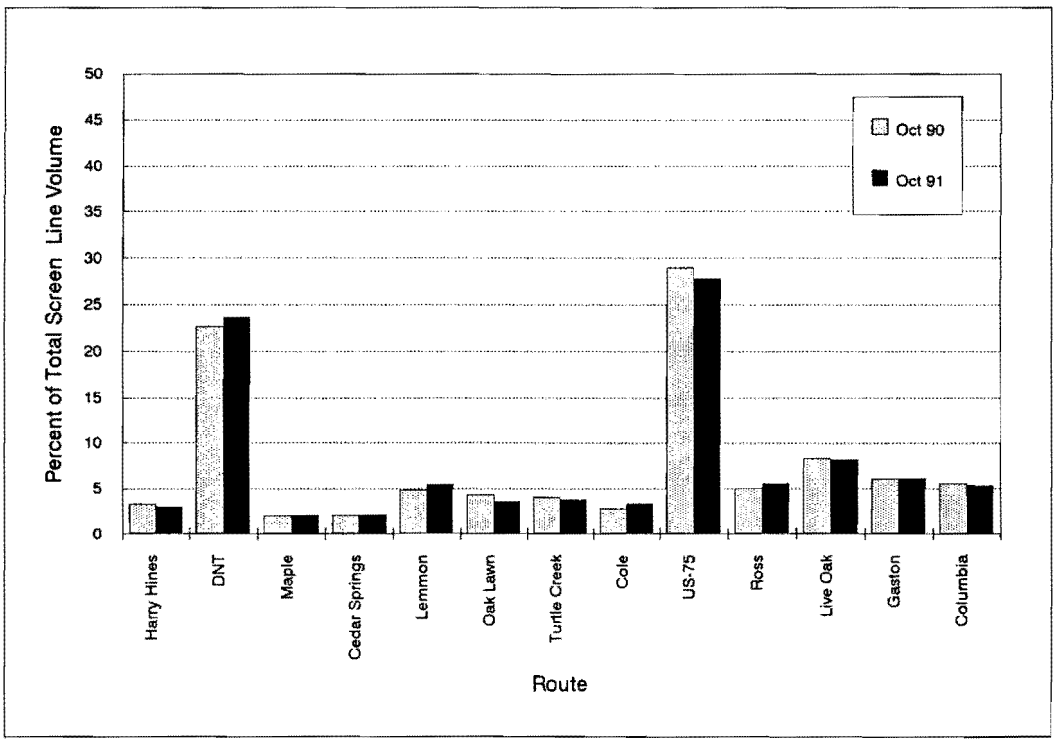
Hour Ending	Route																		Total
	Hall	Lemmon	Haskell	Fitzhugh	Henderson	Monticello	McCommas	Mockingbird	Yale	University	Lovers	South western	Caruth Haven	Loop 12	Park Lane	Walnut	Royal	Forest	
1	31	150	37	189	75	17	15	172	56	67	73	37	26	187	116	132	58	135	1571
2	23	89	21	120	56	10	8	104	40	41	43	33	20	128	91	72	25	94	1016
3	13	98	21	104	45	8	8	84	39	34	47	27	13	115	69	53	28	56	862
4	13	53	9	82	27	6	5	58	8	23	20	10	7	89	39	29	10	55	542
5	16	115	13	80	25	6	5	78	7	16	19	16	4	105	33	27	15	69	647
6	55	262	36	169	75	20	14	244	30	39	74	53	21	272	105	83	61	209	1821
7	201	920	136	557	299	127	65	1044	153	138	338	255	92	1164	378	445	377	1070	7758
8	415	1532	441	1035	748	587	297	2440	775	688	1023	960	317	2175	896	1306	1228	2774	19637
9	608	1496	537	1176	889	650	380	2588	801	793	1100	880	259	2832	873	1176	1036	2665	20739
10	282	830	257	726	568	290	154	1551	386	613	687	443	183	1779	637	1040	508	1377	12311
11	259	753	231	651	508	193	119	1215	318	449	520	330	177	1455	614	1064	406	1347	10609
12	257	853	377	687	598	197	103	1193	301	381	549	340	235	1480	743	1249	494	1297	11335
13	256	896	324	789	686	293	149	1415	343	446	690	457	266	1782	964	1302	501	1445	13005
14	265	826	307	785	616	278	160	1345	346	485	675	436	274	1690	843	1248	508	1397	12484
15	264	857	298	816	558	226	106	1251	300	395	577	346	258	1668	776	1200	510	1394	11799
16	255	876	377	829	549	202	111	1074	314	424	577	355	262	1616	730	1299	526	1398	11775
17	277	990	588	848	575	189	102	1026	483	377	559	357	314	1496	724	1432	563	1323	12223
18	267	1029	611	835	575	210	122	1089	466	470	658	460	423	1832	888	1479	571	1234	13220
19	211	723	358	670	547	237	124	1300	352	480	718	483	229	1633	746	1113	510	1085	11519
20	146	583	209	591	458	165	94	1118	201	330	514	355	139	1156	677	856	394	978	8962
21	112	481	136	448	320	100	70	830	138	246	377	249	138	743	470	669	248	670	6444
22	110	461	137	422	264	80	59	711	128	248	314	202	119	544	399	632	233	545	5609
23	94	417	112	361	230	66	53	525	104	168	249	160	99	518	380	446	194	424	4598
24	59	302	75	274	144	40	30	319	90	127	149	89	59	363	261	294	107	341	3122
24 Hr. Total	4489	15591	5650	13247	9434	4198	2354	22772	6178	7478	10548	7330	3935	26820	12454	18644	9108	23375	203604

APPENDIX B

OCTOBER 1991 SCREEN LINE TRAFFIC VOLUMES: PERCENTAGE OF TOTAL SCREEN LINE VOLUME BY ROUTE

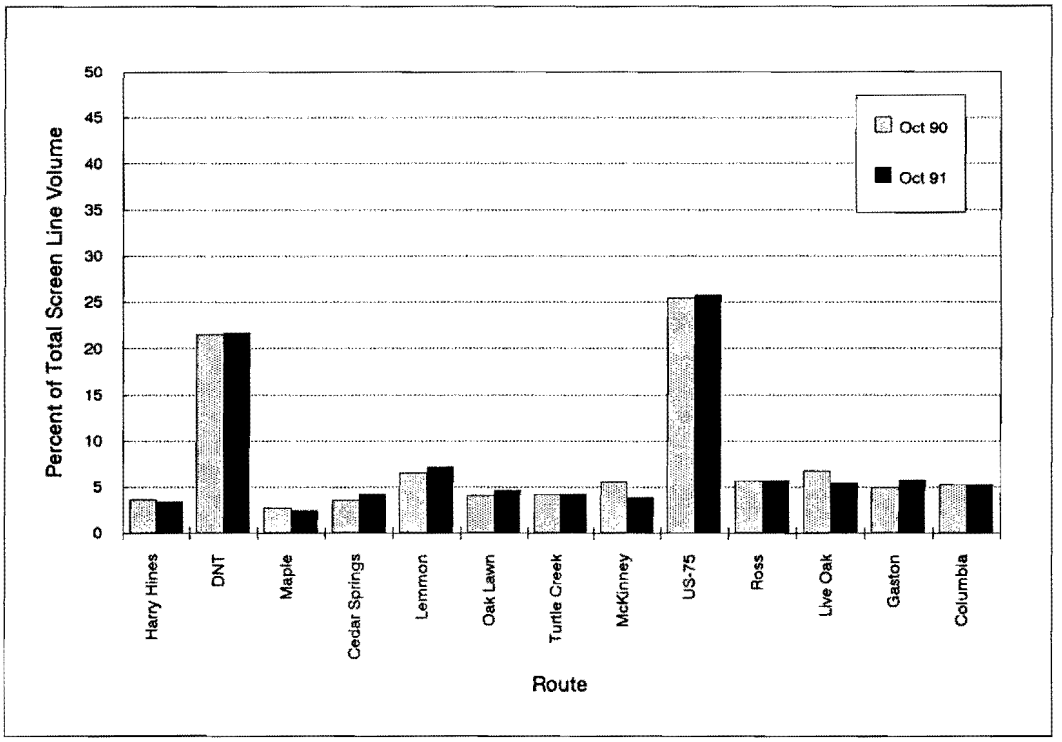


a) Northbound

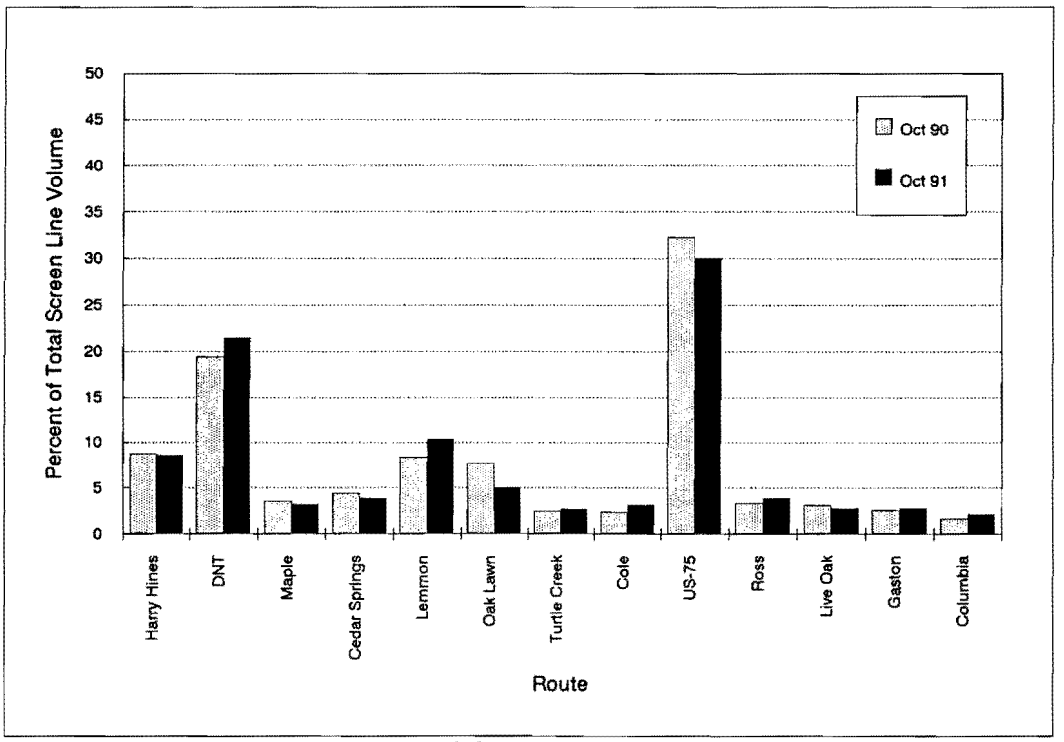


b) Southbound

Figure B-1. Percent of Total Screen Line Volume by Route:
Oak Lawn/Lemmon/Peak - A.M. Peak Period

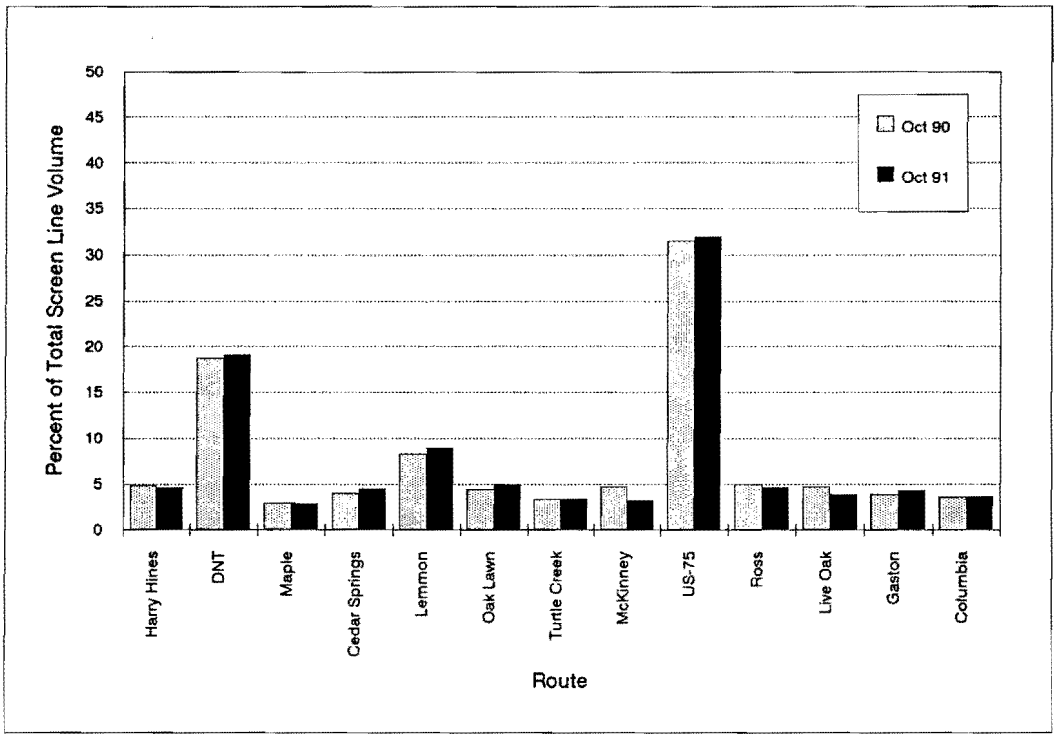


a) Northbound

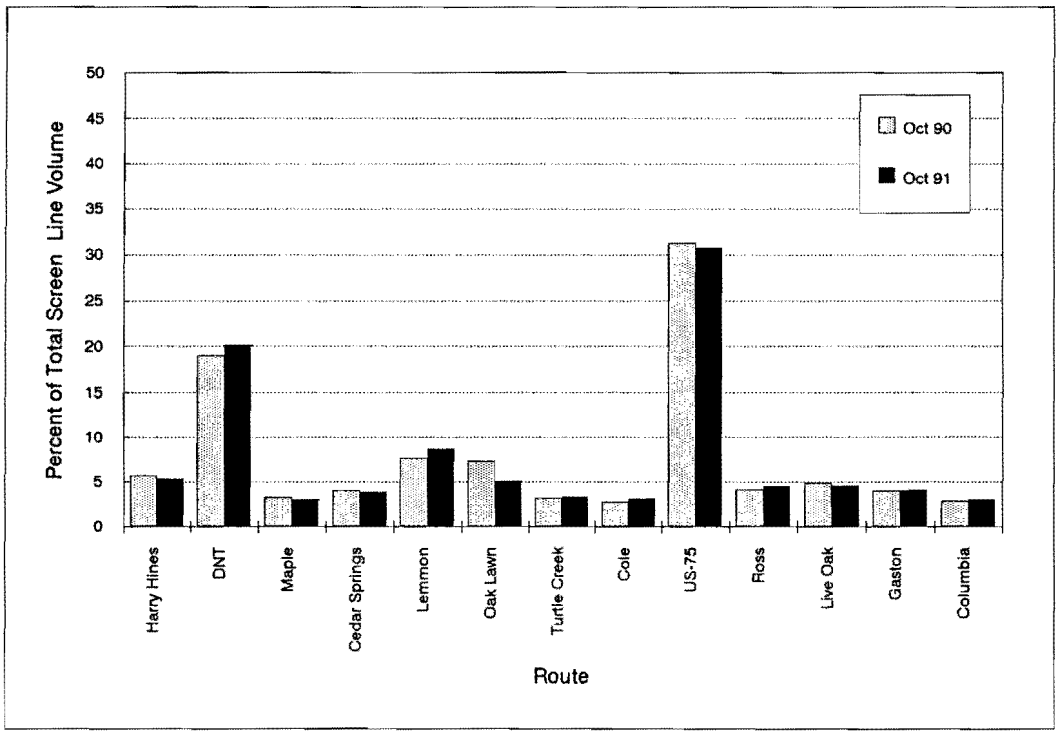


b) Southbound

Figure B-2. Percent of Total Screen Line Volume by Route:
Oak Lawn/Lemmon/Peak - P.M. Peak Period

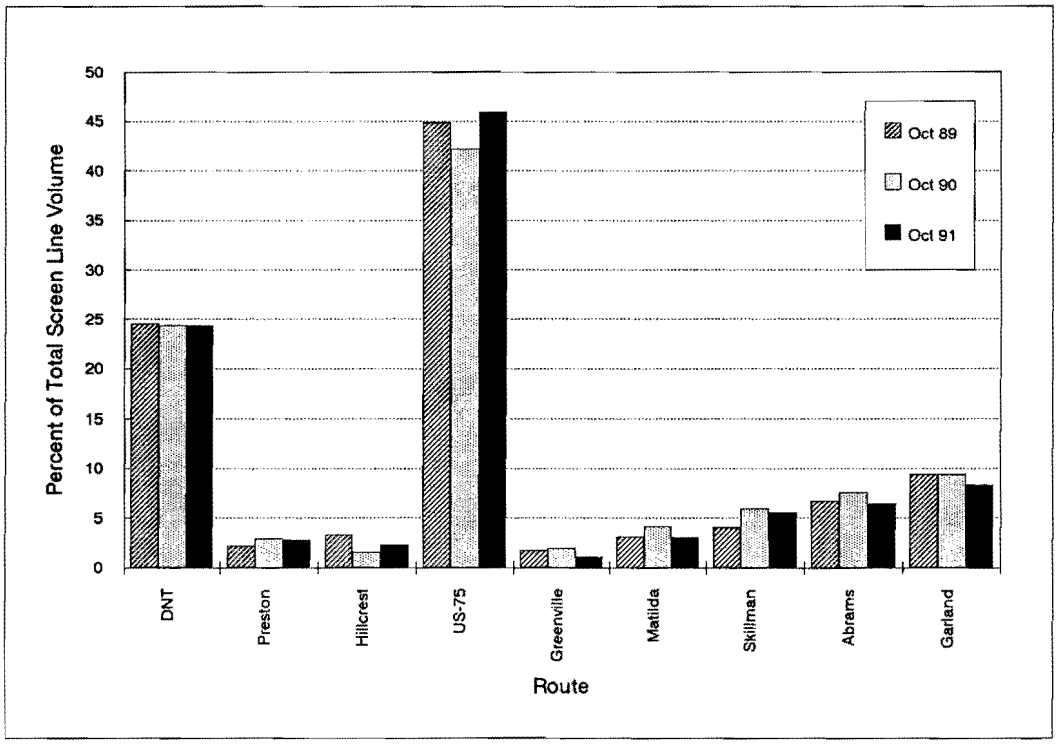


a) Northbound

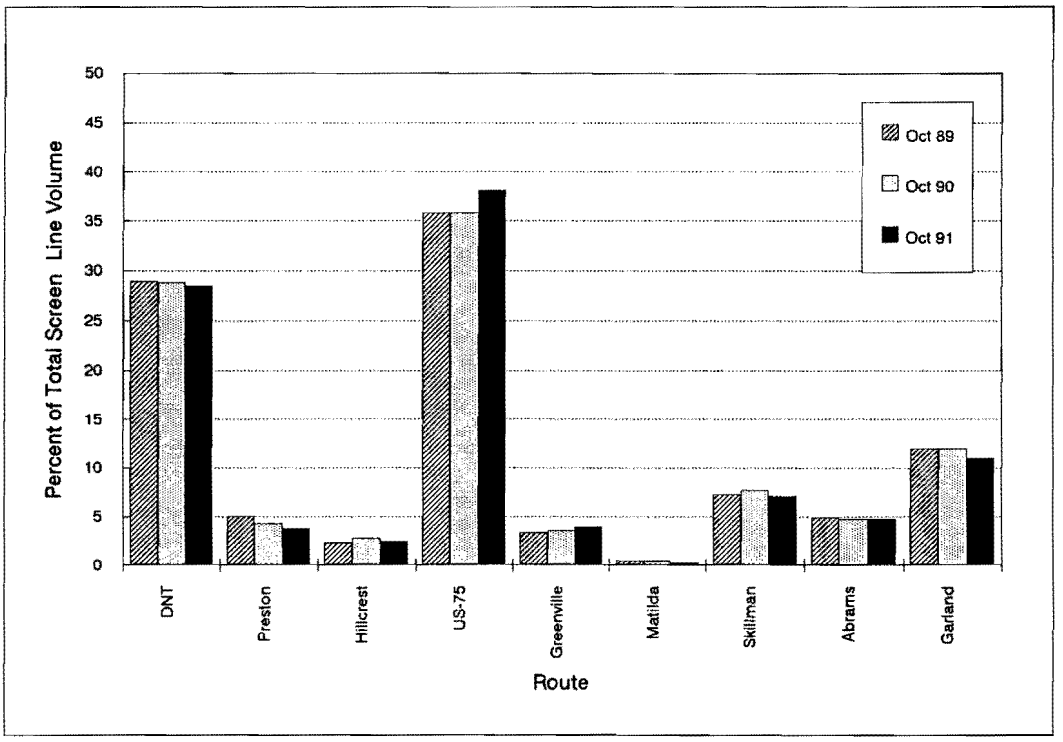


b) Southbound

Figure B-3. Percent of Total Screen Line Volume by Route:
Oak Lawn/Lemmon/Peak - 24 Hour Period

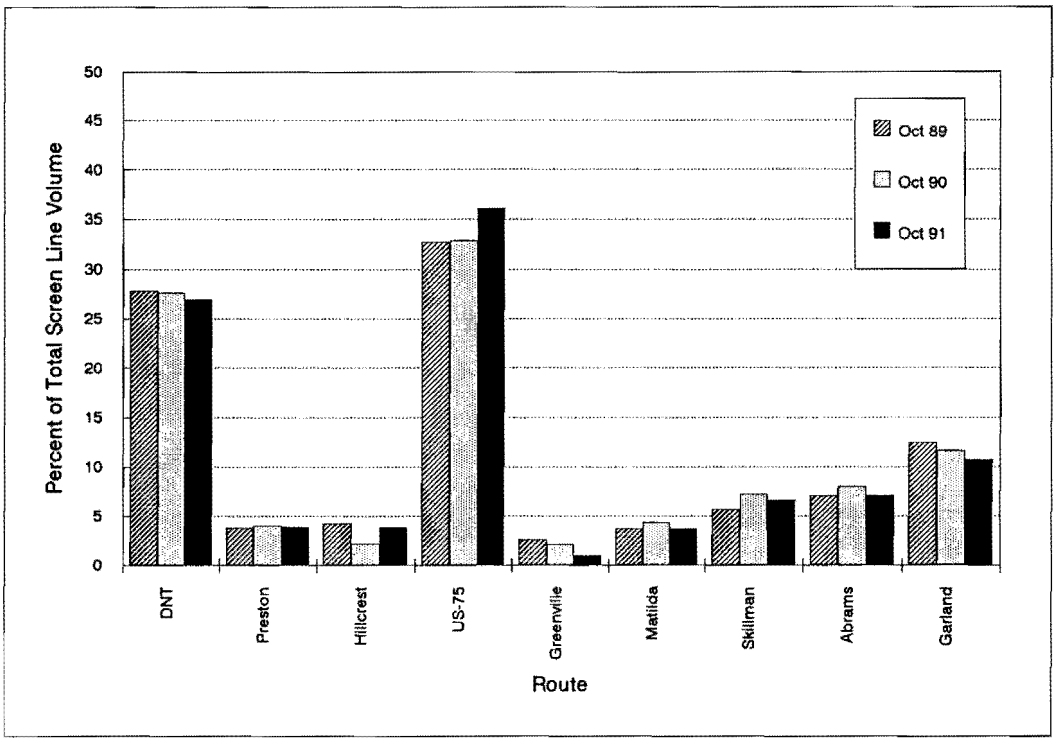


a) Northbound

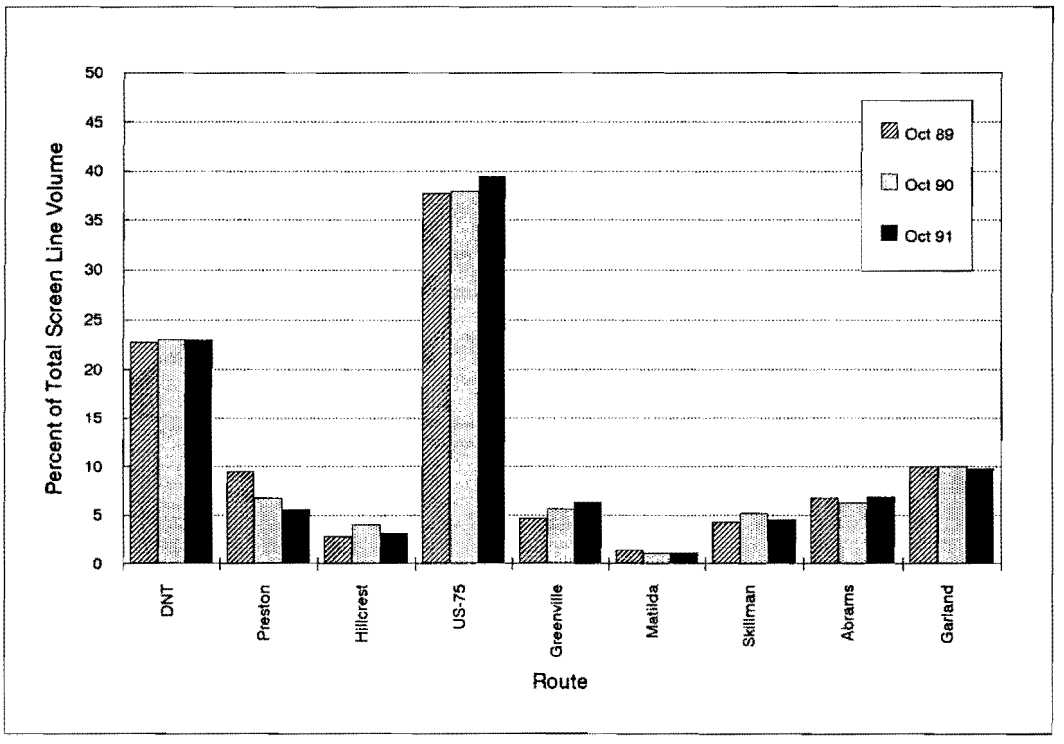


b) Southbound

Figure B-4. Percent of Total Screen Line Volume by Route: Mockingbird/Buckner - A.M. Peak Period

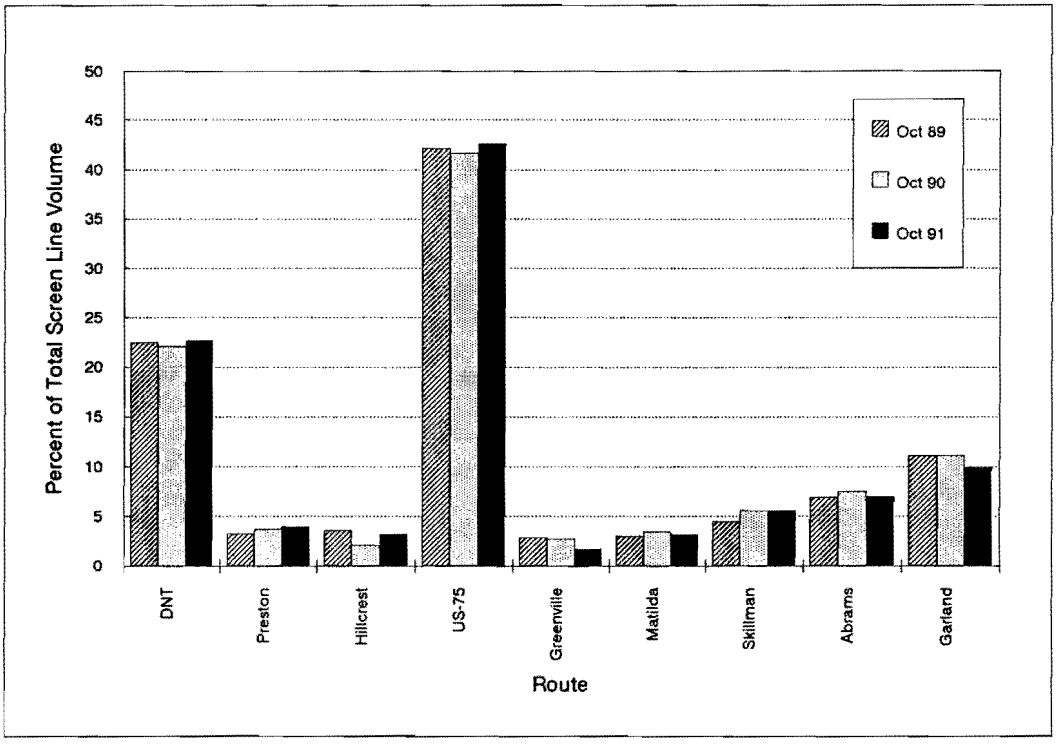


a) Northbound

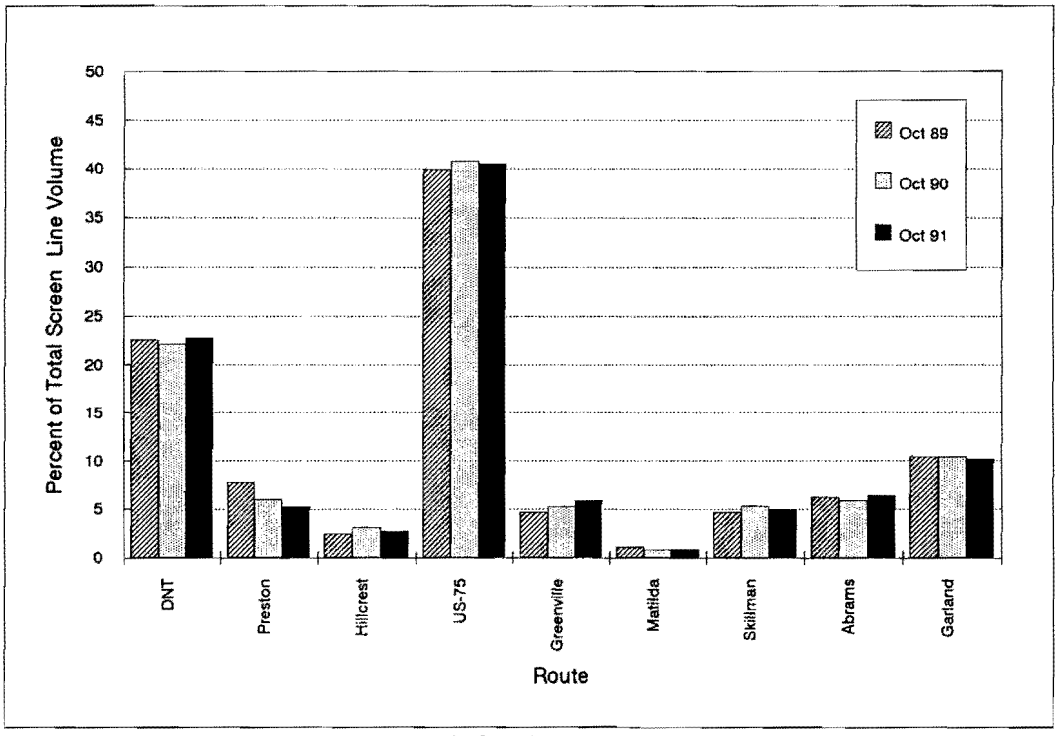


b) Southbound

Figure B-5. Percent of Total Screen Line Volume by Route: Mockingbird/Buckner - P.M. Peak Period

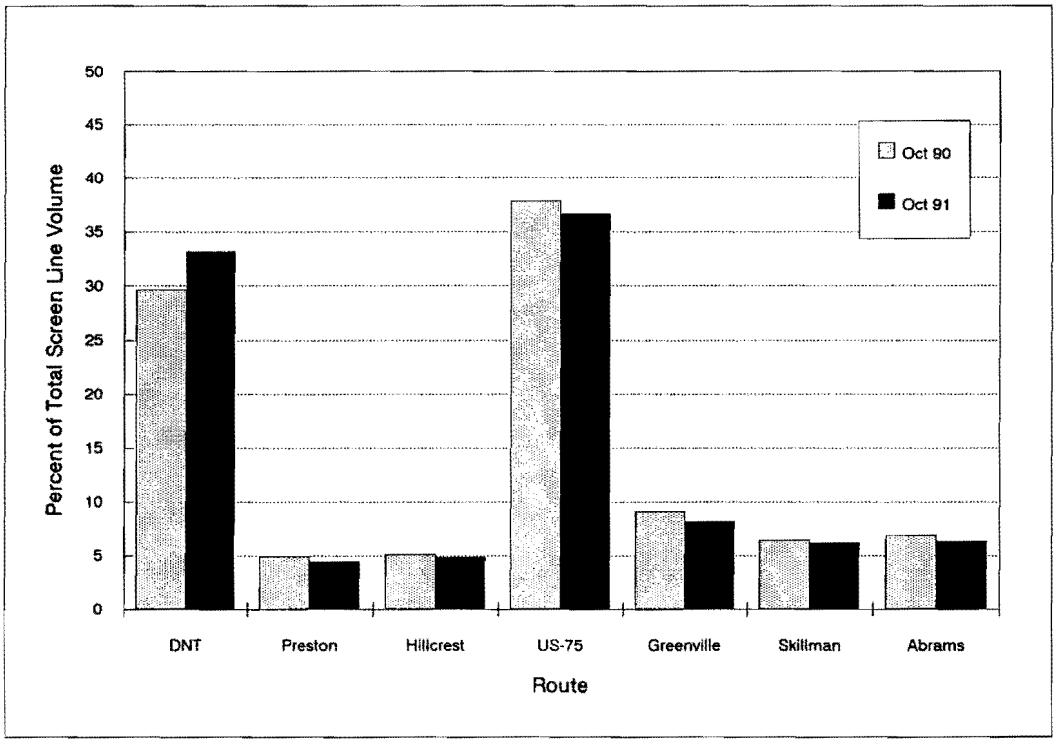


a) Northbound

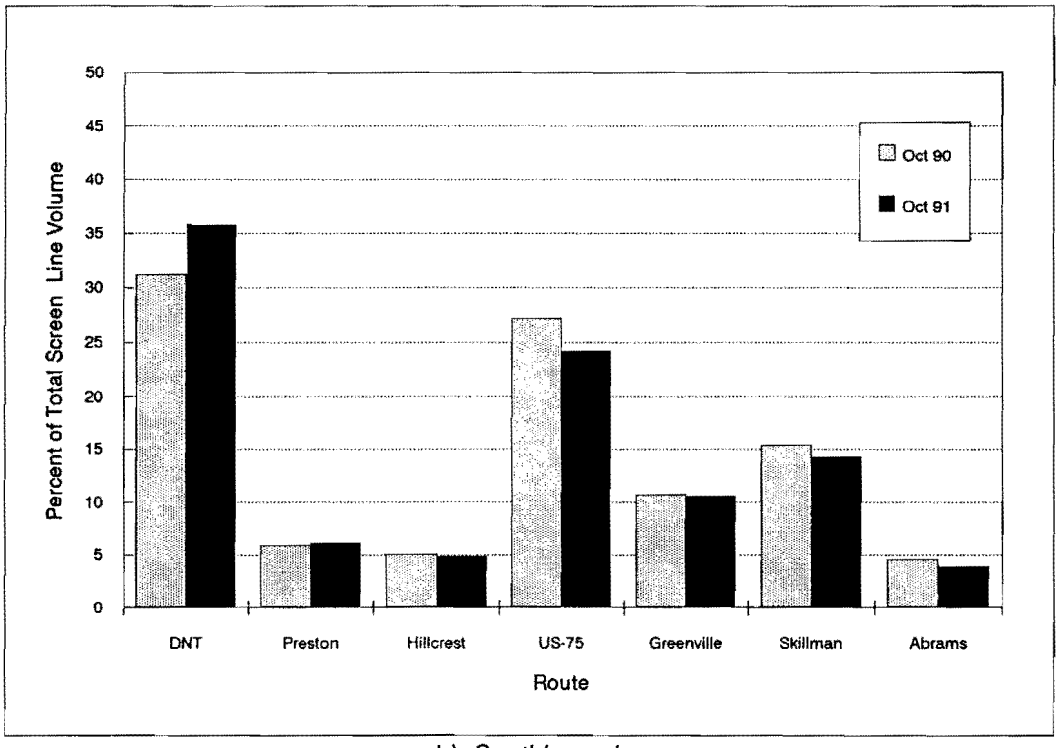


b) Southbound

Figure B-6. Percent of Total Screen Line Volume by Route:
Mockingbird/Buckner - 24 Hour Period

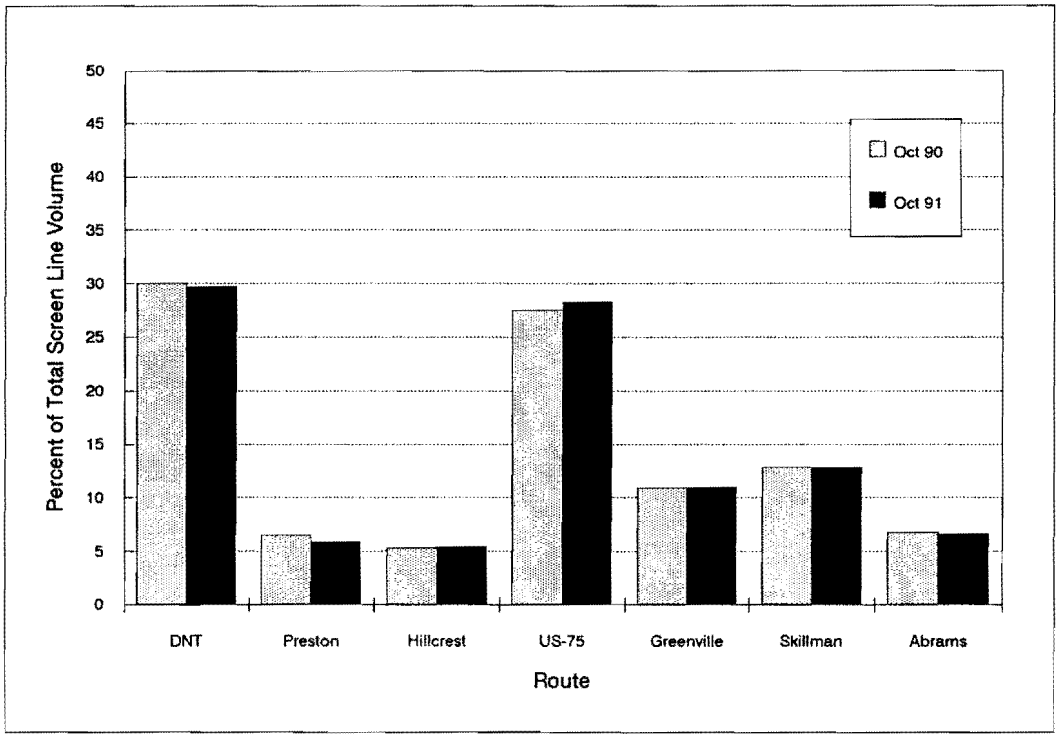


a) Northbound

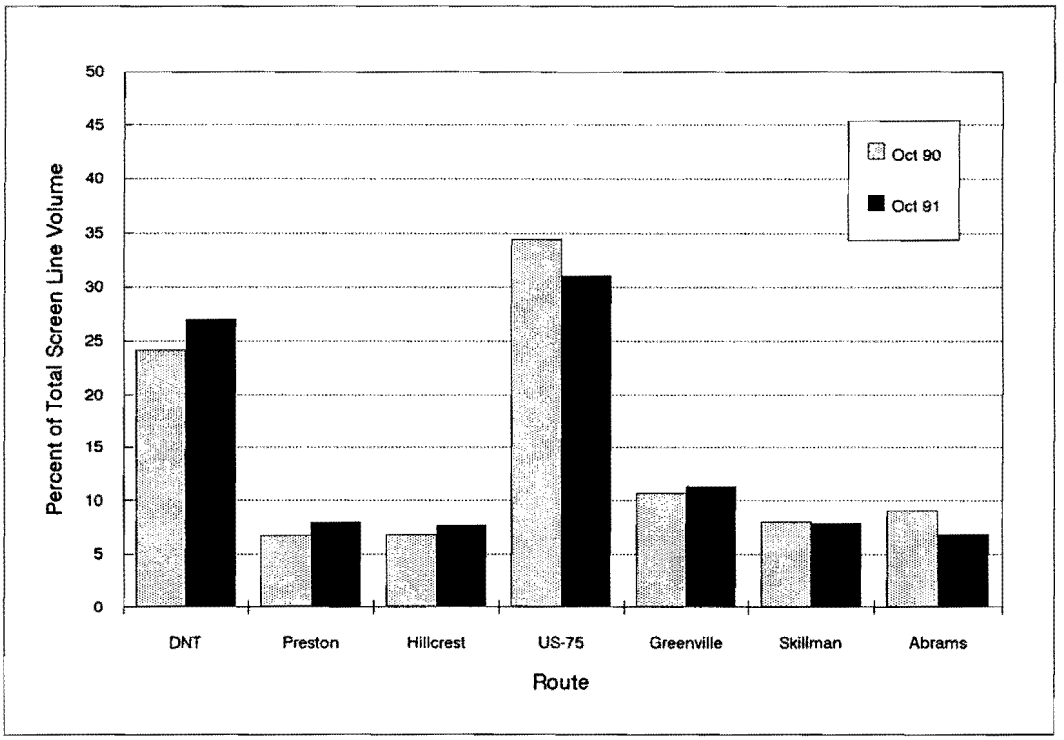


b) Southbound

Figure B-7. Percent of Total Screen Line Volume by Route:
Loop 12 - A.M. Peak Period

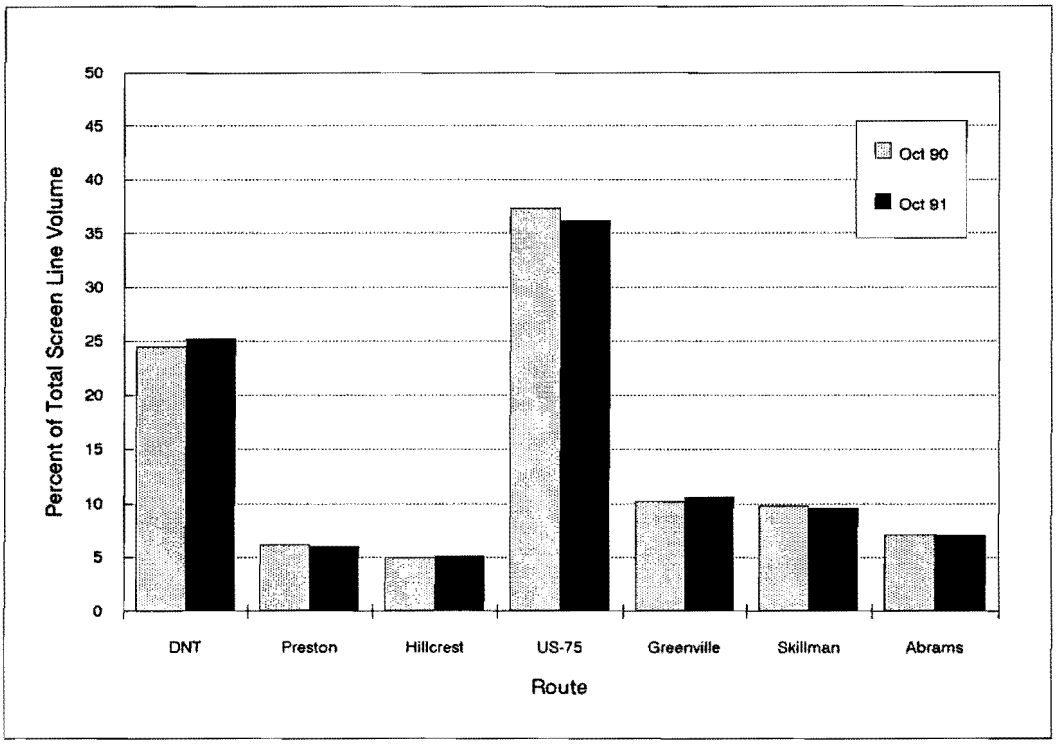


a) Northbound

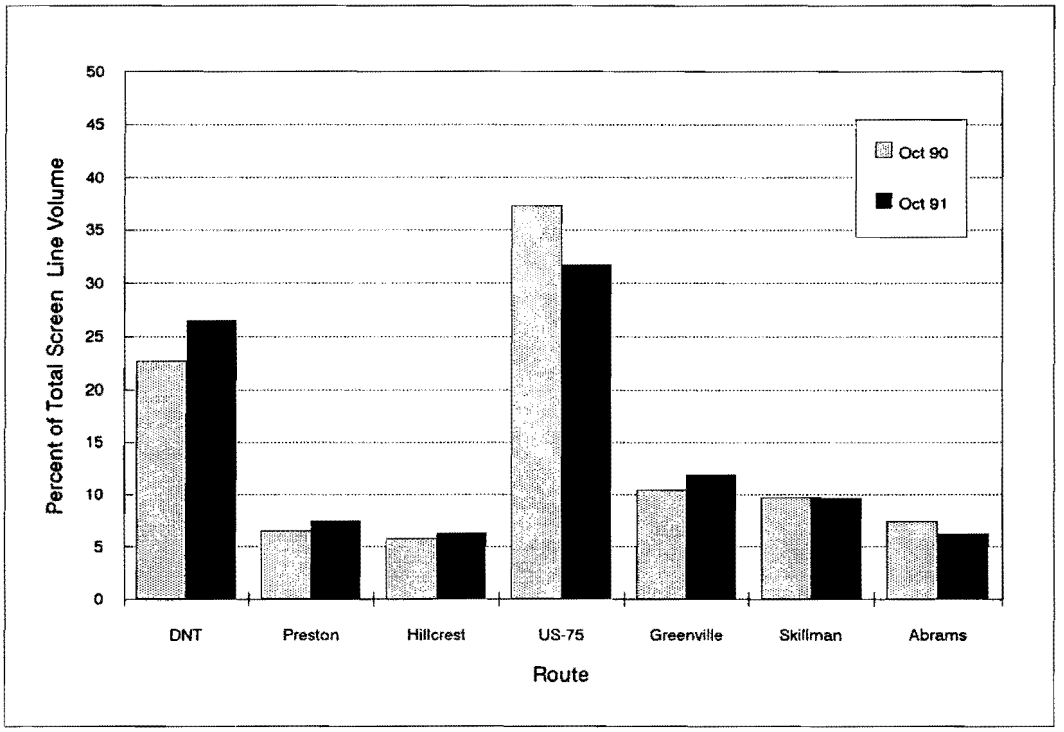


b) Southbound

Figure B-8. Percent of Total Screen Line Volume by Route:
Loop 12 - P.M. Peak Period

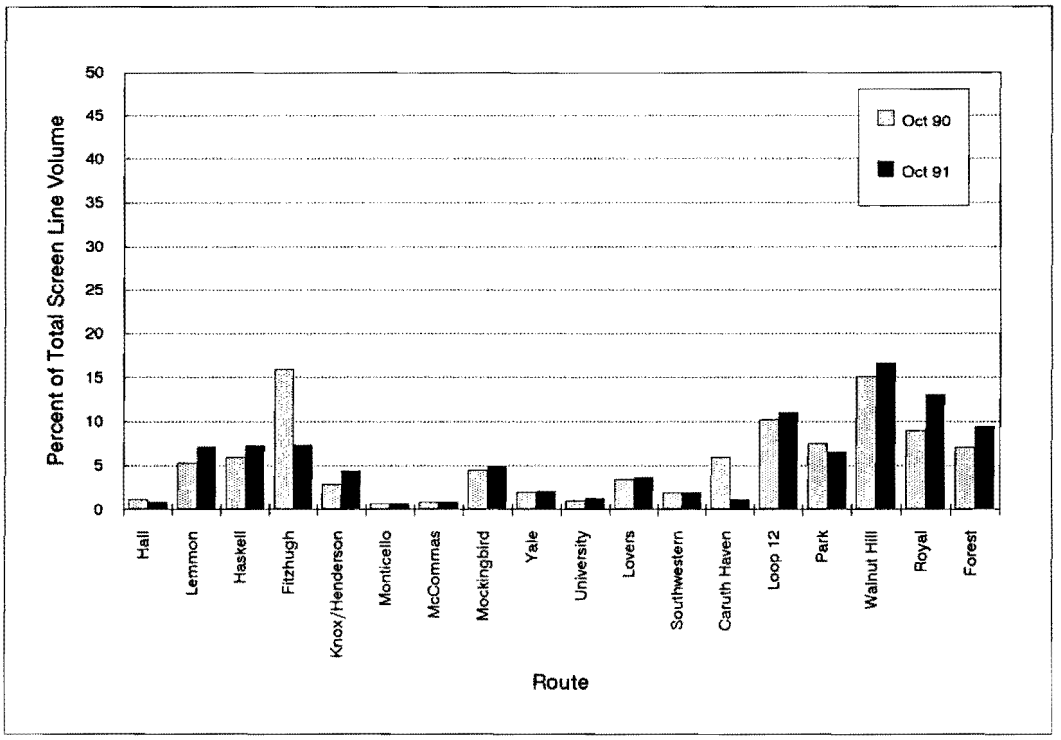


a) Northbound

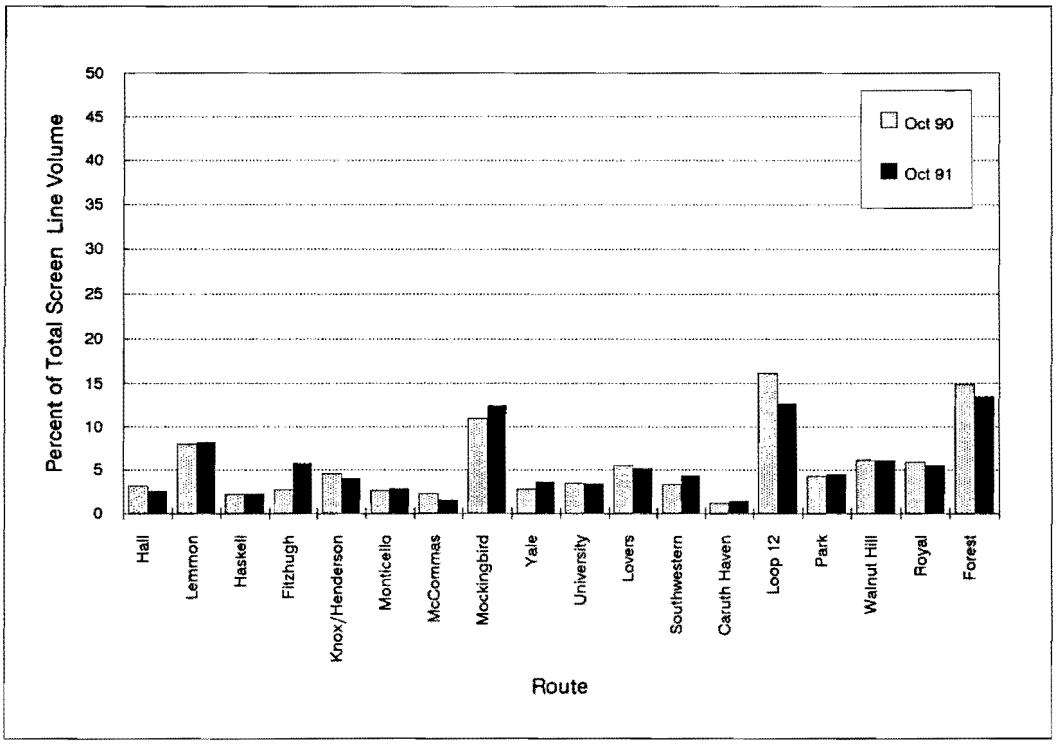


b) Southbound

Figure B-9. Percent of Total Screen Line Volume by Route:
Loop 12 - 24 Hour Period

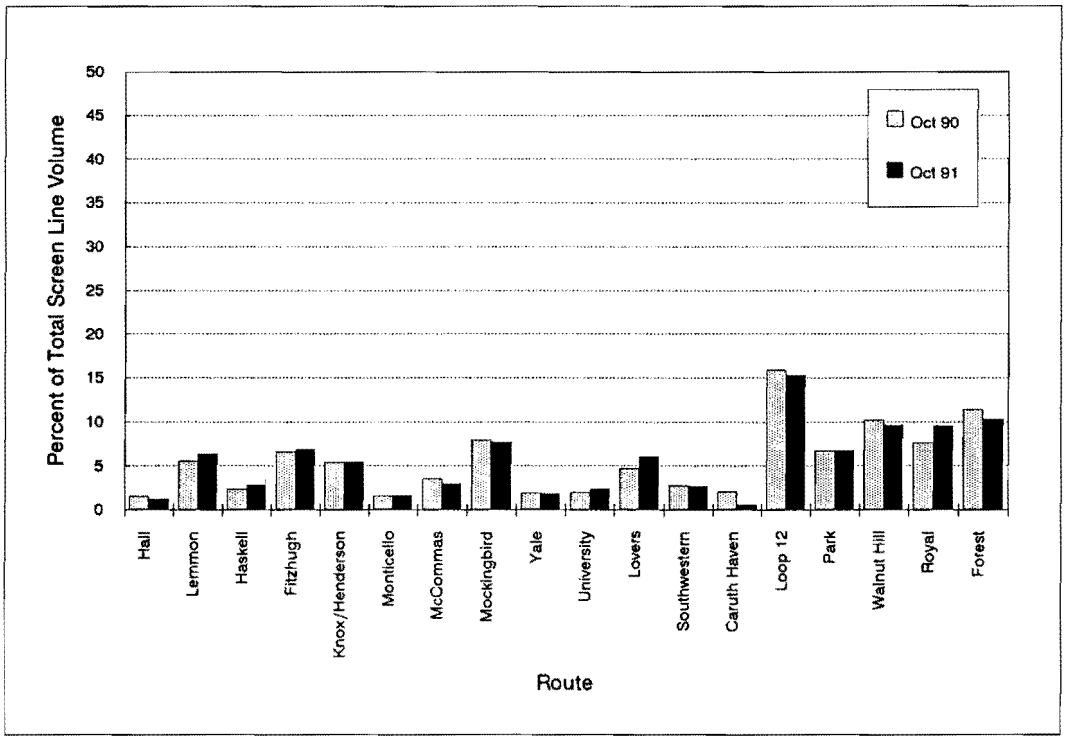


a) Eastbound

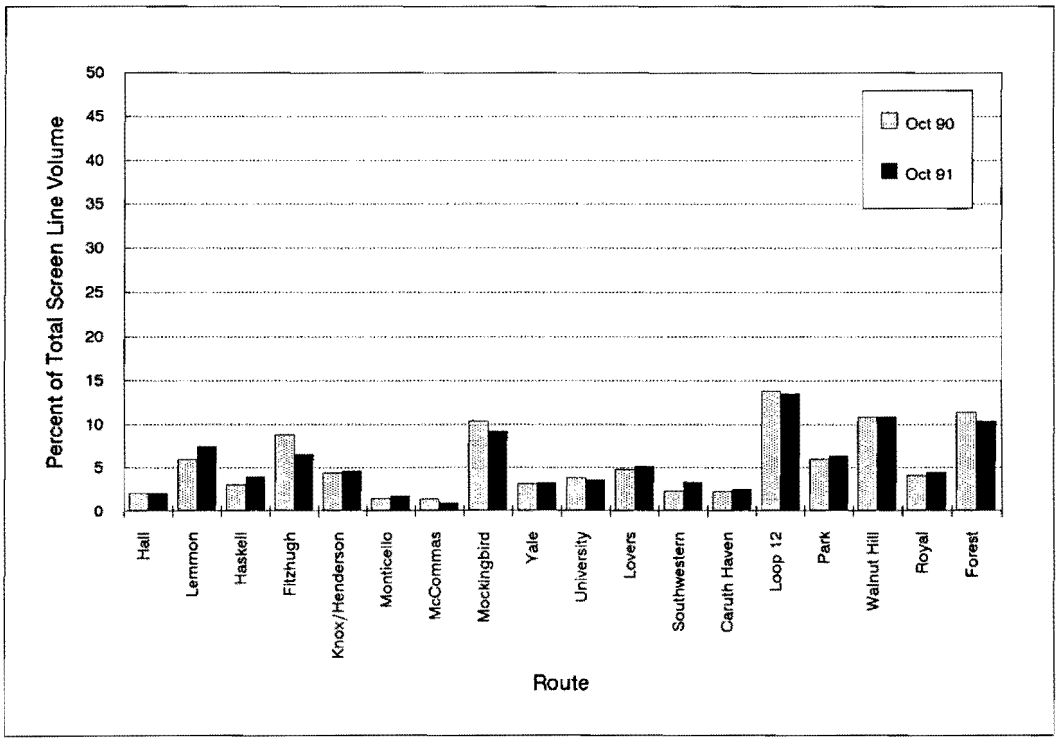


b) Westbound

Figure B-10. Percent of Total Screen Line Volume by Route:
US-75 - A.M. Peak Period

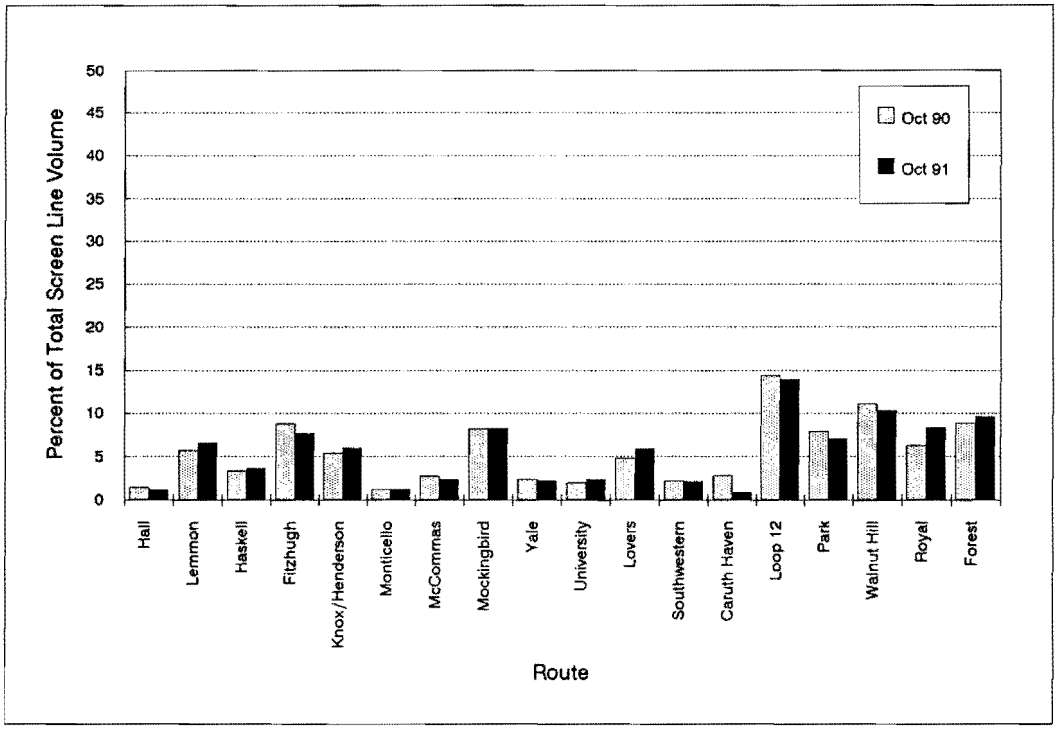


a) Eastbound

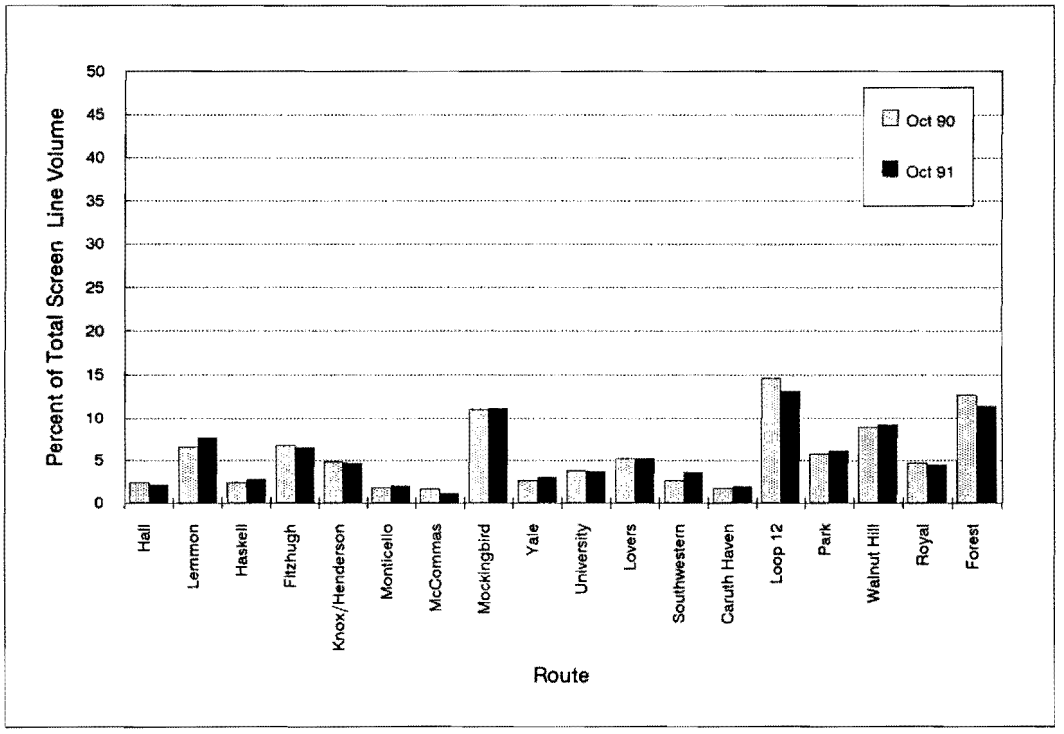


b) Westbound

Figure B-11. Percent of Total Screen Line Volume by Route:
US-75 - P.M. Peak Period



a) Eastbound

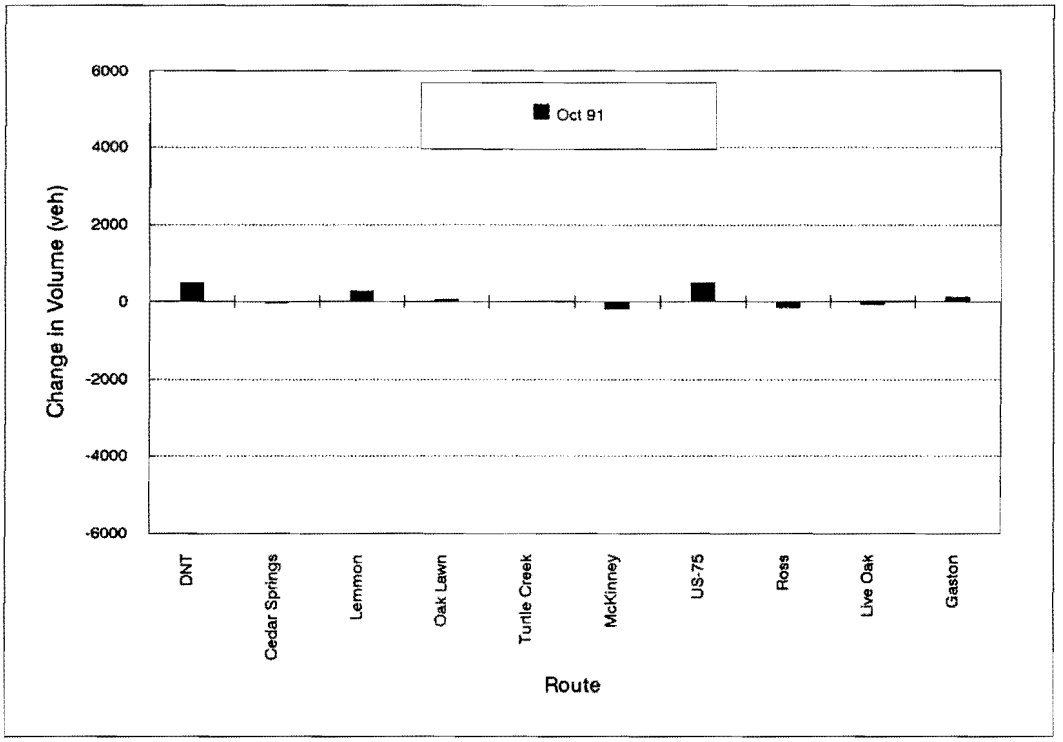


b) Westbound

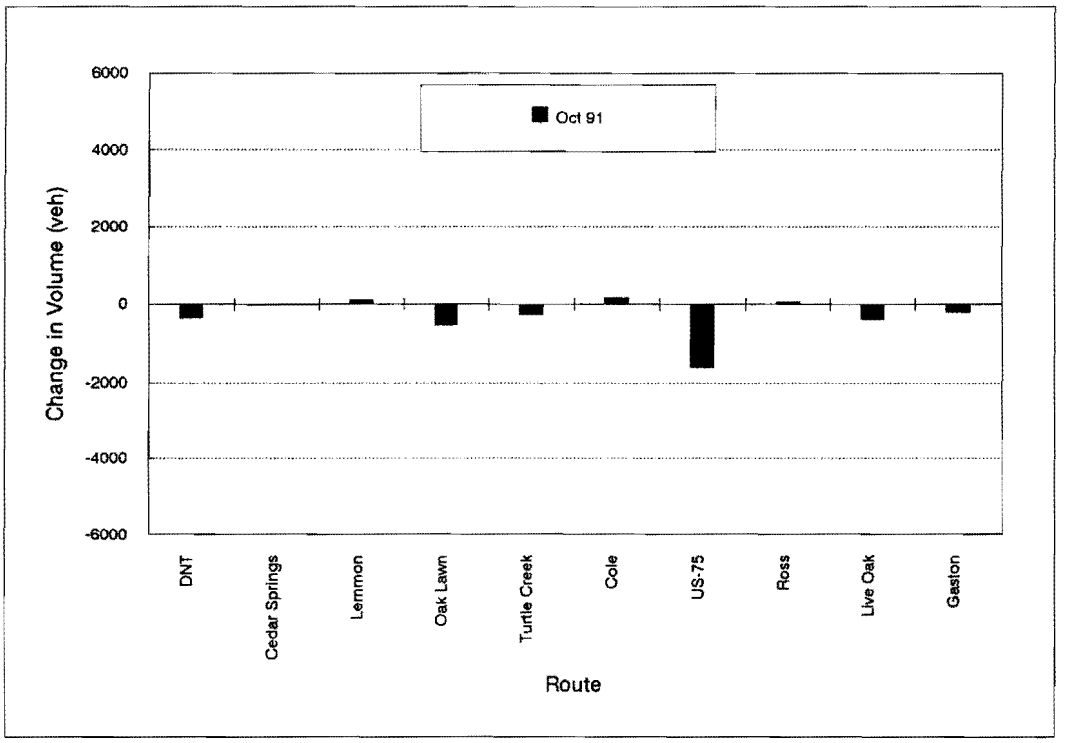
Figure B-12. Percent of Total Screen Line Volume by Route:
US-75 - 24 Hour Period

APPENDIX C

OCTOBER 1991 TRAFFIC VOLUME CHANGES

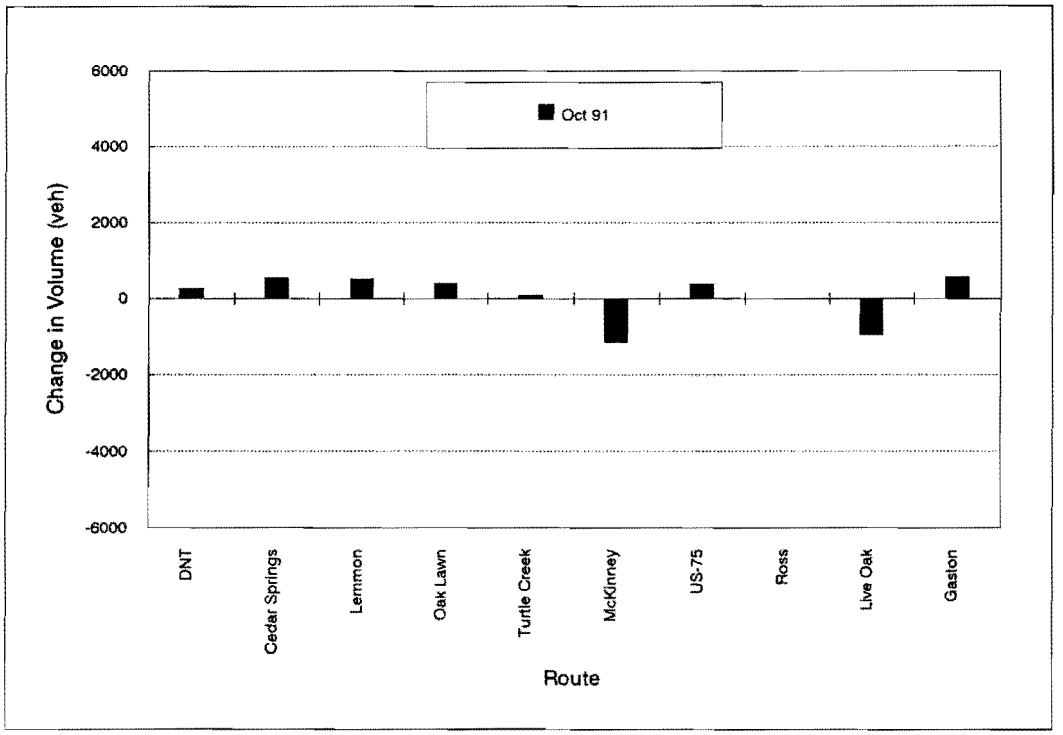


a) Northbound

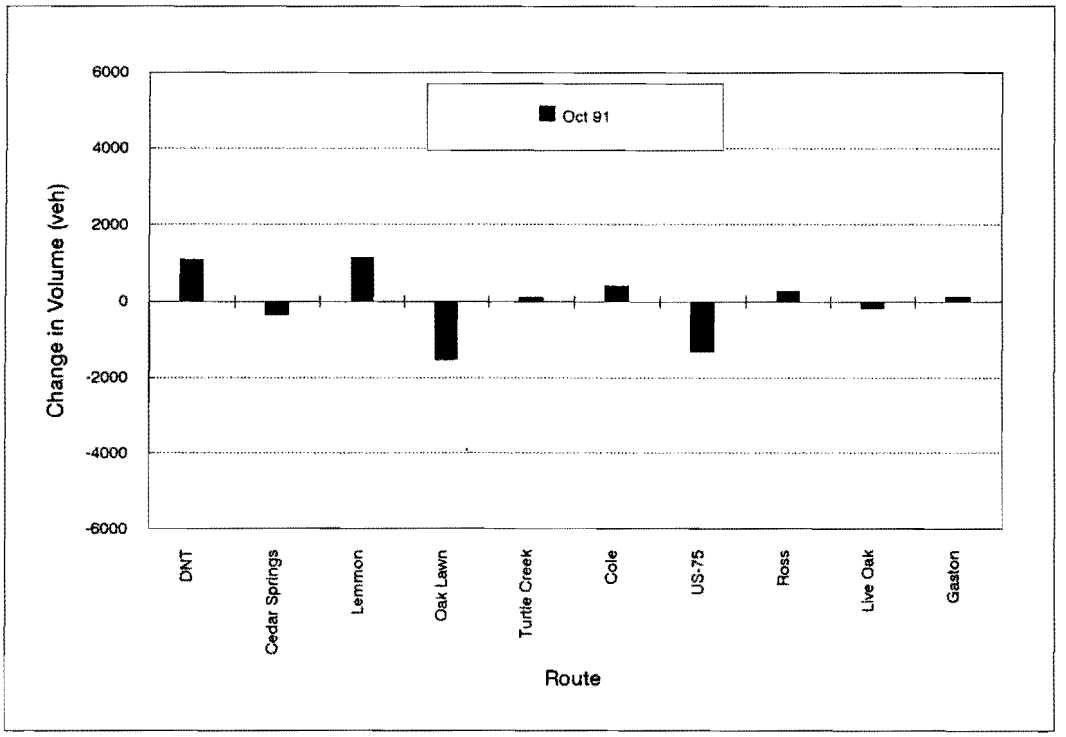


b) Southbound

Figure C-1. Change in Volume by Route as Compared to October 1990: Oak Lawn/Lemmon/Peak Screen Line - A.M. Peak Period

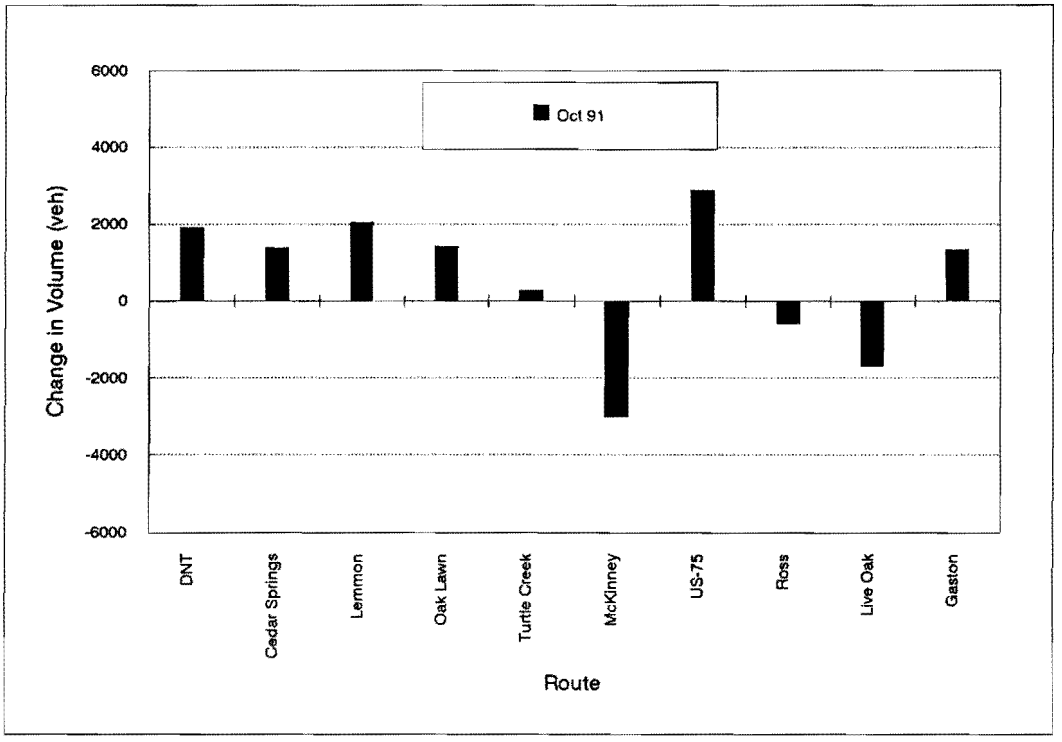


a) Northbound

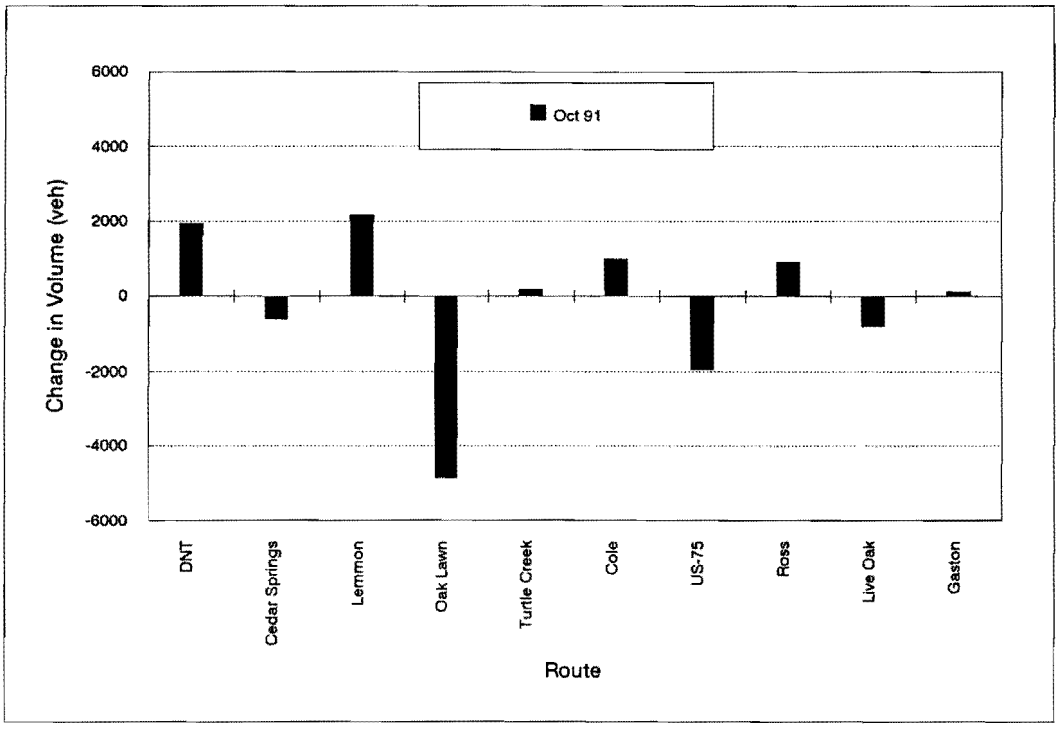


b) Southbound

Figure C-2. Change in Volume by Route as Compared to October 1990: Oak Lawn/Lemmon/Peak Screen Line - P.M. Peak Period

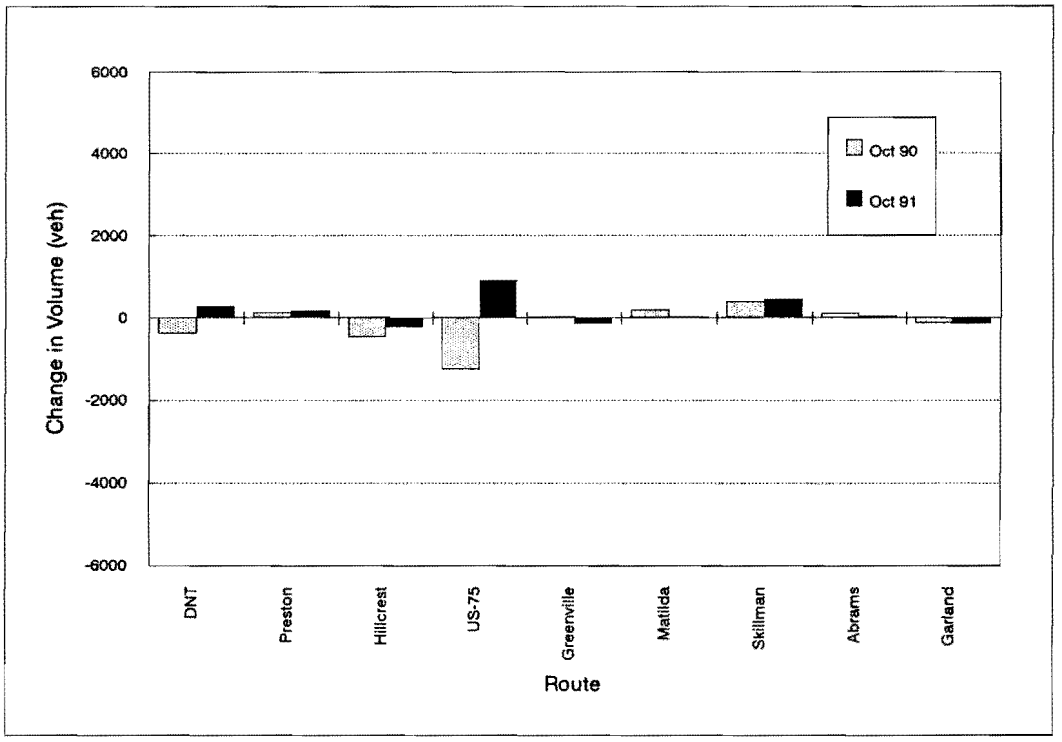


a) Northbound

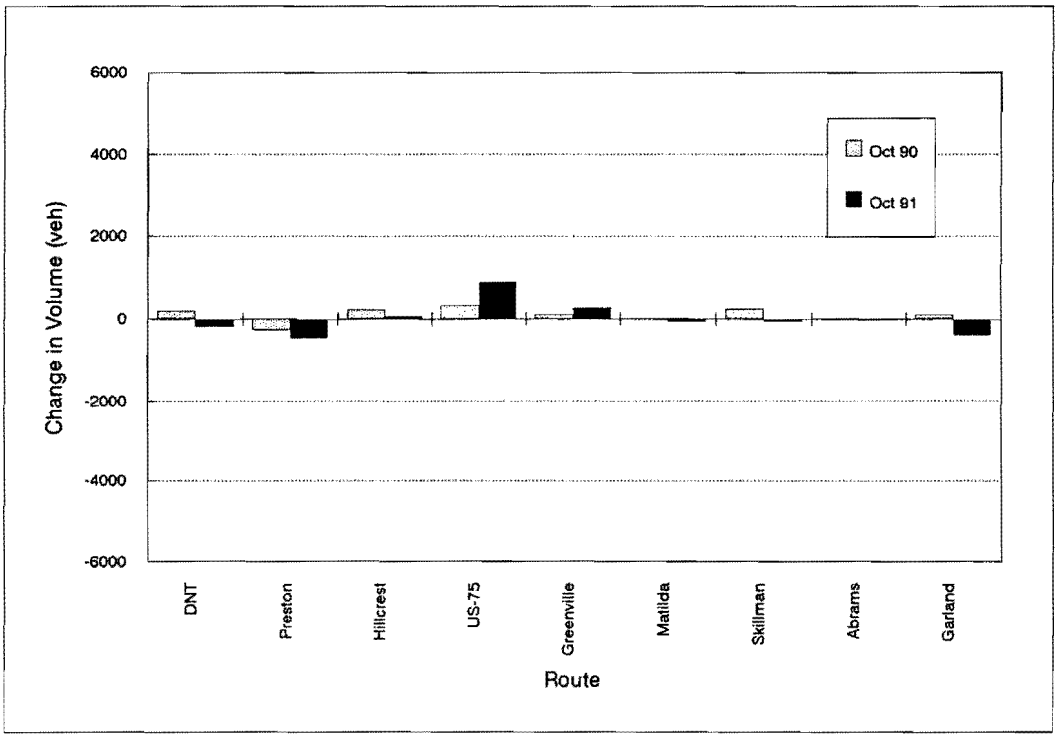


b) Southbound

Figure C-3. Change in Volume by Route as Compared to October 1990: Oak Lawn/Lemmon/Peak Screen Line - 24 Hour Period

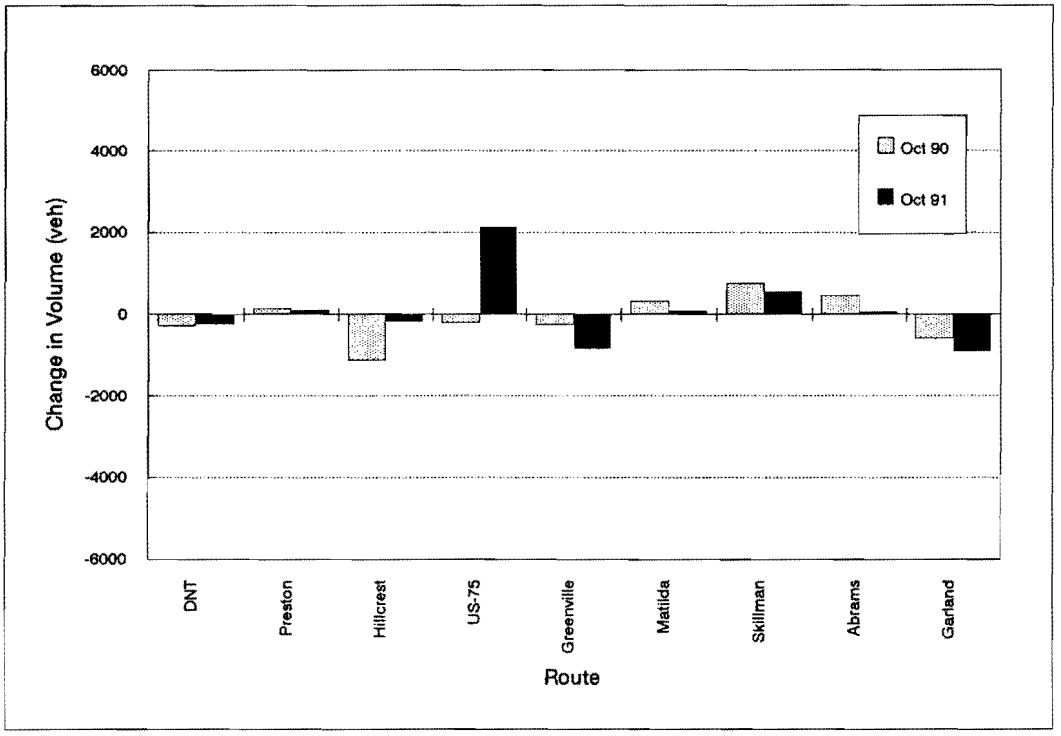


a) Northbound

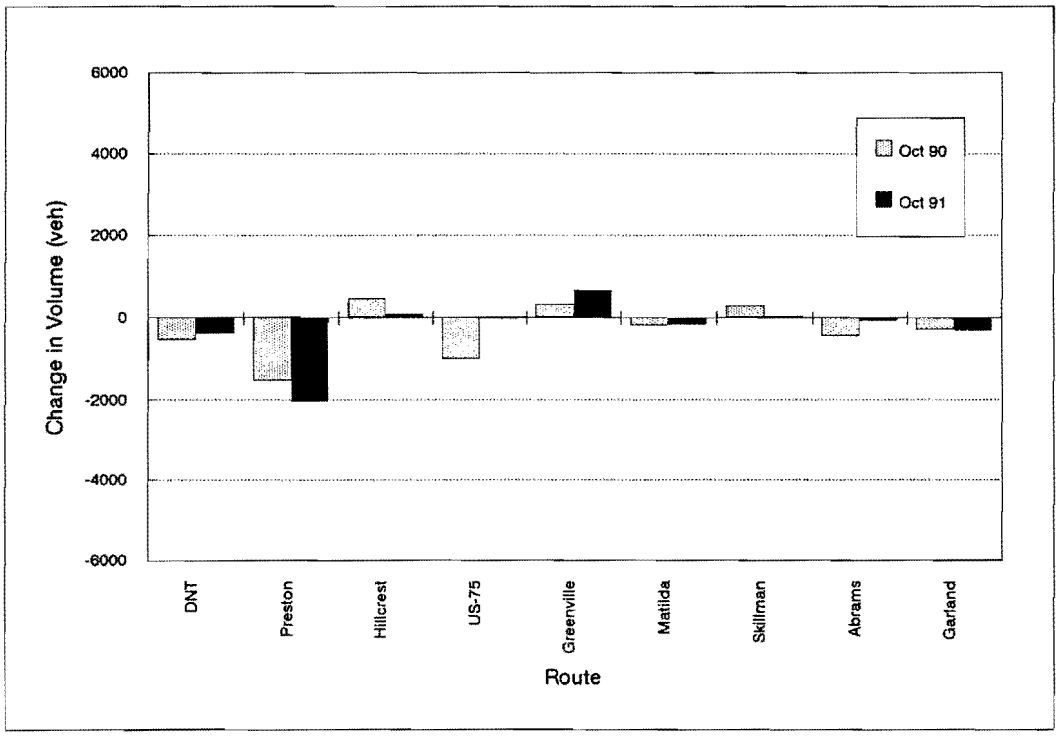


b) Southbound

Figure C-4. Change in Volume by Route as Compared to October 1989: Mockingbird/Buckner Screen Line - A.M. Peak Period

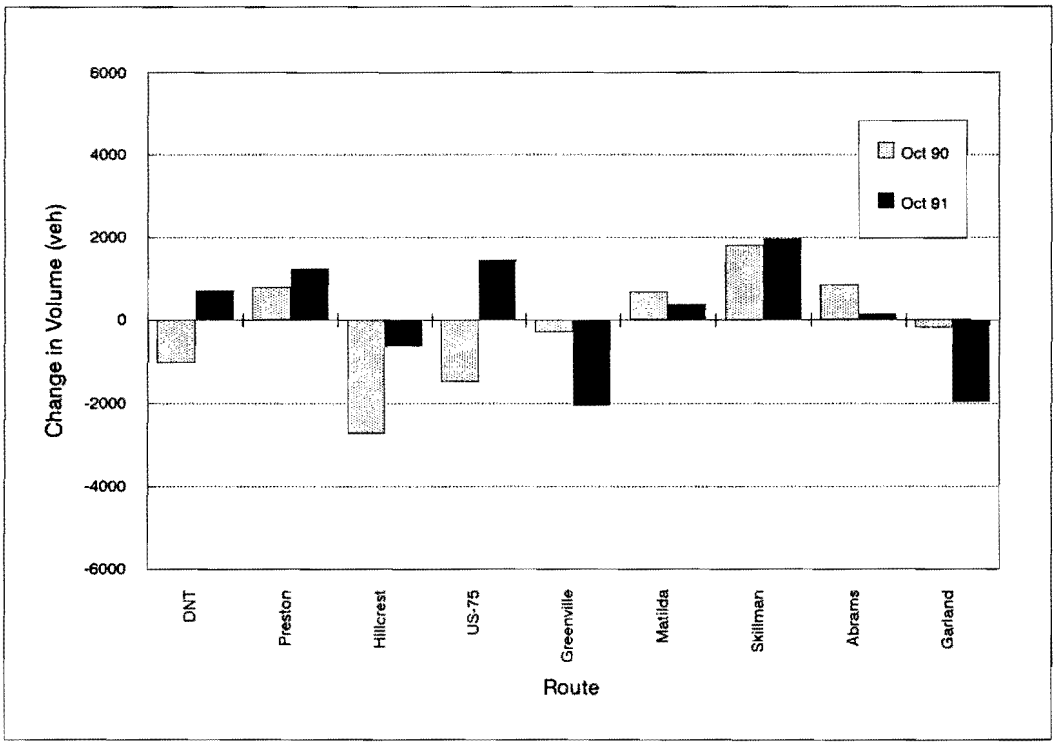


a) Northbound

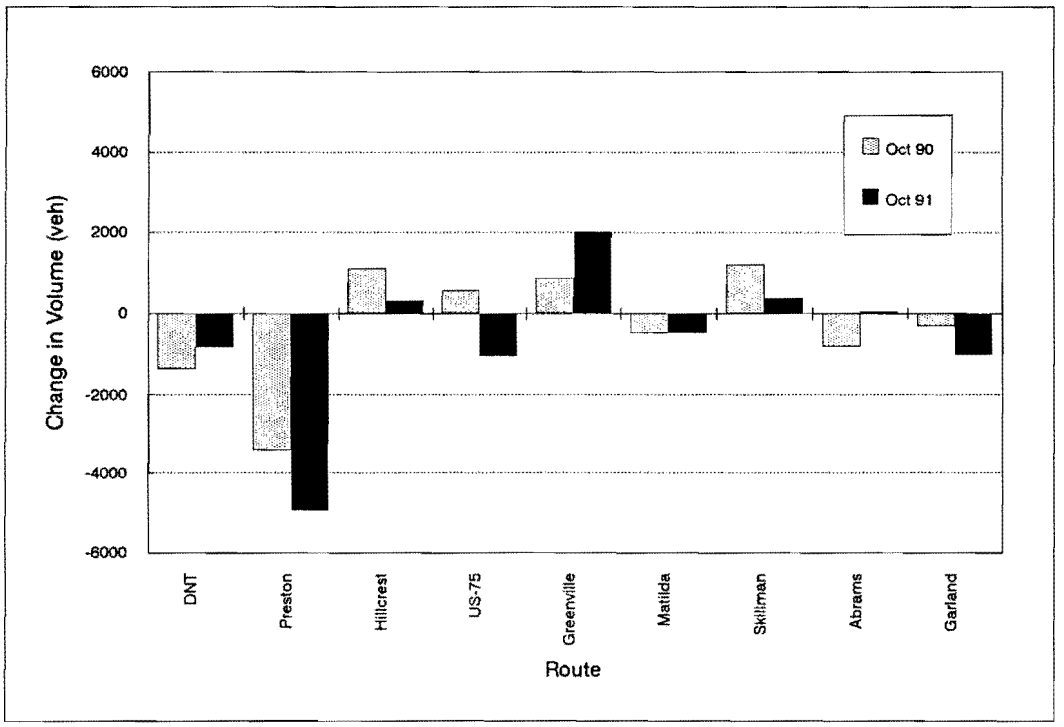


b) Southbound

Figure C-5. Change in Volume by Route as Compared to October 1989: Mockingbird/Buckner Screen Line - P.M. Peak Period

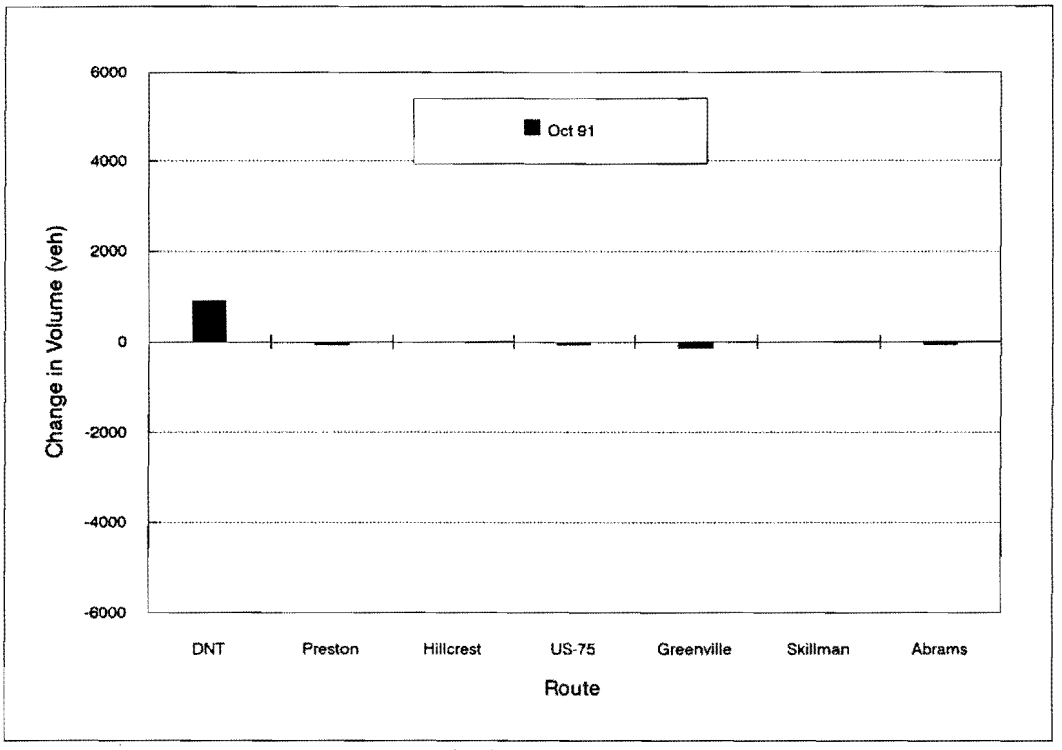


a) Northbound

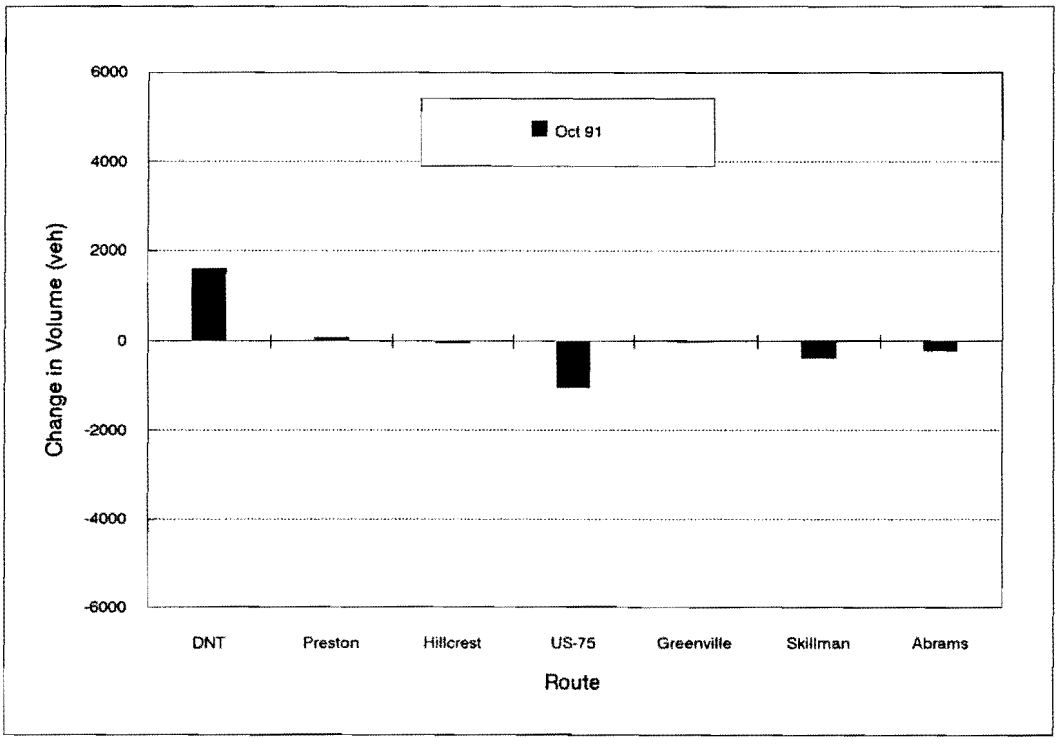


b) Southbound

Figure C-6. Change in Volume by Route as Compared to October 1989: Mockingbird/Buckner Screen Line - 24 Hour Period

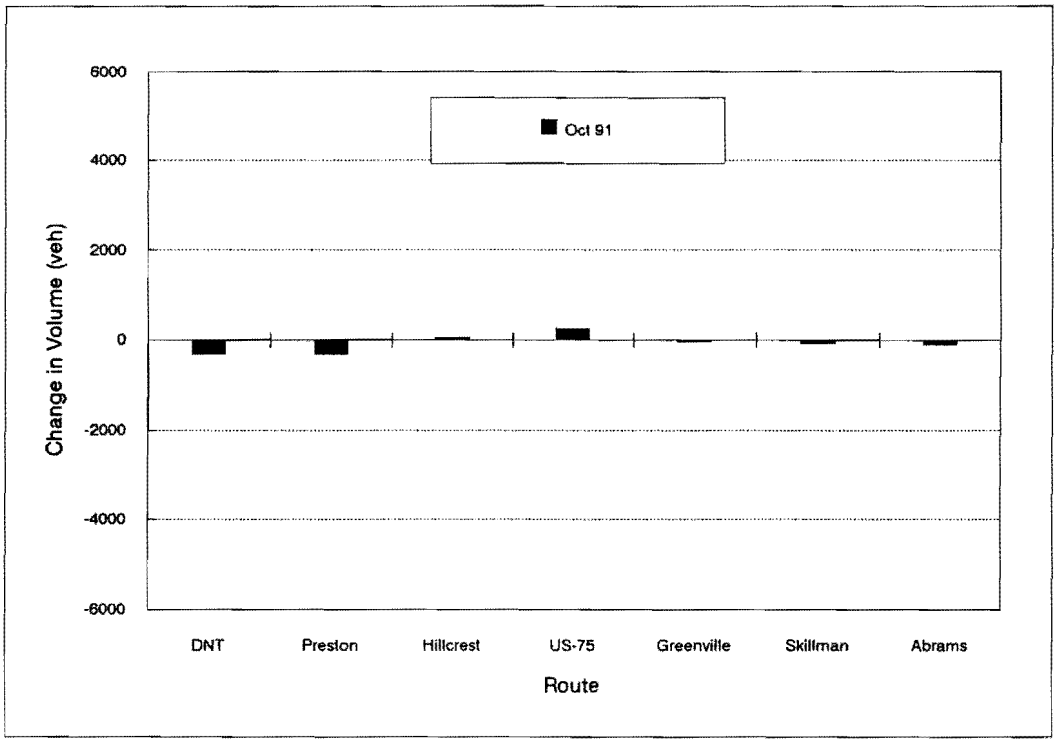


a) Northbound

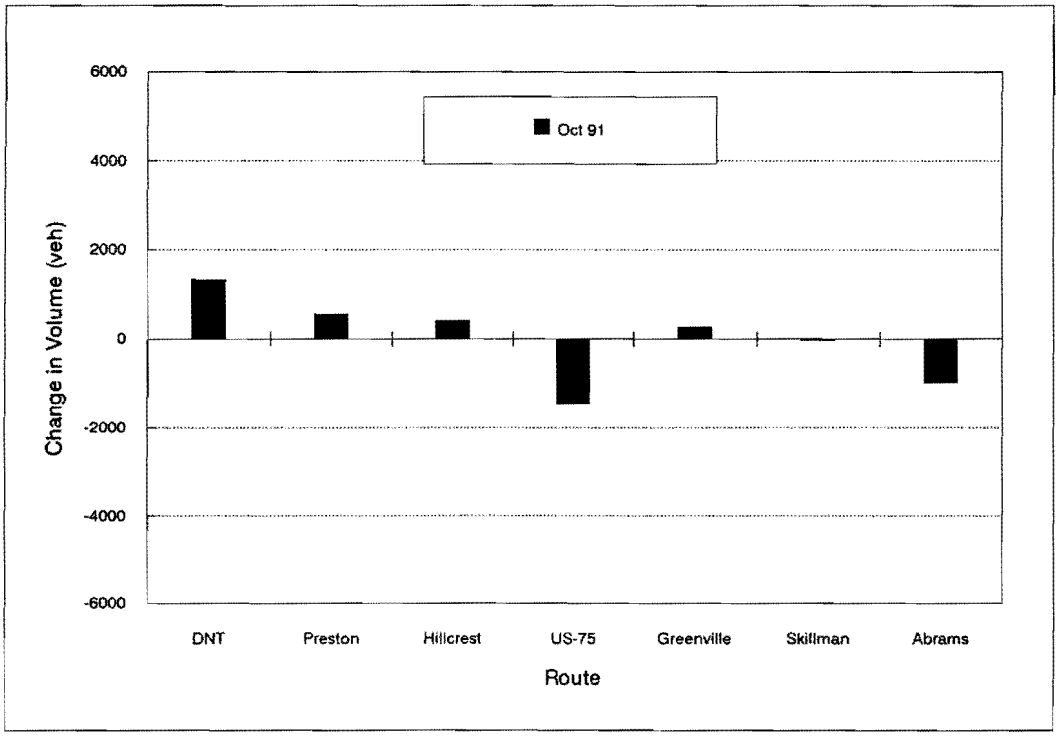


b) Southbound

Figure C-7. Change in Volume by Route as Compared to October 1990: Loop 12 Screen Line - A.M. Peak Period

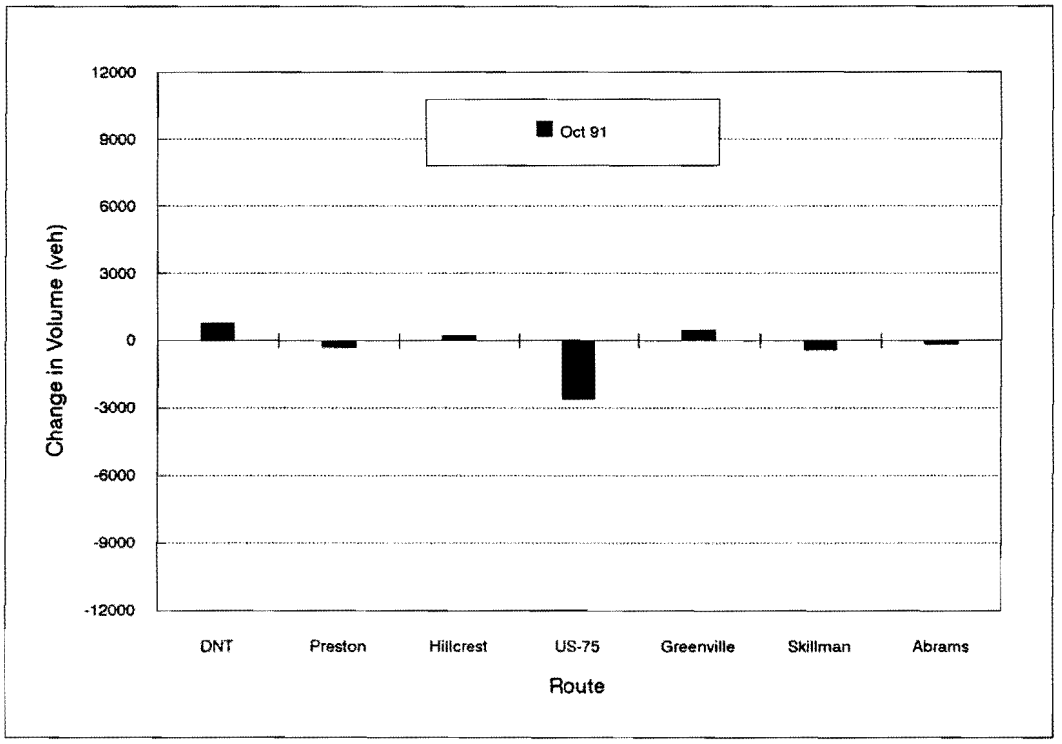


a) Northbound

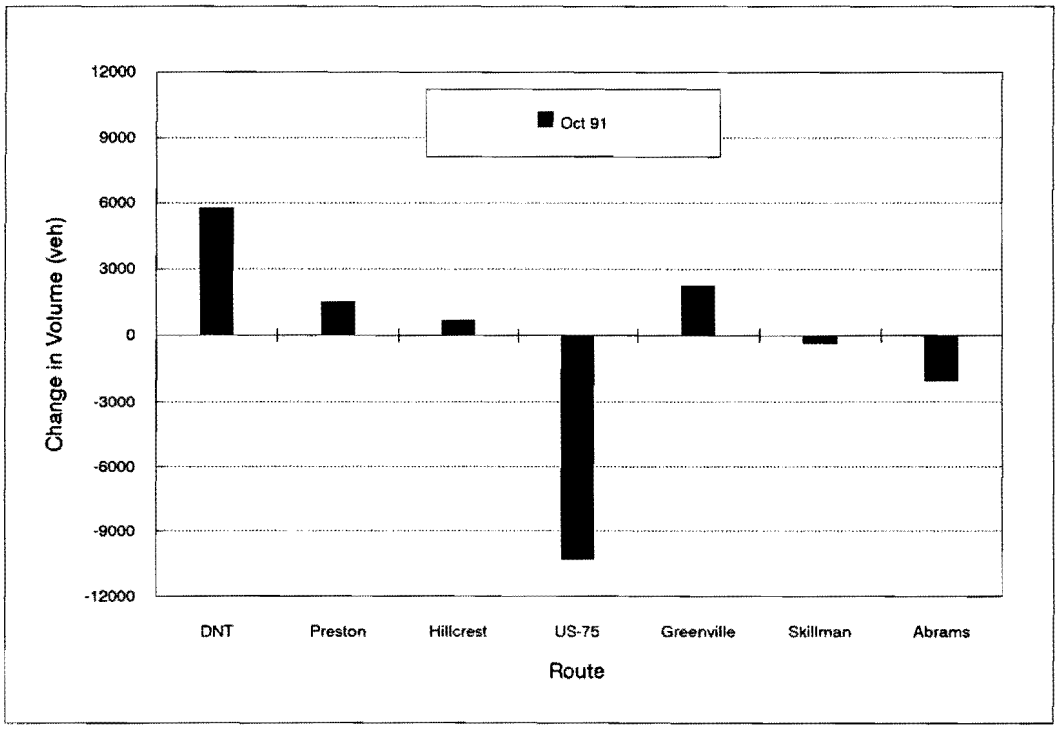


b) Southbound

Figure C-8. Change in Volume by Route as Compared to October 1990: Loop 12 Screen Line - P.M. Peak Period

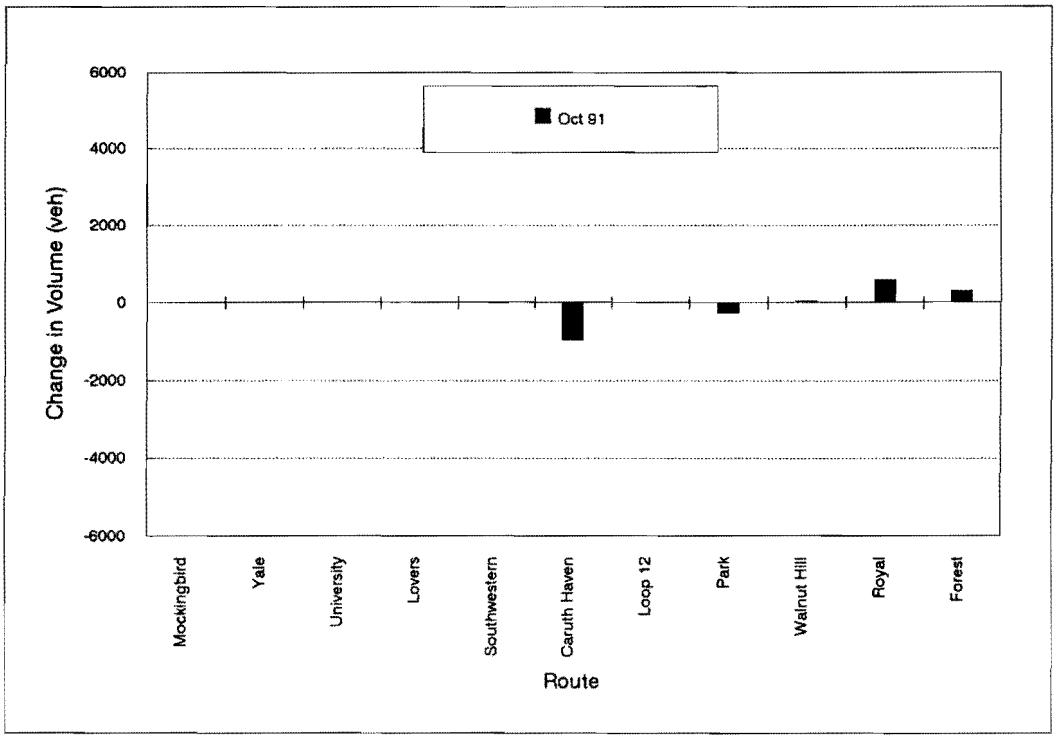


a) Northbound

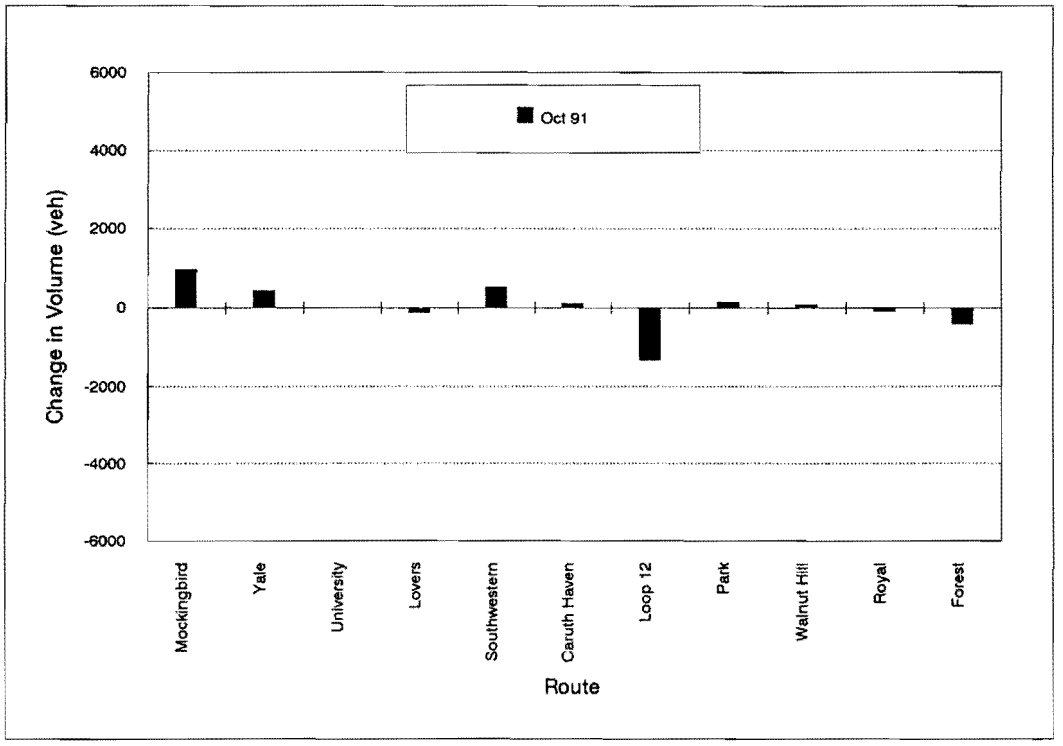


b) Southbound

Figure C-9. Change in Volume by Route as Compared to October 1990: Loop 12 Screen Line - 24 Hour Period

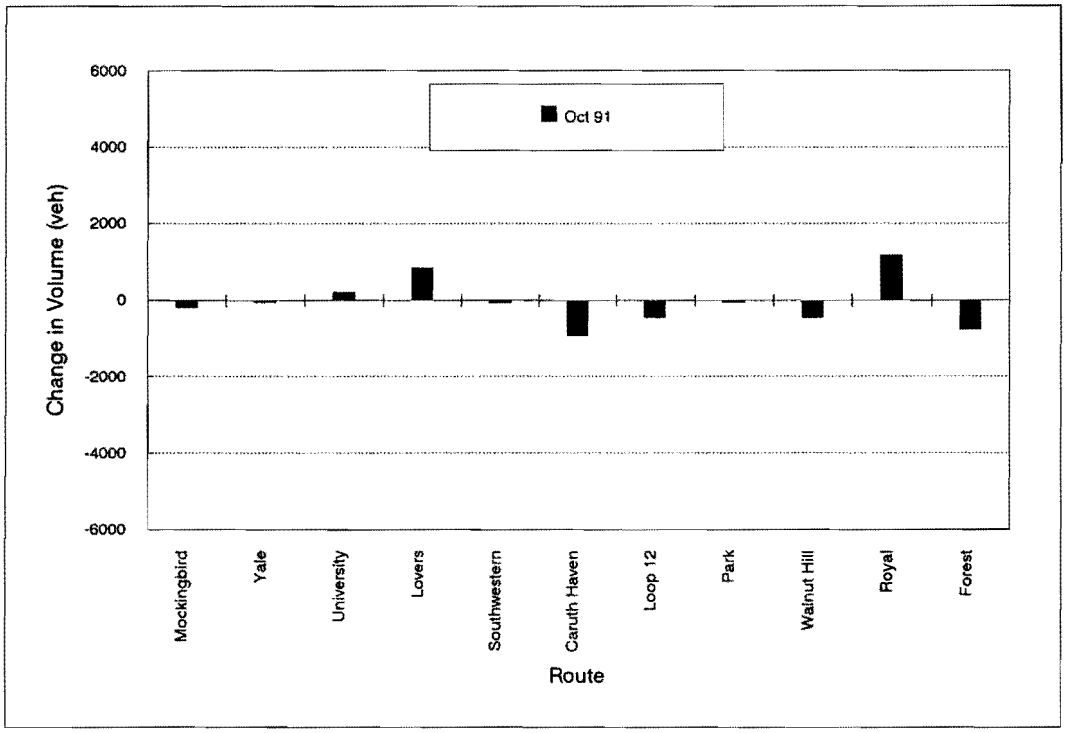


a) Eastbound

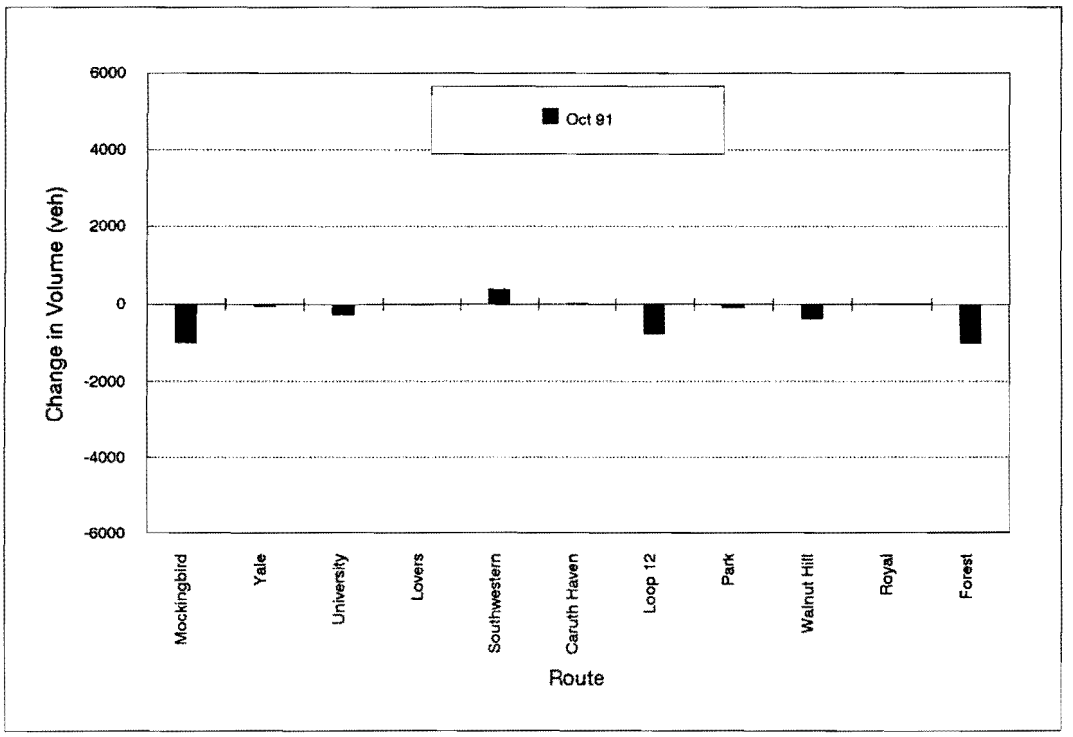


b) Westbound

Figure C-10. Change in Volume by Route as Compared to October 1990: US-75 Screen Line - A.M. Peak Period

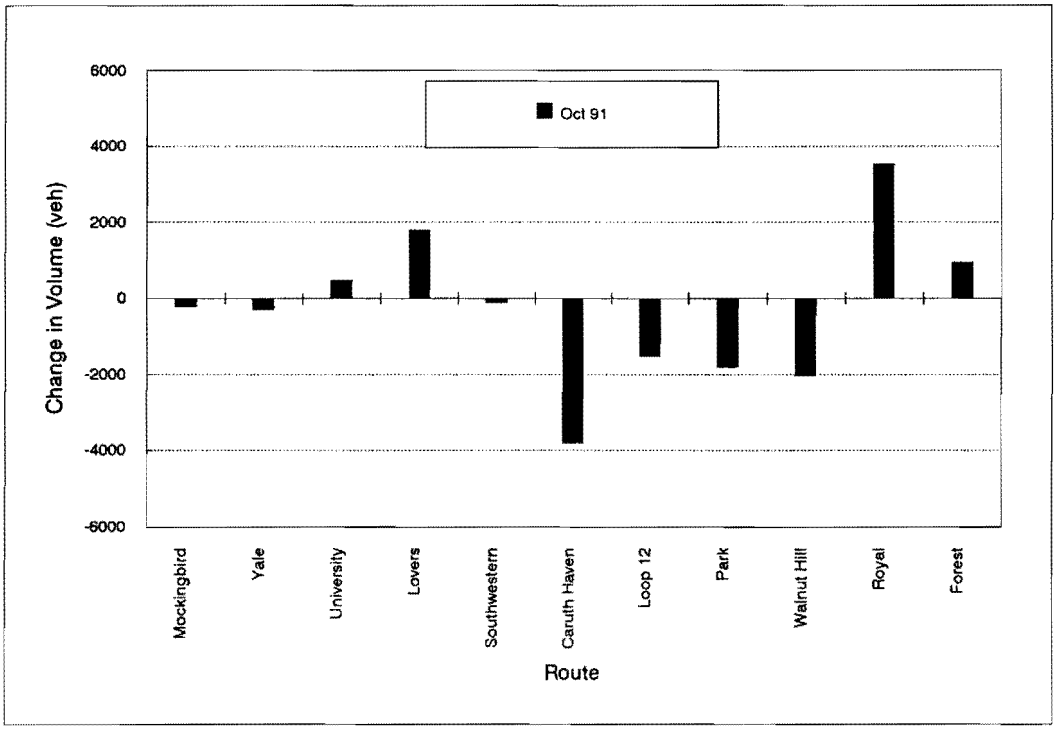


a) Eastbound

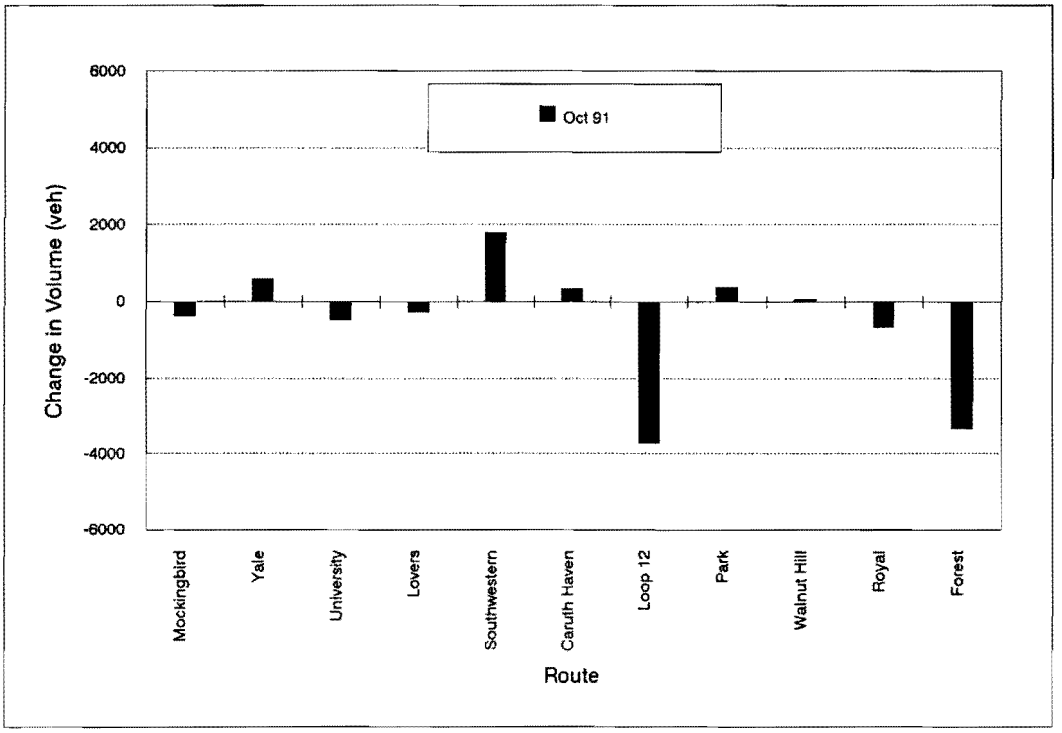


b) Westbound

Figure C-11. Change in Volume by Route as Compared to October 1990: US-75 Screen Line - P.M. Peak Period



a) Eastbound



b) Westbound

Figure C-12. Change in Volume by Route as Compared to October 1990: US-75 Screen Line - 24 Hour Period

APPENDIX D

OCTOBER 1991 AVERAGE TRAVEL TIMES

TABLE D-1. Peak Period, Peak Direction Total Travel Time on North-South Routes (October 1991)

Run Beginning		Travel Time (min)								
		DNT	Preston	Hillcrest	US-75	US-75 Fr. Rd.	Greenville	Skillman	Abrams	Garland
A.M. Peak Period Southbound	6:00	--	25.42	27.43	10.23	20.27	17.28	17.38	21.22	18.27
	6:30	10.15	22.05	24.42	9.90	21.75	21.93	18.58	23.07	17.73
	7:00	12.12	25.00	28.72	16.72	21.82	19.92	19.75	23.95	19.27
	7:30	16.20	28.90	29.85	29.32	27.48	26.57	23.83	23.28	22.47
	8:00	21.62	30.55	29.03	23.32	26.28	22.72	22.33	23.52	21.67
	8:30	17.33	29.38	29.93	16.47	26.15	22.00	22.65	24.88	19.25
	9:00	12.30	22.78	24.23	13.38	20.93	18.77	17.63	21.22	18.60
P.M. Peak Period Northbound	3:00	11.68	25.83	29.73	16.27	25.38	22.82	19.80	27.28	19.48
	3:30	12.80	28.83	31.83	10.49	23.68	21.82	20.07	24.33	20.22
	4:00	11.53	26.63	26.88	10.31	28.48	22.13	23.68	27.38	19.82
	4:30	11.55	29.22	29.82	13.18	26.27	23.65	20.57	22.73	18.38
	5:00	13.12	31.02	28.50	19.90	26.68	30.20	27.80	23.12	21.18
	5:30	18.63	29.37	31.33	25.80	26.92	31.70	27.03	27.63	21.65
	6:00	19.35	31.30	25.15	16.77	29.15	22.85	23.88	23.83	22.88
	6:30	15.05	27.73	27.98	13.36	--	20.70	21.15	22.67	18.63
	7:00	11.53	23.65	21.58	11.57	--	21.63	24.53	21.00	18.87

TABLE D-2. Peak Period, Off-Peak Direction Total Travel Time on North-South Routes (October 1991)

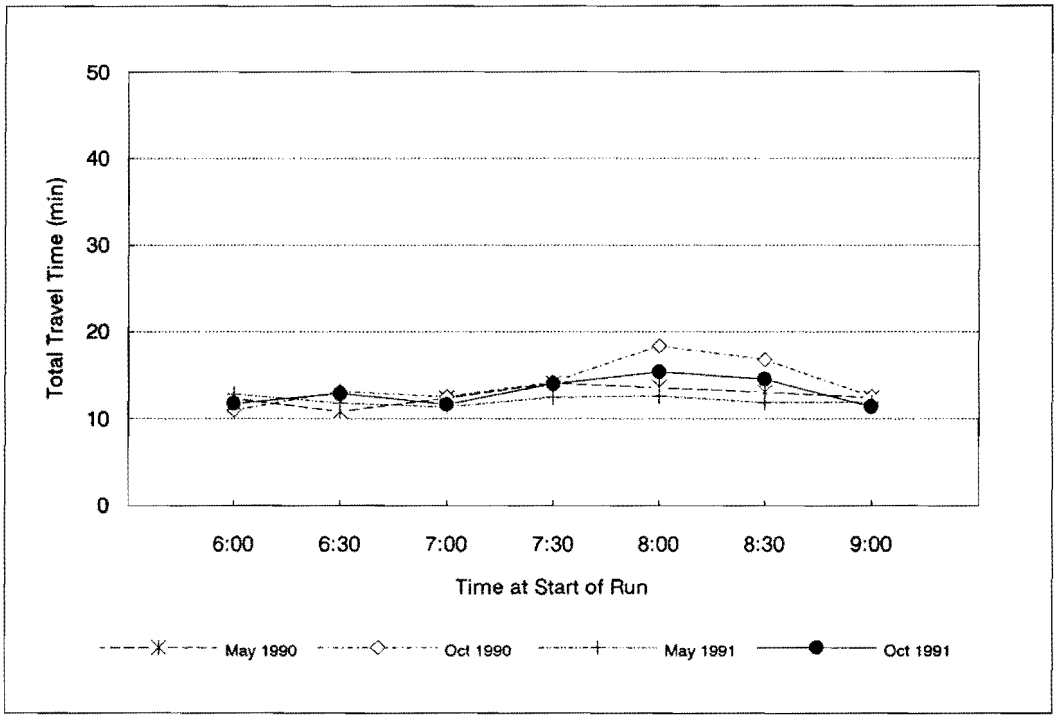
Run Beginning		Travel Time (min)								
		DNT	Preston	Hillcrest	US-75	US-75 Fr. Rd.	Greenville	Skillman	Abrams	Garland
A.M. Peak Period North-bound	6:00	11.72	21.45	25.07	9.59	19.13	18.80	18.45	21.85	17.80
	6:30	12.92	24.55	27.55	10.82	29.05	19.82	19.27	19.08	19.72
	7:00	11.65	25.30	29.57	10.38	30.40	22.58	22.70	26.22	22.47
	7:30	14.02	27.55	28.02	16.49	33.65	23.58	27.83	29.43	22.72
	8:00	15.35	25.55	27.27	14.14	34.83	24.87	21.80	26.35	23.82
	8:30	14.57	29.57	28.32	11.46	34.13	21.68	20.47	26.33	22.28
	9:00	11.33	25.17	23.00	11.39	24.28	21.23	19.83	22.28	20.55
P.M. Peak Period South-Bound	3:00	12.17	26.58	25.35	12.57	24.78	21.50	19.60	22.80	19.87
	3:30	11.68	26.68	24.25	10.16	24.60	21.47	18.97	22.75	20.50
	4:00	12.52	28.52	26.10	10.44	28.50	25.05	21.60	24.58	21.97
	4:30	11.23	27.83	24.05	10.22	35.70	25.18	21.37	20.55	21.07
	5:00	12.18	29.78	26.00	11.42	30.87	27.83	25.62	20.63	20.82
	5:30	11.45	31.02	23.25	12.86	31.05	27.90	22.72	23.98	20.95
	6:00	13.53	27.57	24.38	11.66	32.05	23.68	21.97	22.43	21.53
	6:30	11.63	24.57	22.67	10.75	21.42	23.60	18.90	22.42	19.60
	7:00	10.63	24.53	22.90	10.76	21.72	22.52	17.63	20.07	17.62

TABLE D-3. Peak Period Total Travel Time on East-West Routes (October 1991)

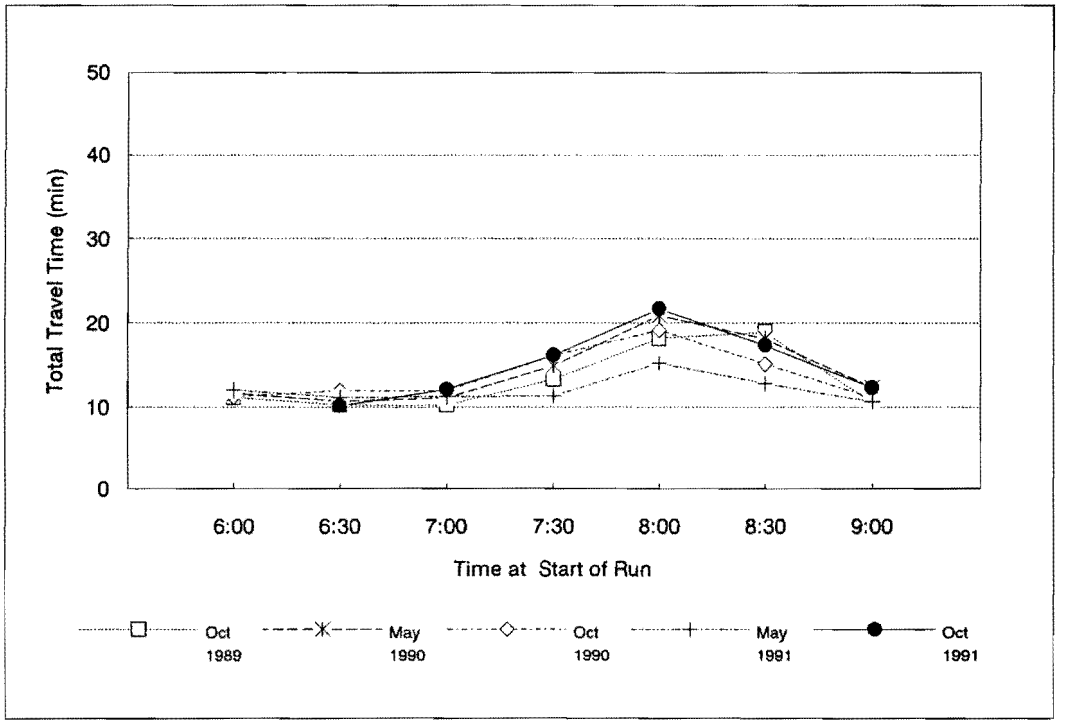
Run Beginning		Travel Time (min)			
		Eastbound		Westbound	
		Loop 12	Royal	Loop 12	Royal
A.M. Peak Period	6:00	9.95	14.73	10.40	13.50
	6:30	10.08	12.98	10.65	14.72
	7:00	10.52	10.70	11.95	13.75
	7:30	10.47	15.33	12.00	17.07
	8:00	12.22	16.63	12.12	13.53
	8:30	12.97	13.95	9.22	14.93
	9:00	13.38	13.68	12.97	14.08
P.M. Peak Period	3:00	11.68	14.92	10.37	13.40
	3:30	12.27	16.83	9.82	11.73
	4:00	12.10	14.83	10.00	16.35
	4:30	13.15	14.48	10.77	16.08
	5:00	16.40	18.93	11.13	11.45
	5:30	20.10	20.12	10.18	13.85
	6:00	15.52	15.98	10.25	12.23
	6:30	11.37	18.62	9.80	16.52
	7:00	10.53	12.55	9.05	13.02

TABLE D-4. Off-Peak Period Total Travel Time on US-75 (October 1991)

Run Beginning	Travel Time (min)	
	Northbound	Southbound
10:00 A.M.	17.02	15.49
10:30	18.04	15.20
11:00	20.92	15.46
11:30	22.49	15.77
12:00 P.M.	20.08	14.61
12:30	23.58	15.61
1:00	21.00	15.71
1:30	24.61	14.65

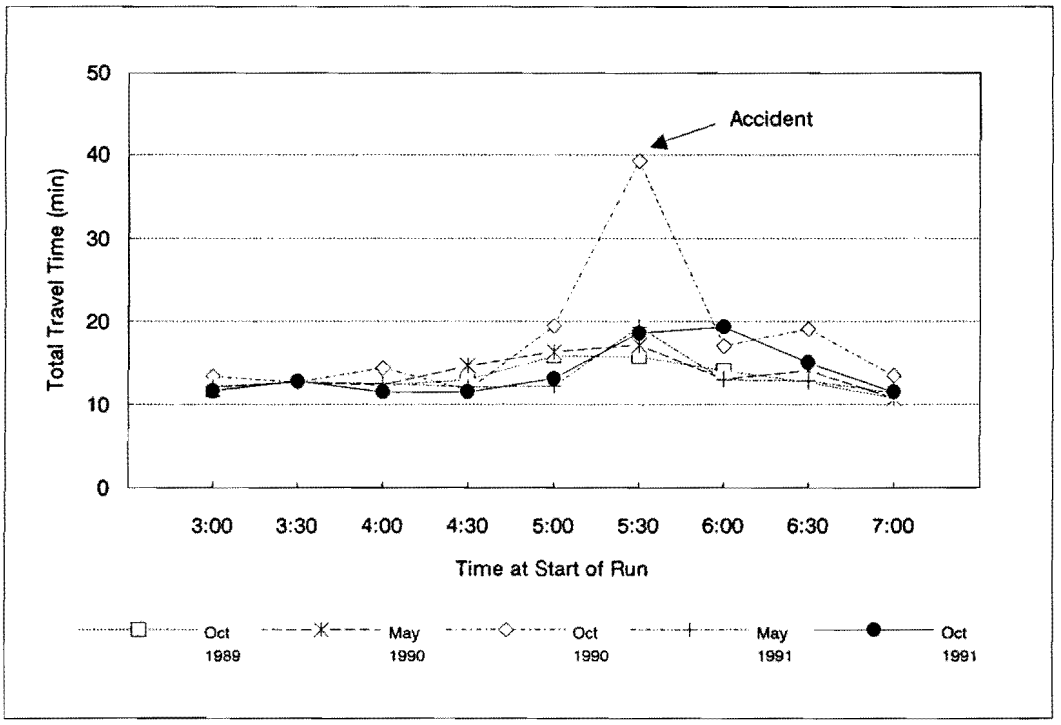


(a) Northbound

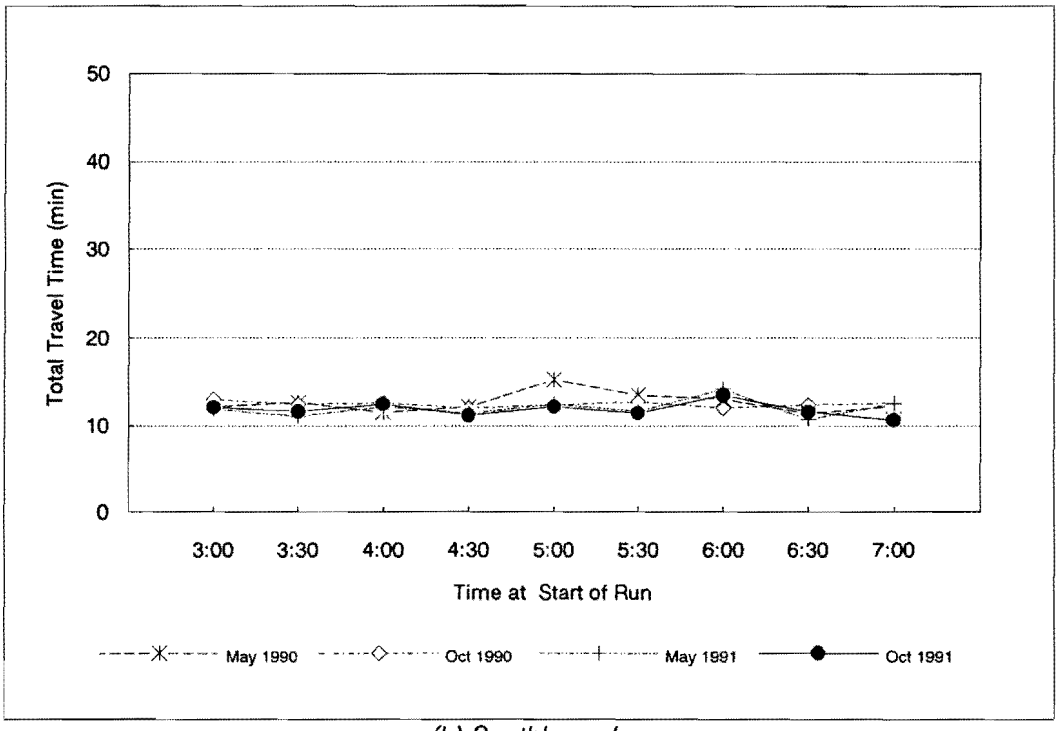


(b) Southbound

Figure D-1. A.M. Peak Period Total Travel Time Between I-635 and CBD: DNT

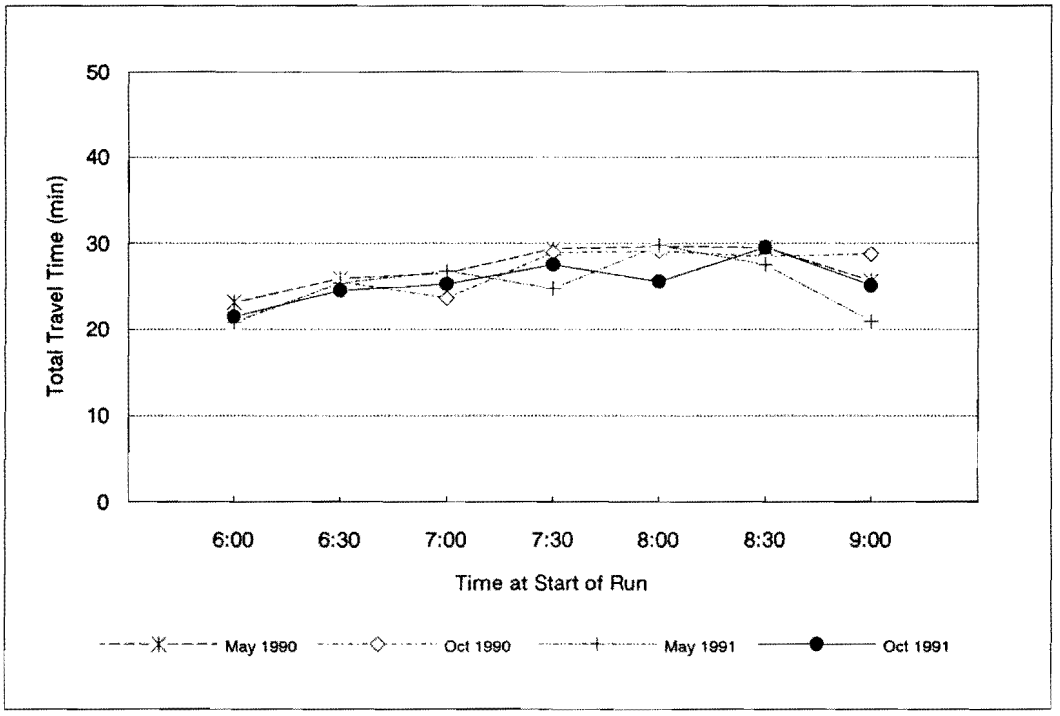


(a) Northbound

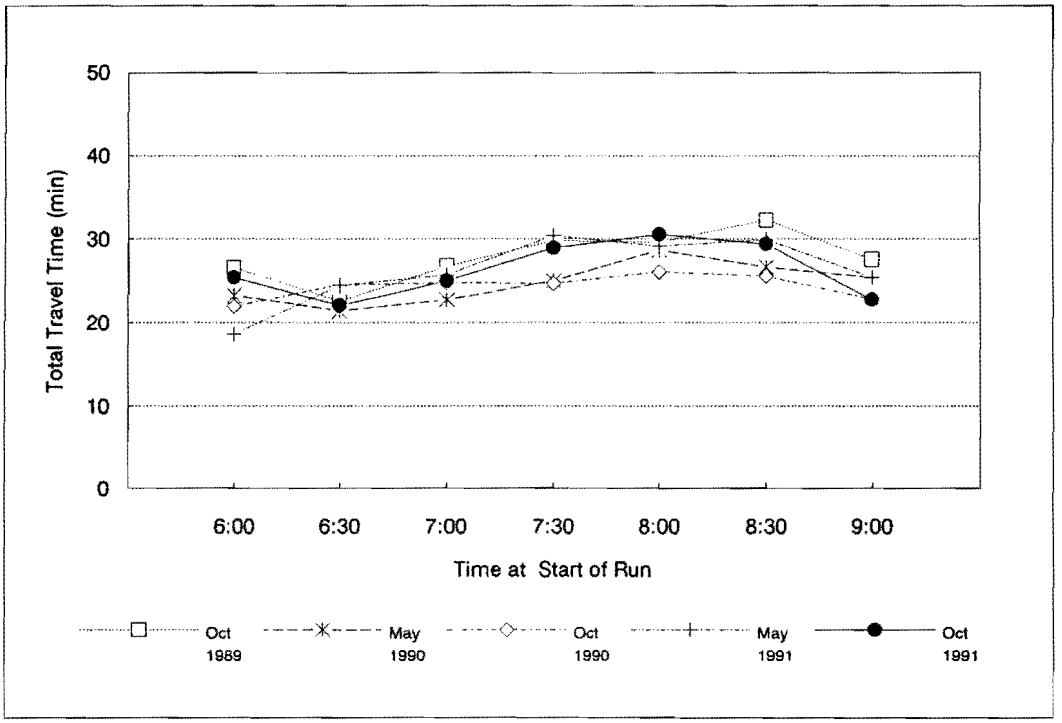


(b) Southbound

Figure D-2. P.M. Peak Period Total Travel Time Between I-635 and CBD: DNT

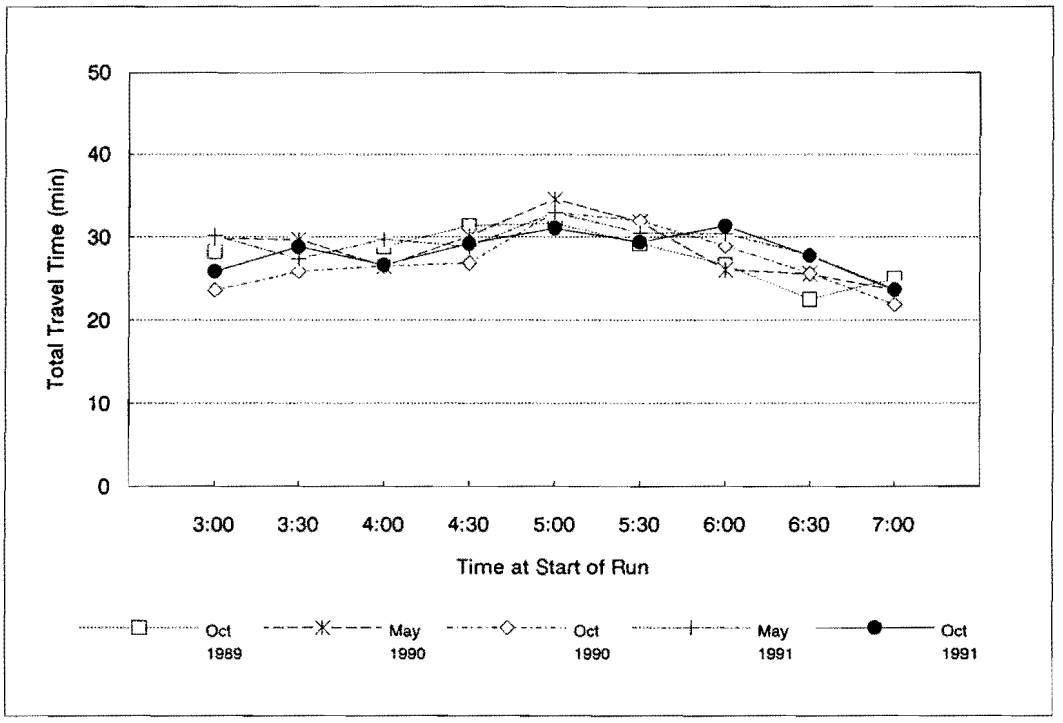


(a) Northbound

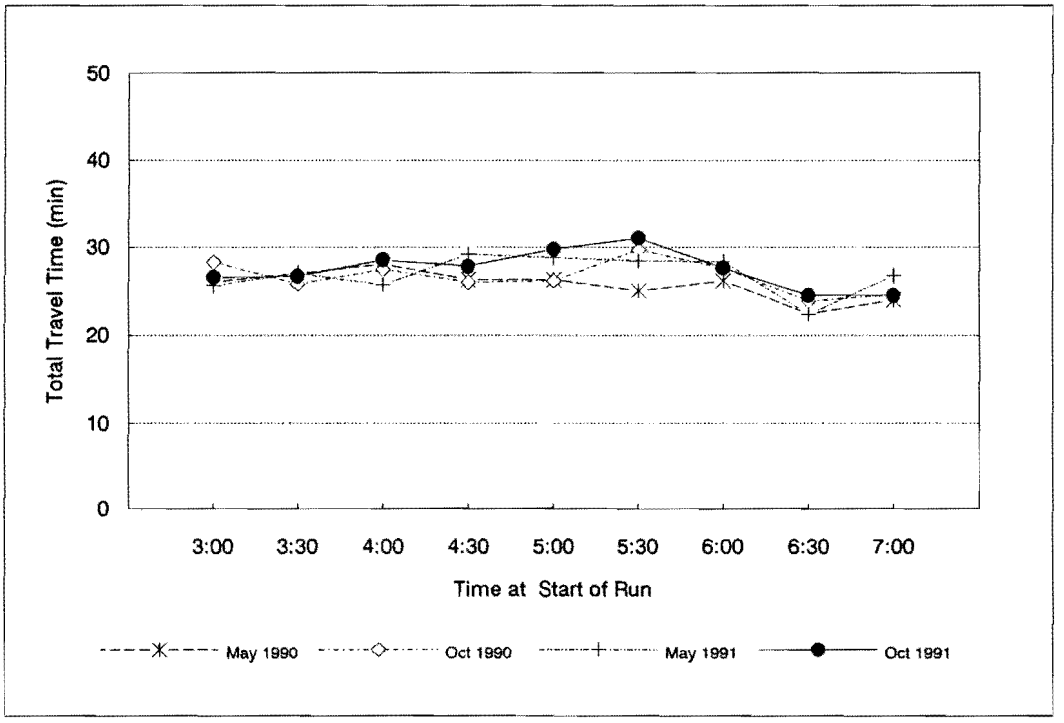


(b) Southbound

Figure D-3. A.M. Peak Period Total Travel Time Between I-635 and CBD: Preston

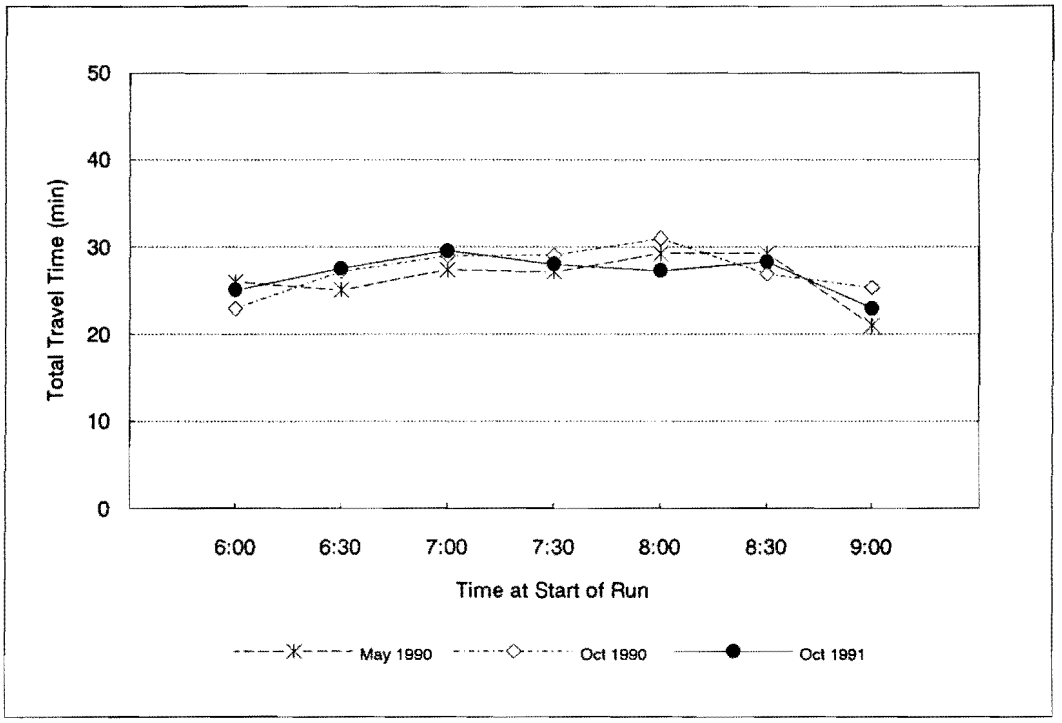


(a) Northbound

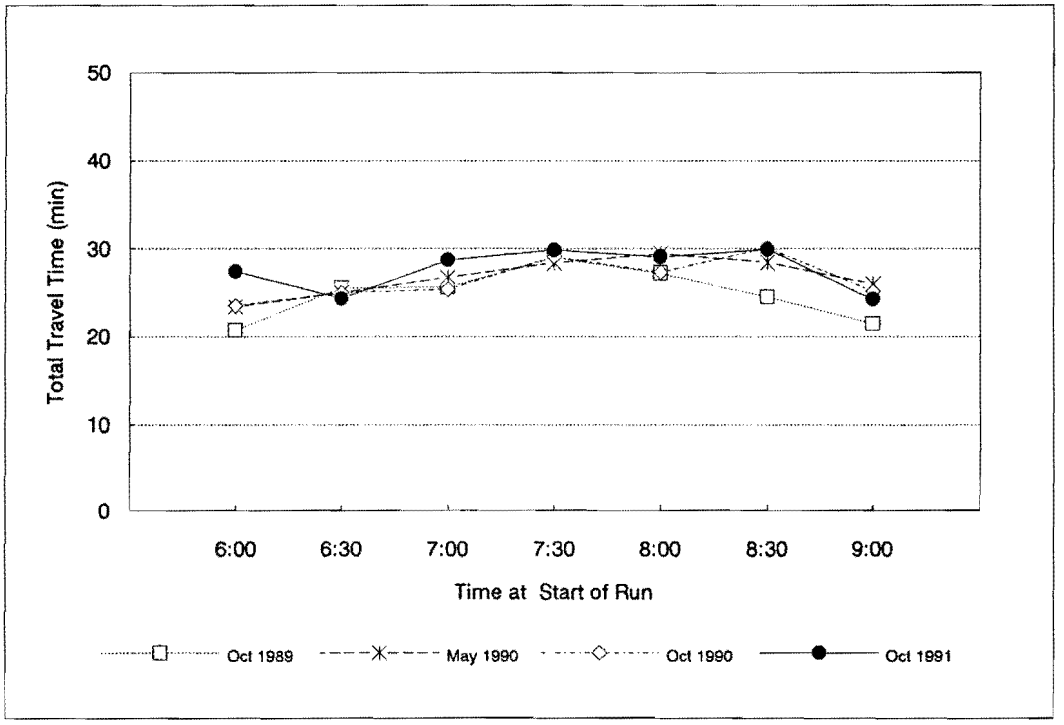


(b) Southbound

Figure D-4. P.M. Peak Period Total Travel Time Between I-635 and CBD: Preston

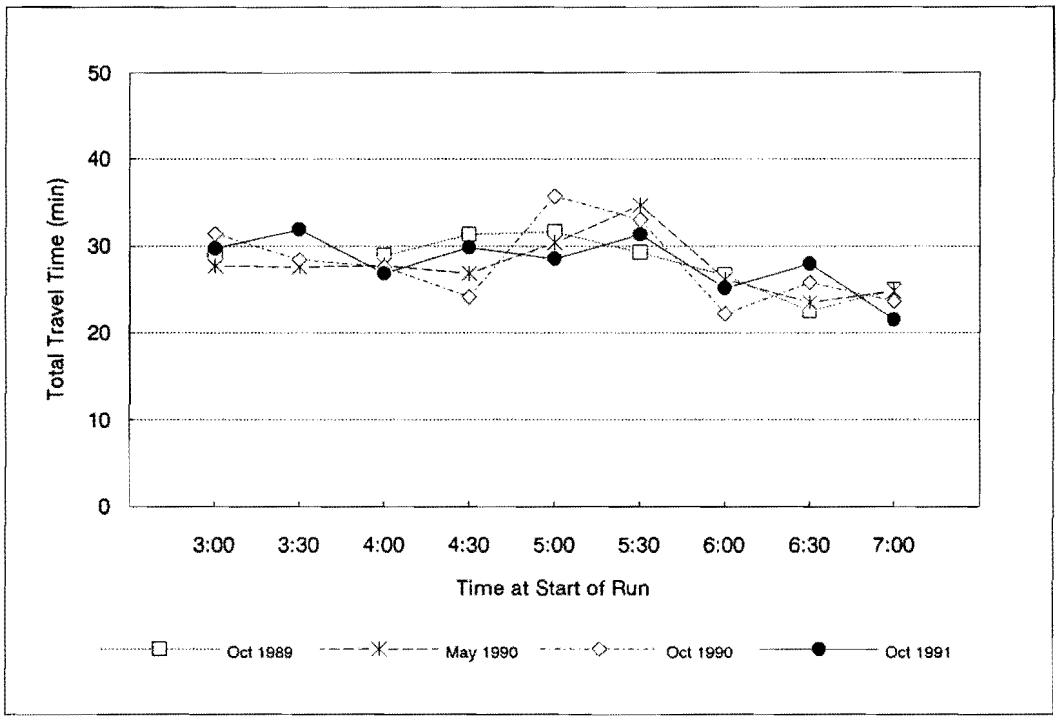


(a) Northbound

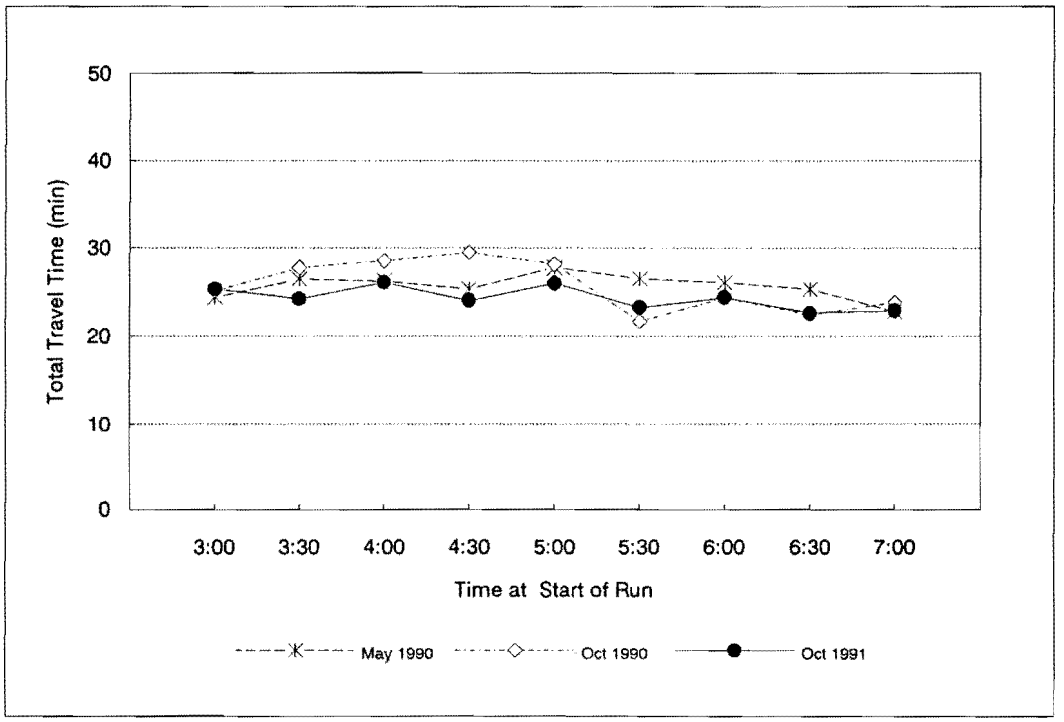


(b) Southbound

Figure D-5. A.M. Peak Period Total Travel Time Between I-635 and CBD: Hillcrest

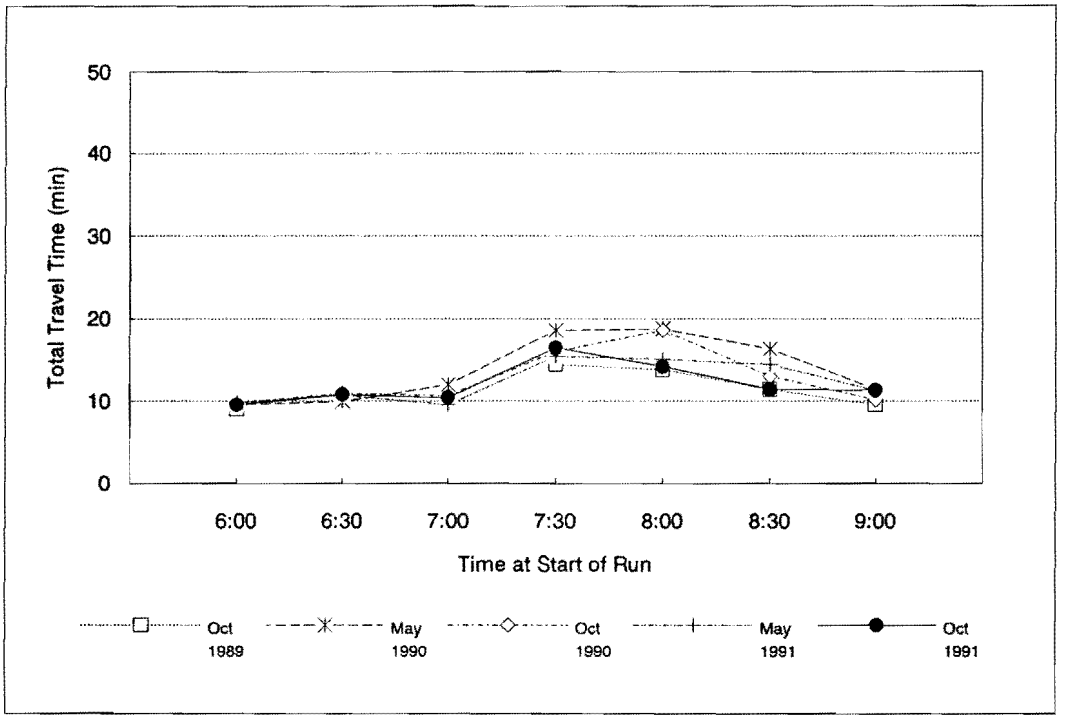


(a) Northbound

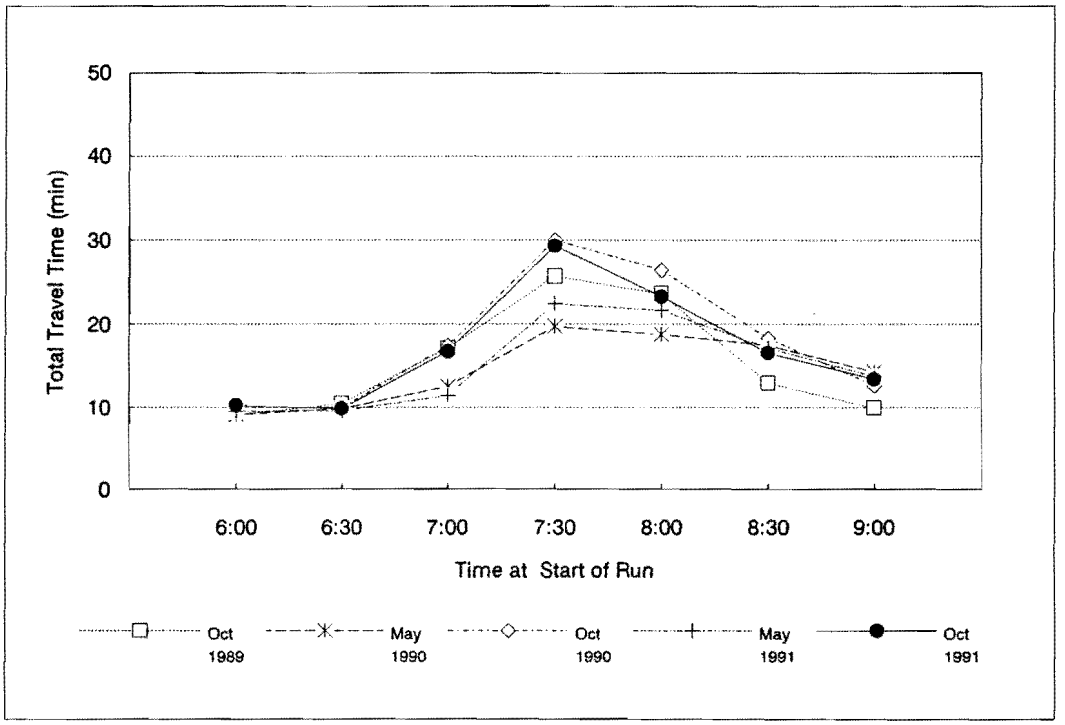


(b) Southbound

Figure D-6. P.M. Peak Period Total Travel Time Between I-635 and CBD: Hillcrest

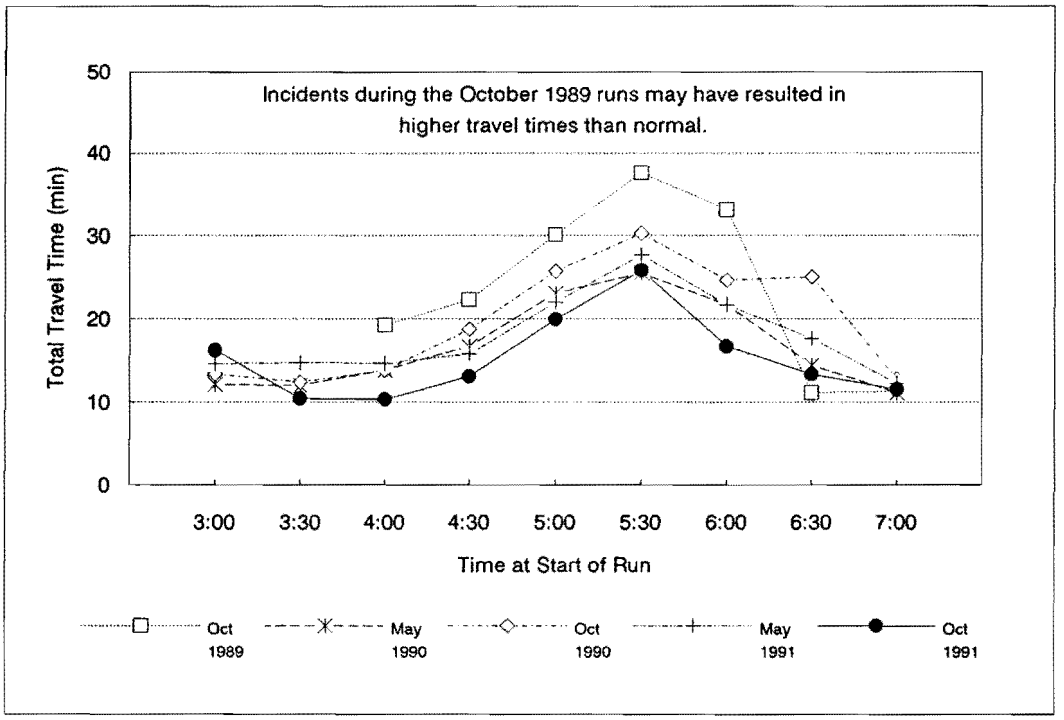


(a) Northbound

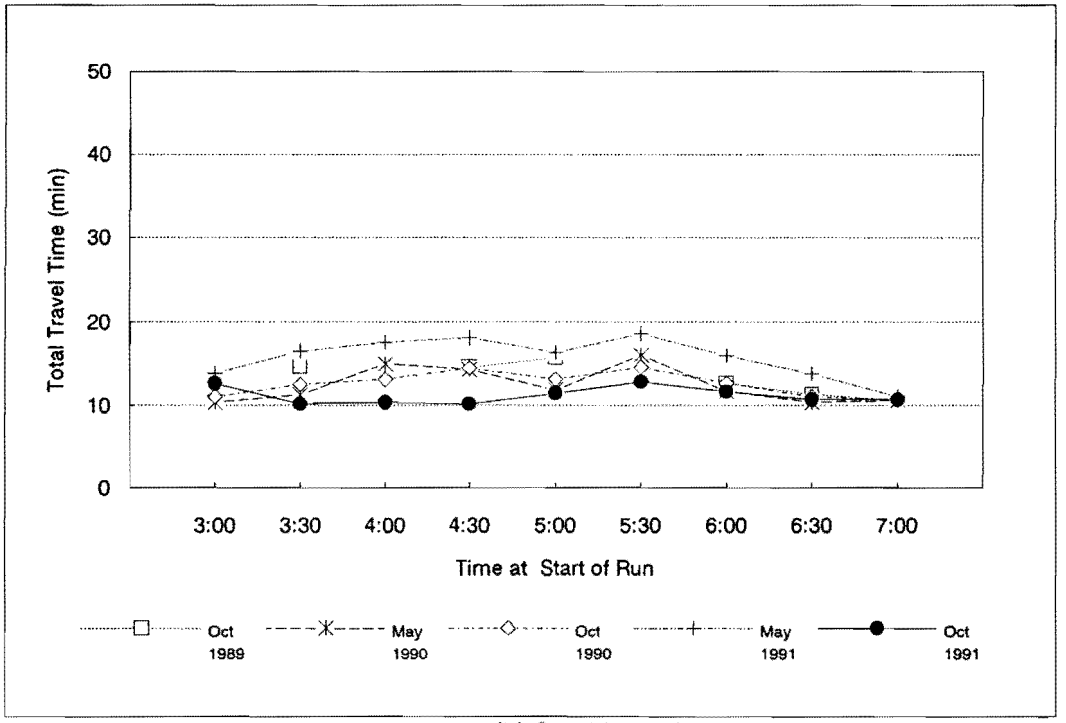


(b) Southbound

Figure D-7. A.M. Peak Period Total Travel Time Between I-635 and CBD: US-75

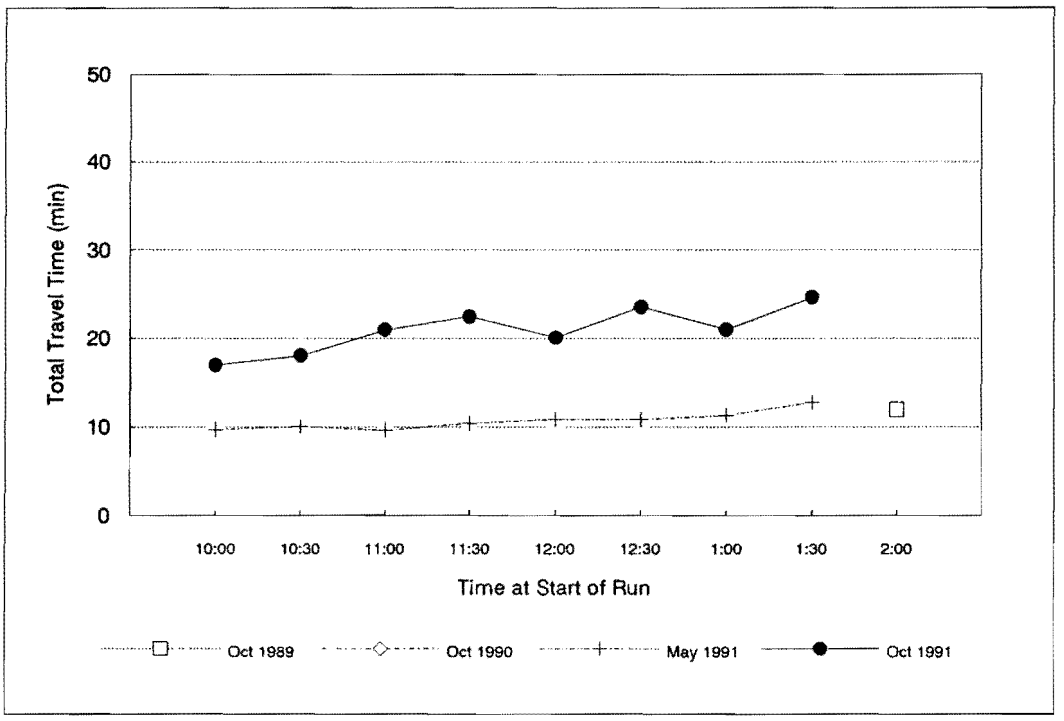


(a) Northbound

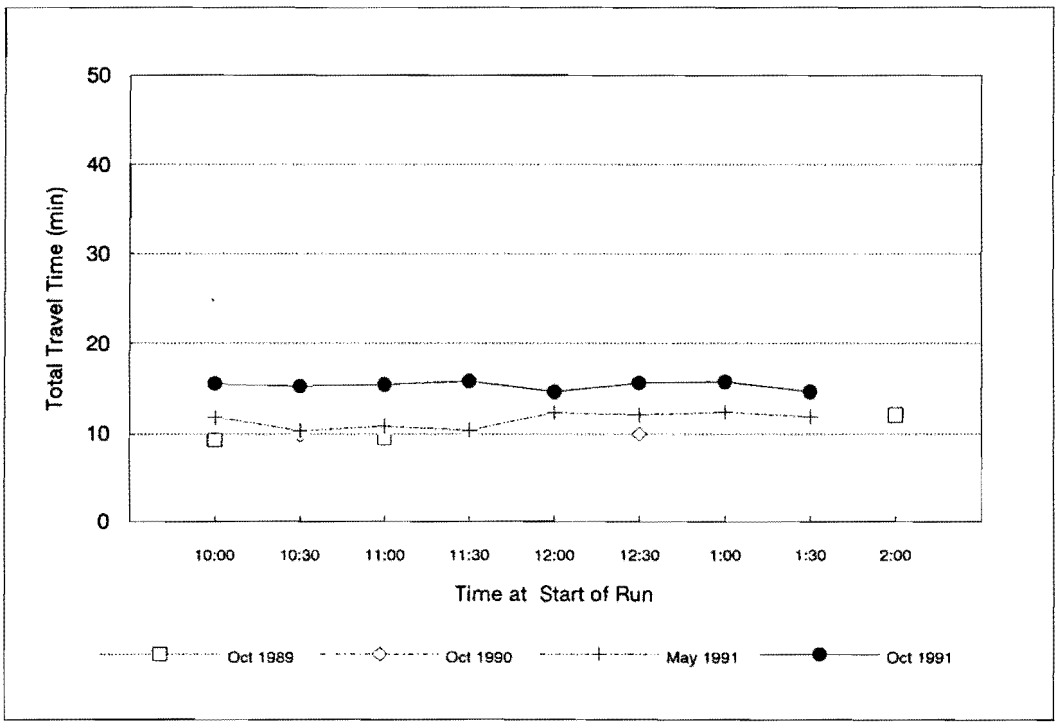


(b) Southbound

Figure D-8. P.M. Peak Period Total Travel Time Between I-635 and CBD: US-75

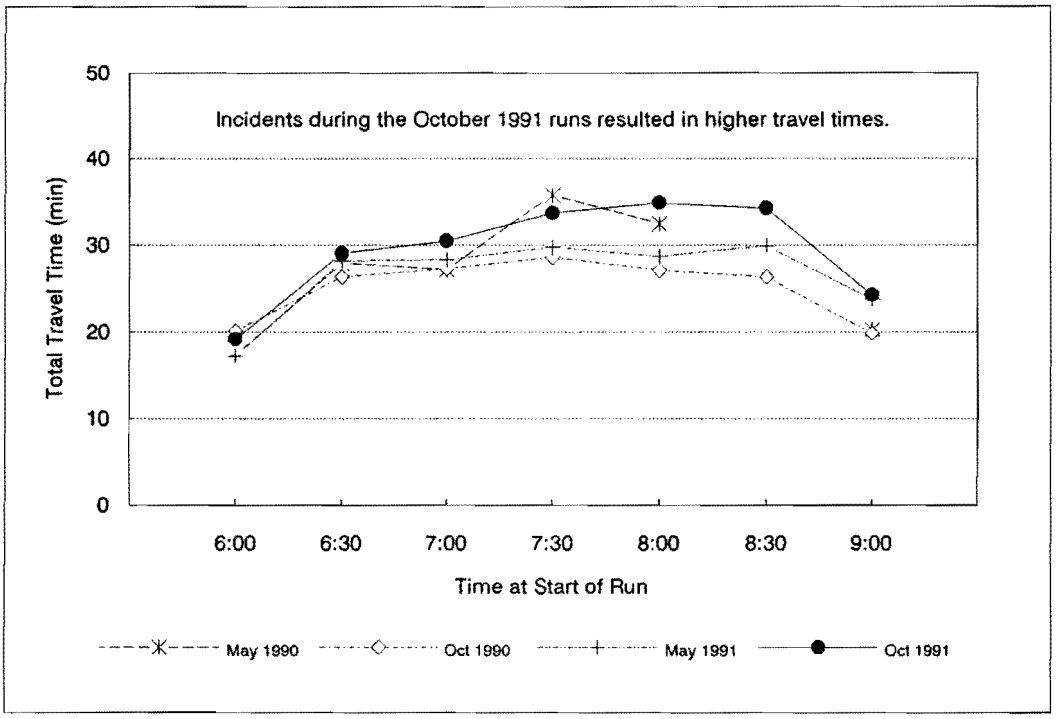


(a) Northbound

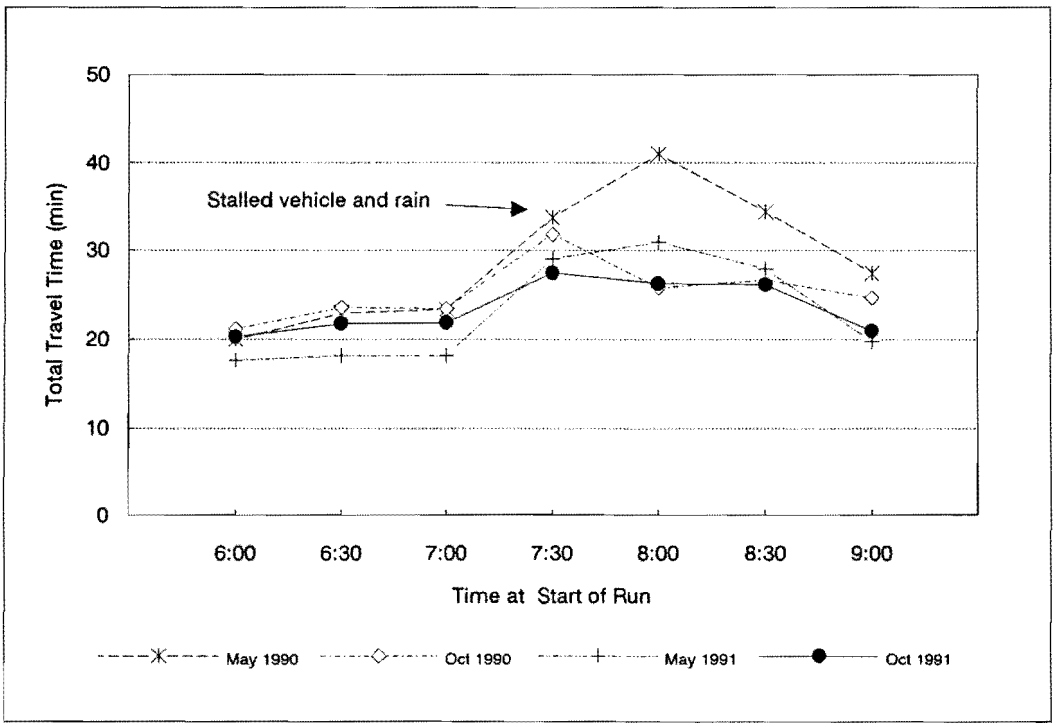


(b) Southbound

Figure D-9. Off-Peak Period Total Travel Time Between I-635 and CBD: US-75

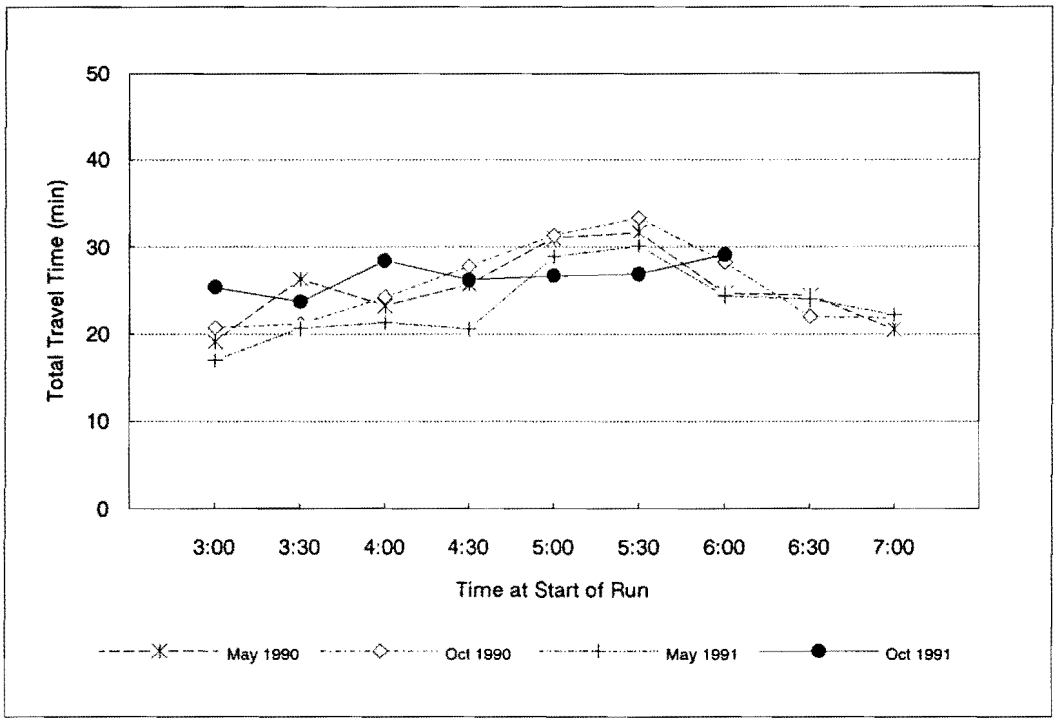


(a) Northbound

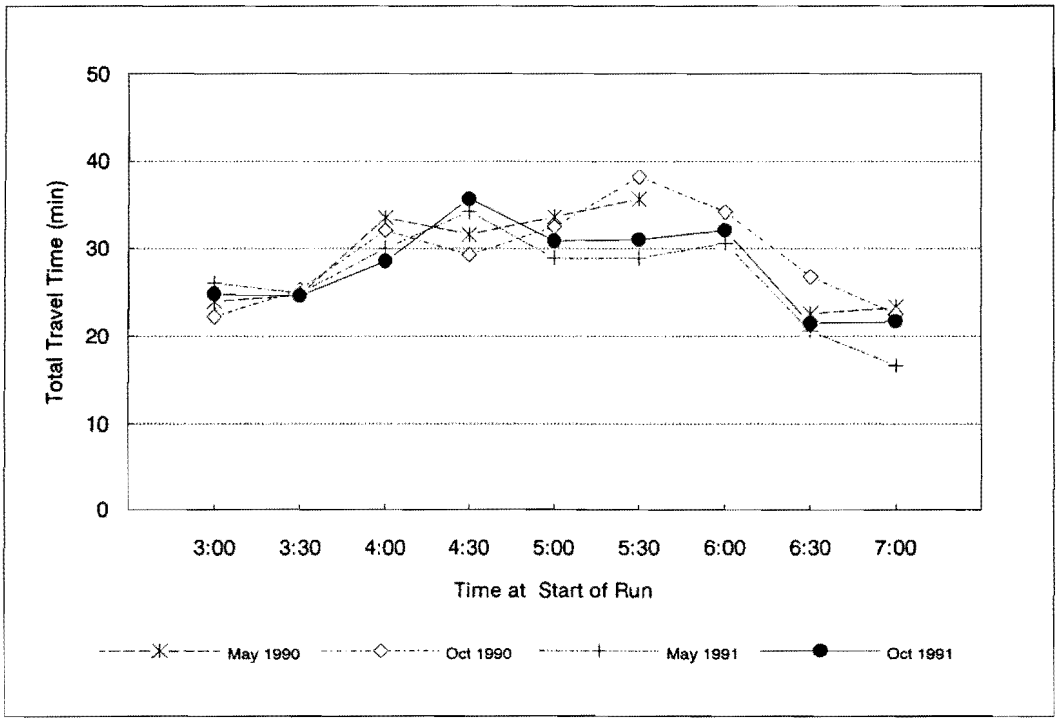


(b) Southbound

Figure D-10. A.M. Peak Period Total Travel Time Between I-635 and CBD: US-75 Frontage Road

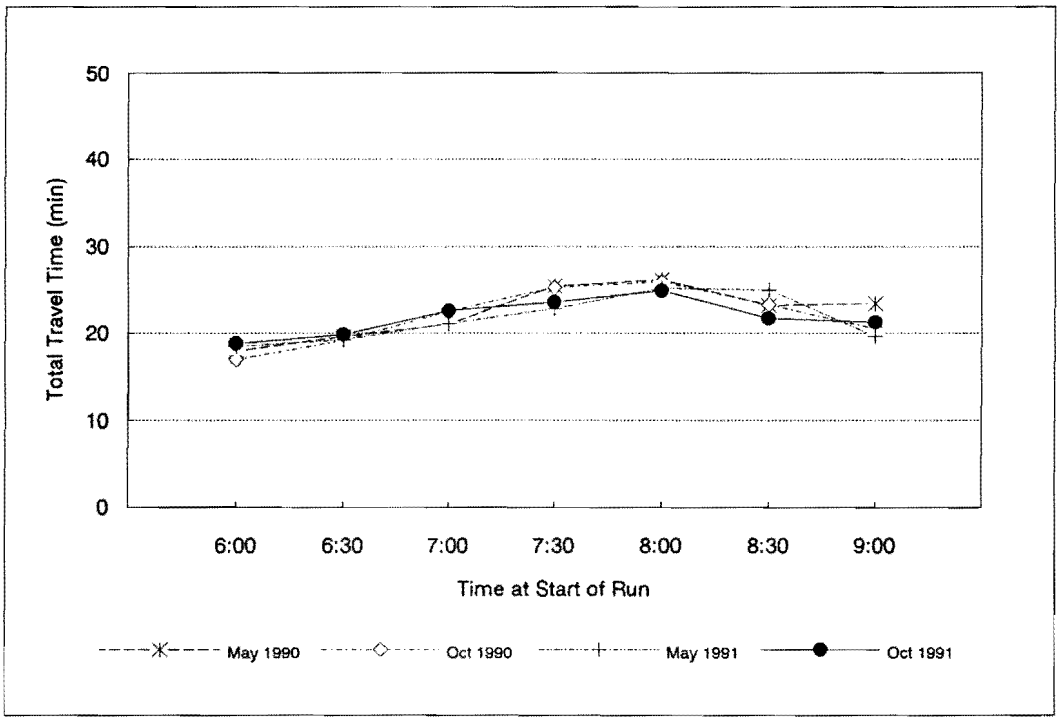


(a) Northbound

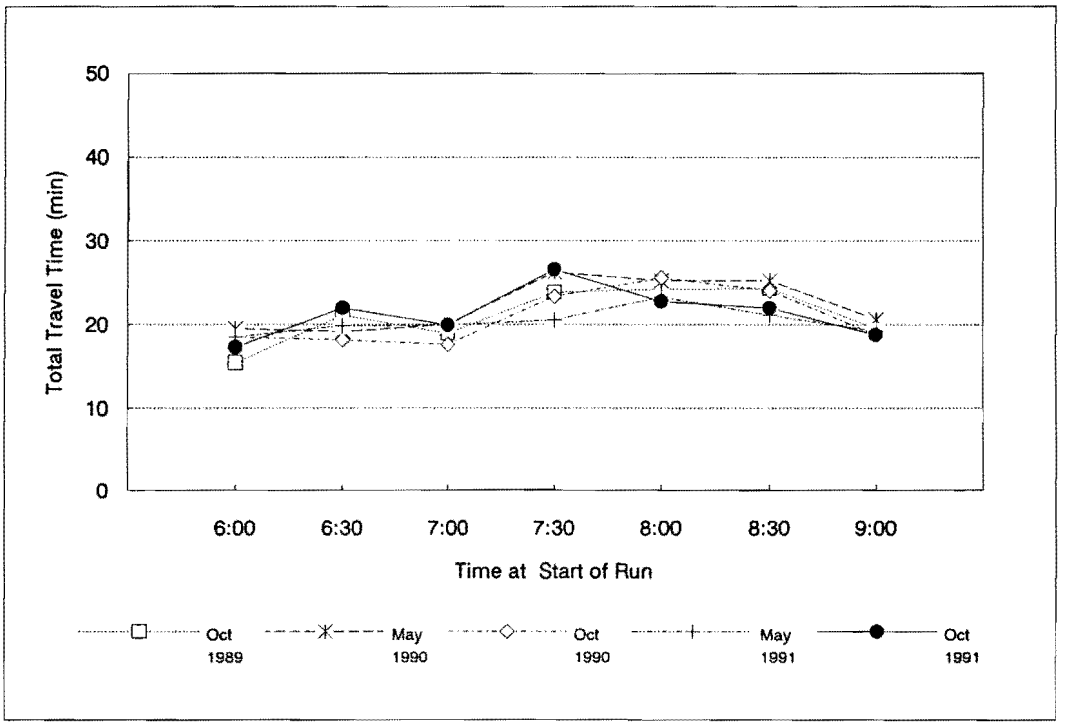


(b) Southbound

Figure D-11. P.M. Peak Period Total Travel Time Between I-635 and CBD: US-75 Frontage Road

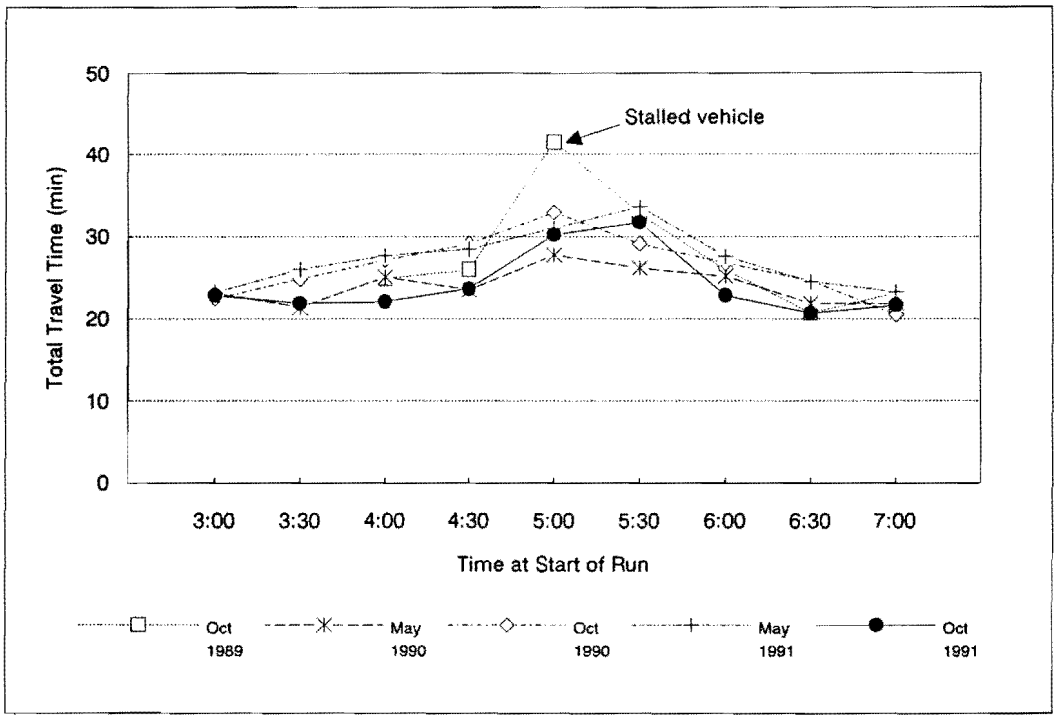


(a) Northbound

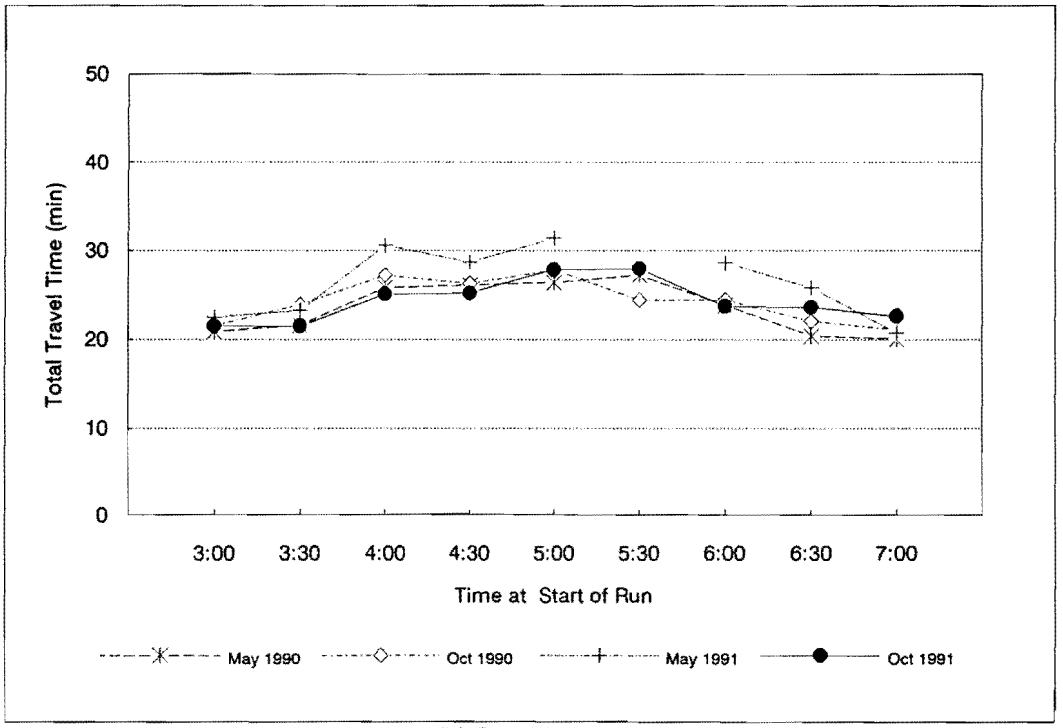


(b) Southbound

Figure D-12. A.M. Peak Period Total Travel Time Between I-635 and CBD: Greenville

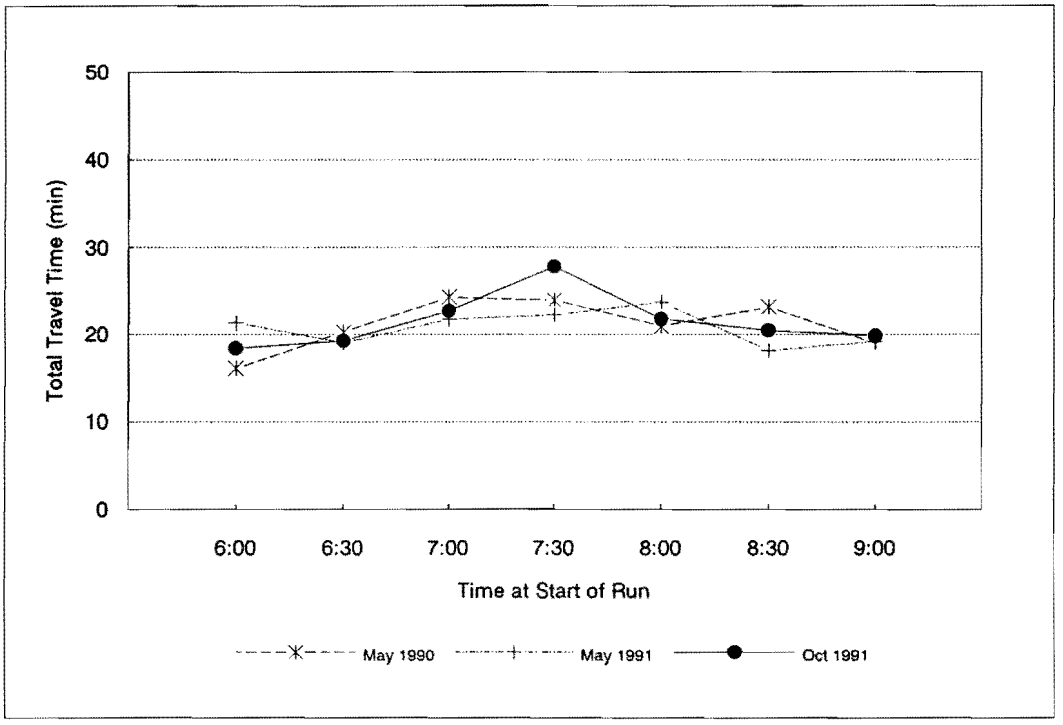


(a) Northbound

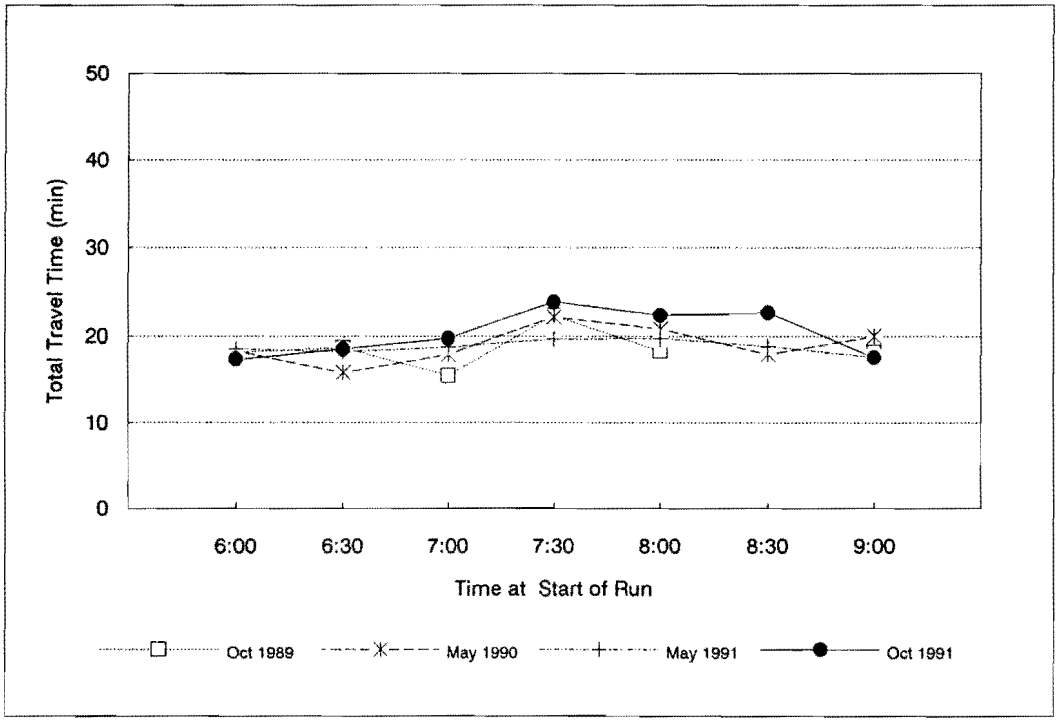


(b) Southbound

Figure D-13. P.M. Peak Period Total Travel Time Between I-635 and CBD: Greenville

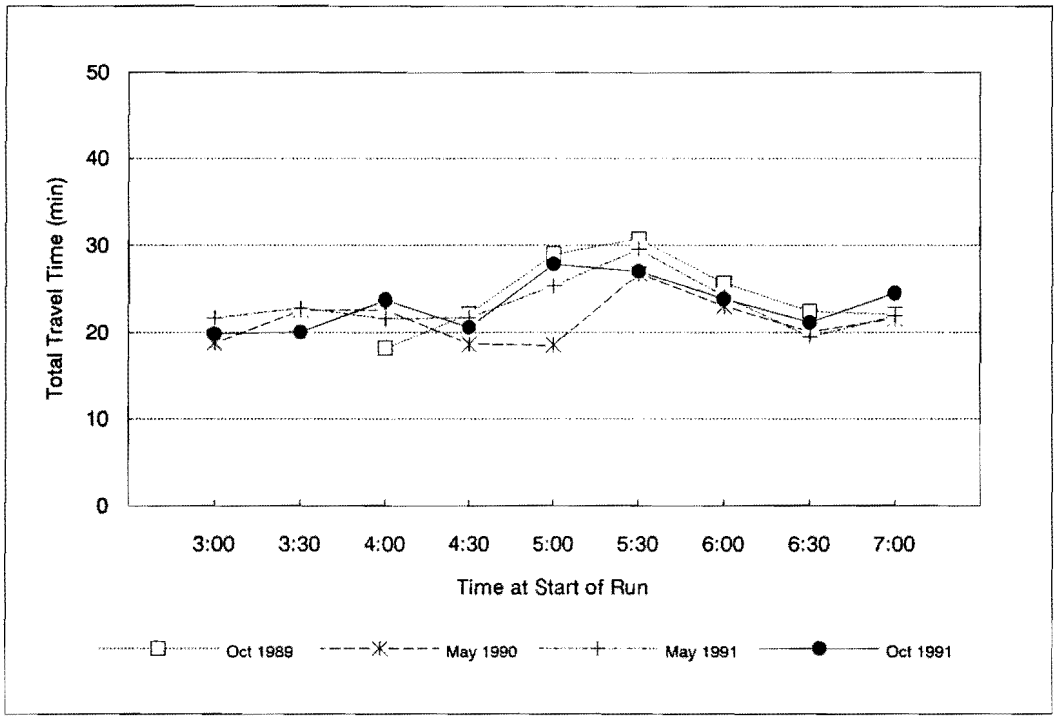


(a) Northbound

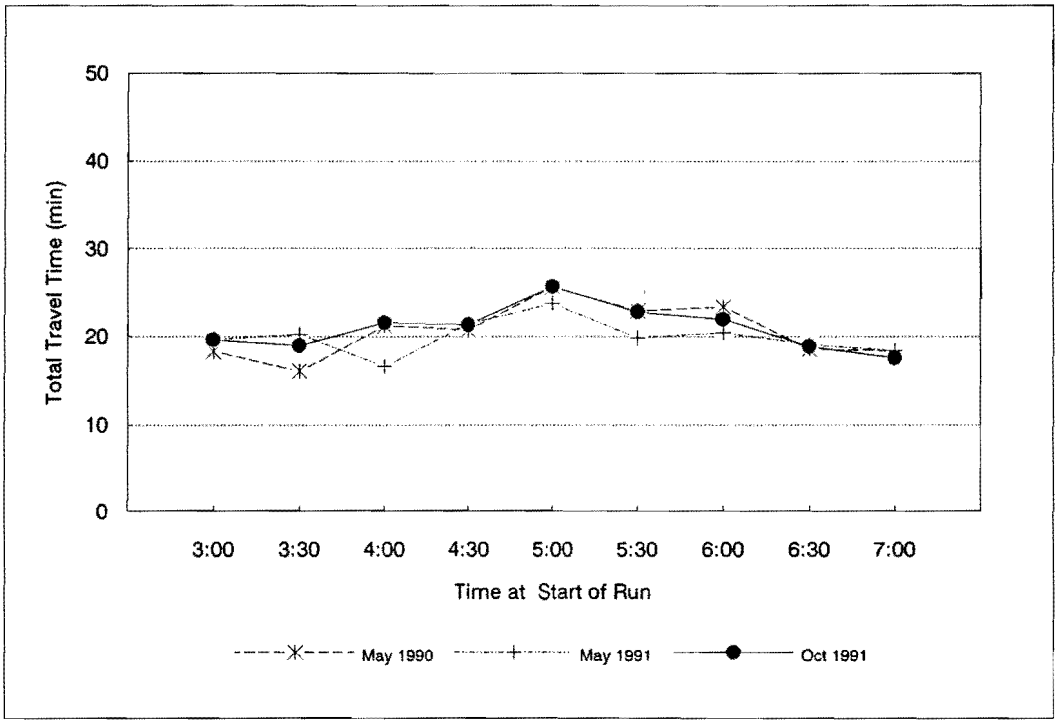


(b) Southbound

Figure D-14. A.M. Peak Period Total Travel Time Between I-635 and CBD: Skillman

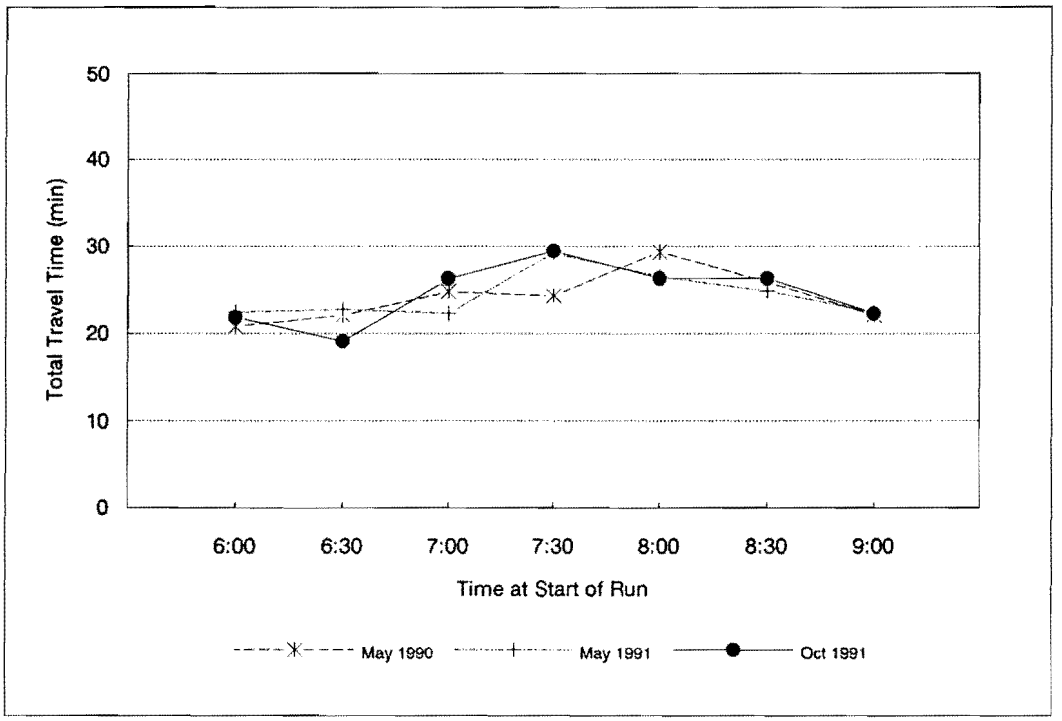


(a) Northbound

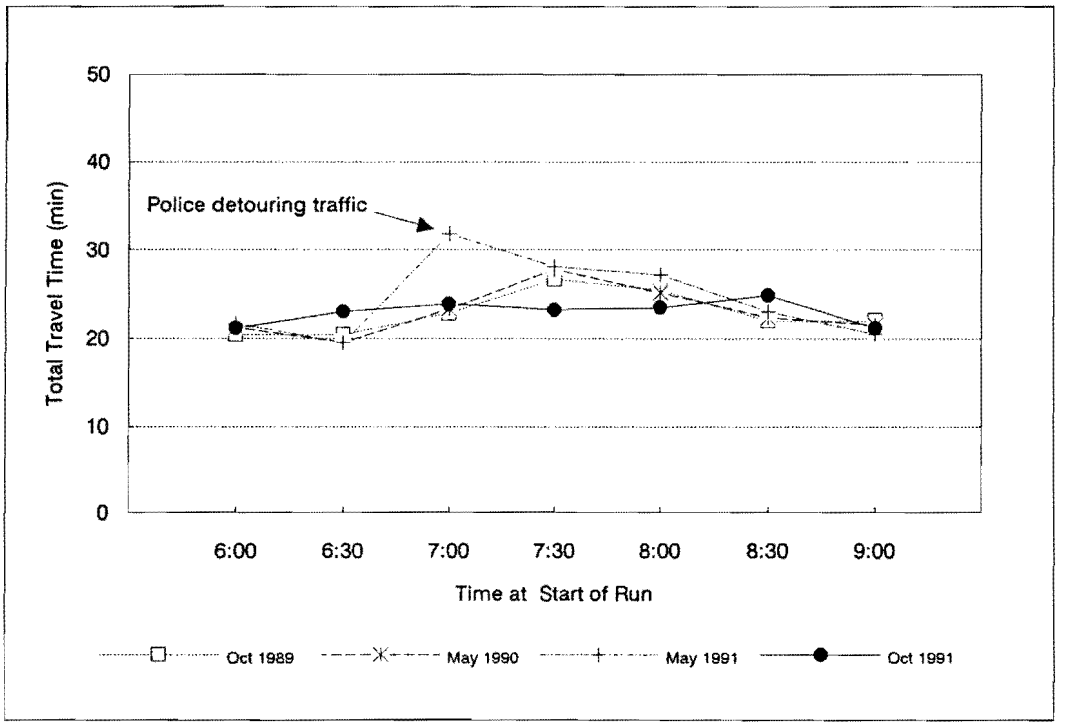


(b) Southbound

Figure D-15. P.M. Peak Period Total Travel Time Between I-635 and CBD: Skillman

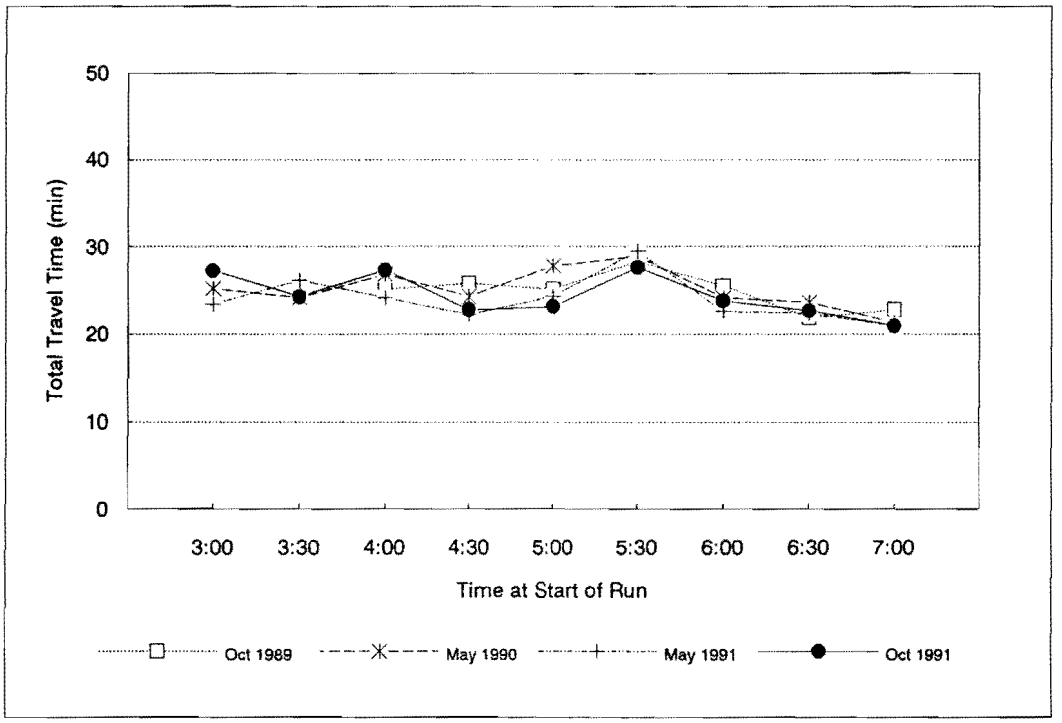


(a) Northbound

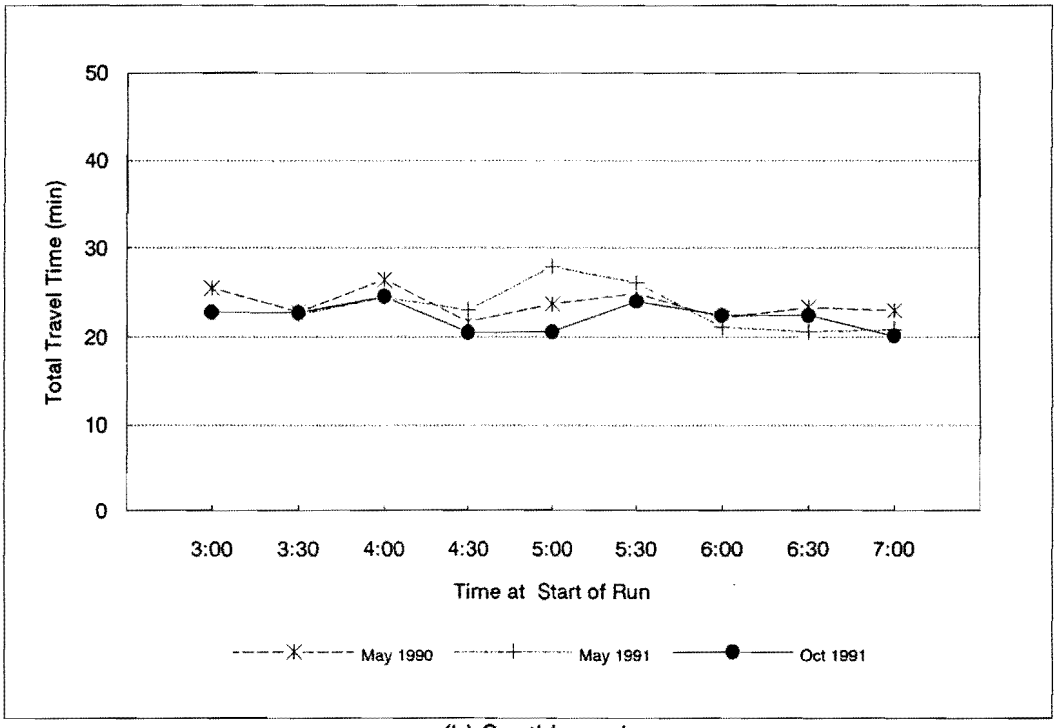


(b) Southbound

Figure D-16. A.M. Peak Period Total Travel Time Between I-635 and CBD: Abrams

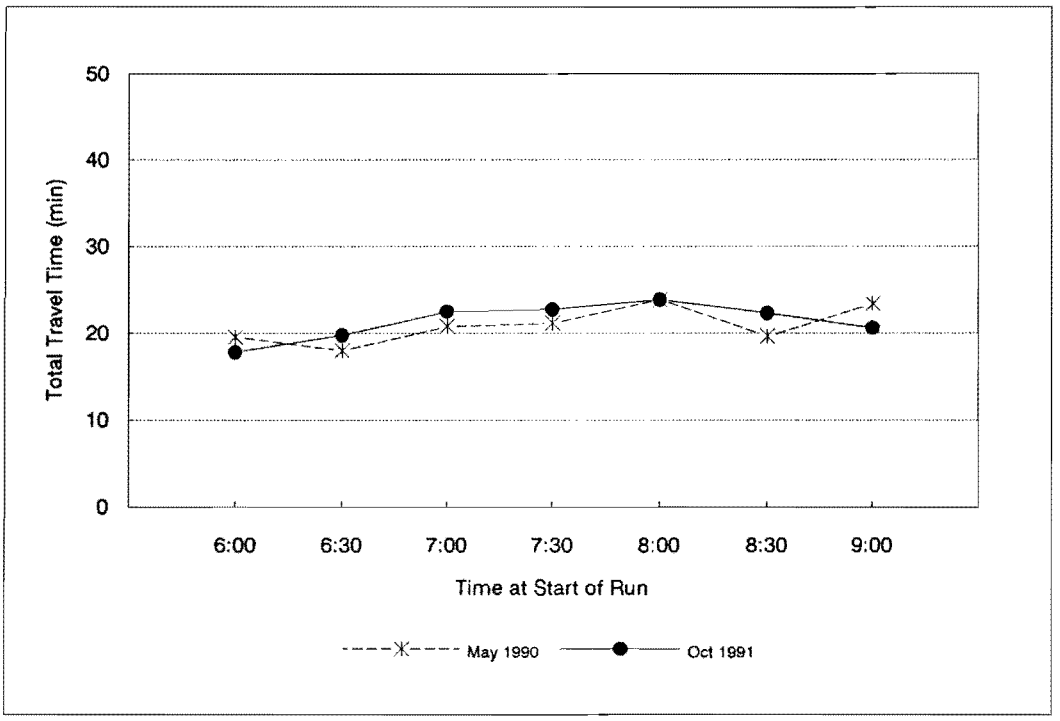


(a) Northbound

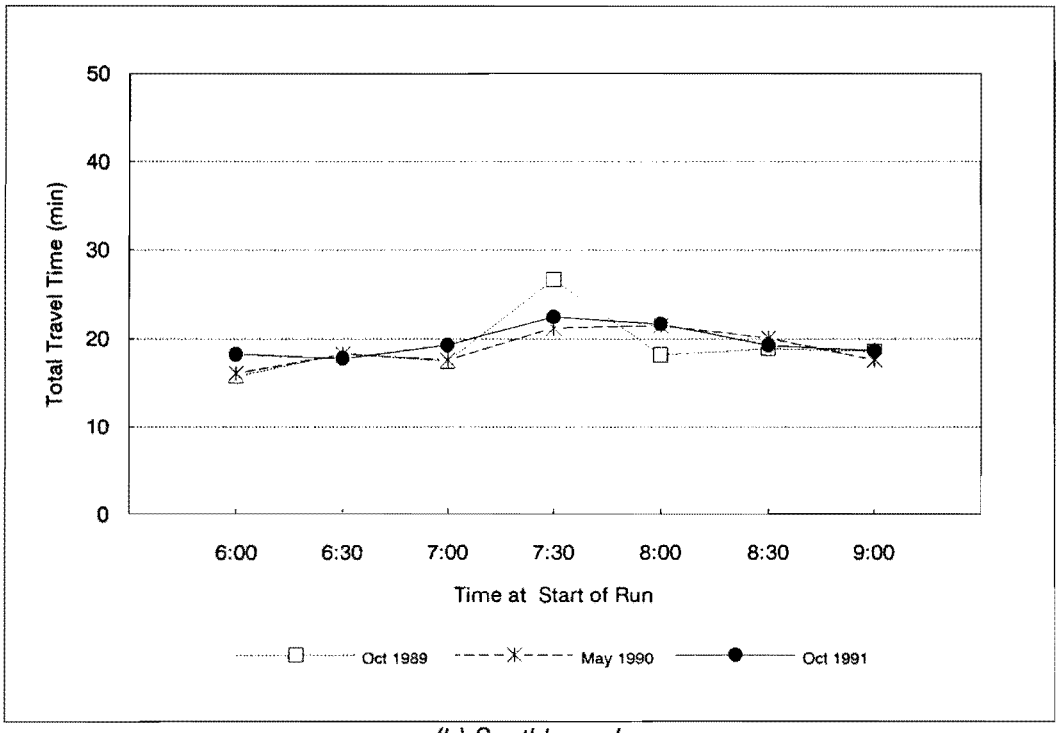


(b) Southbound

Figure D-17. P.M. Peak Period Total Travel Time Between I-635 and CBD: Abrams

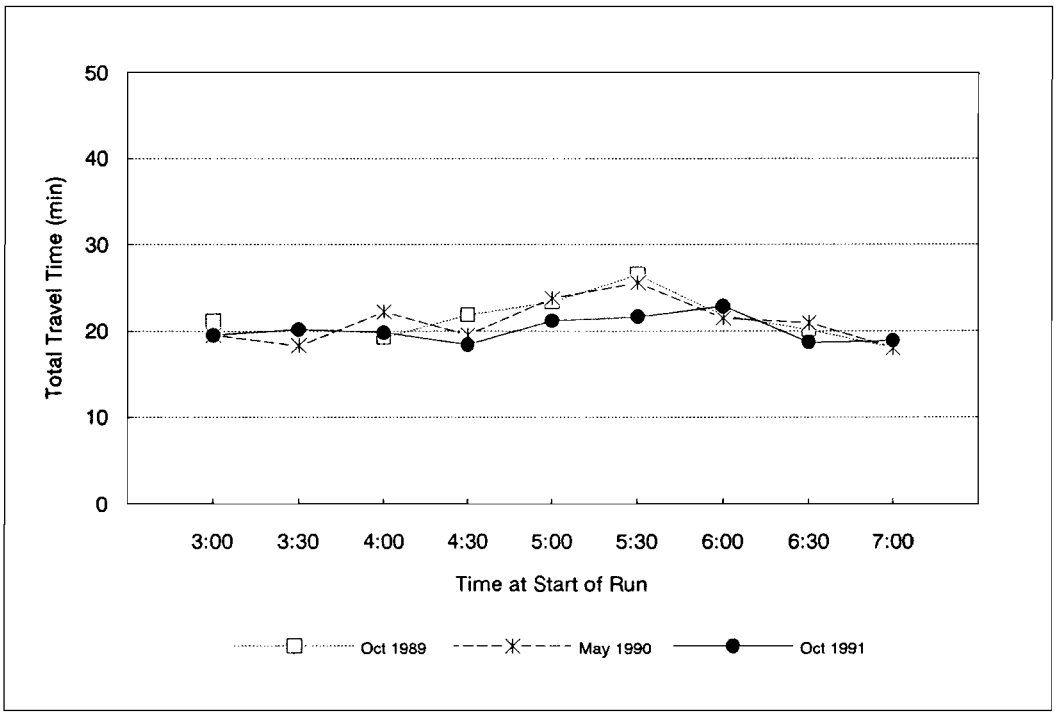


(a) Northbound

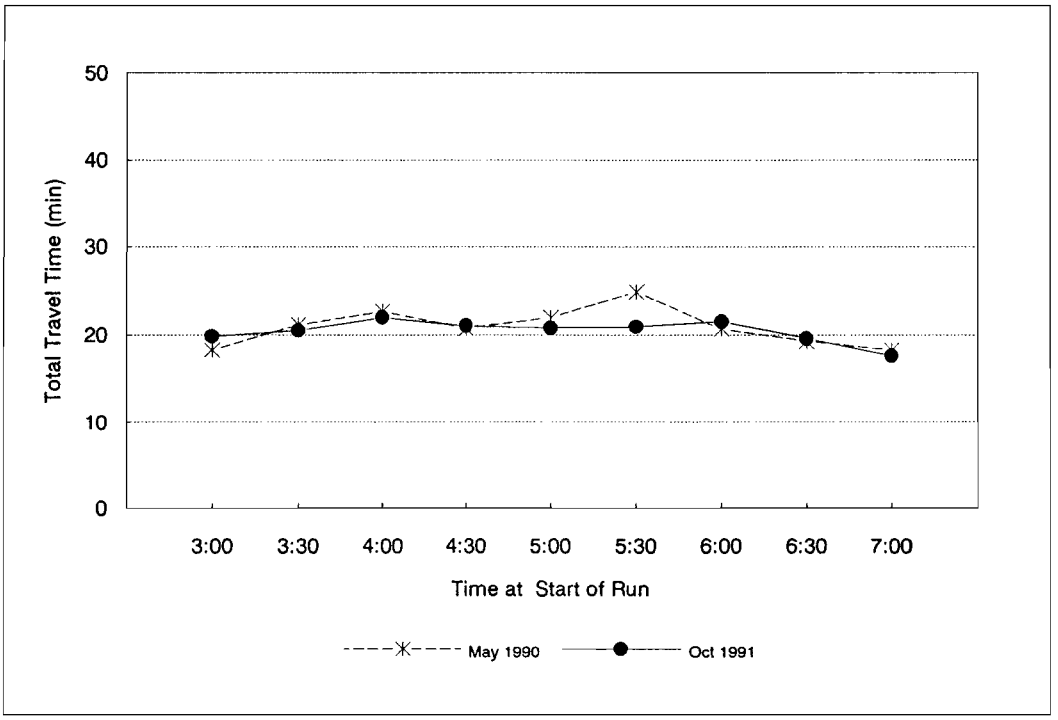


(b) Southbound

Figure D-18. A.M. Peak Period Total Travel Time Between I-635 and CBD: Garland

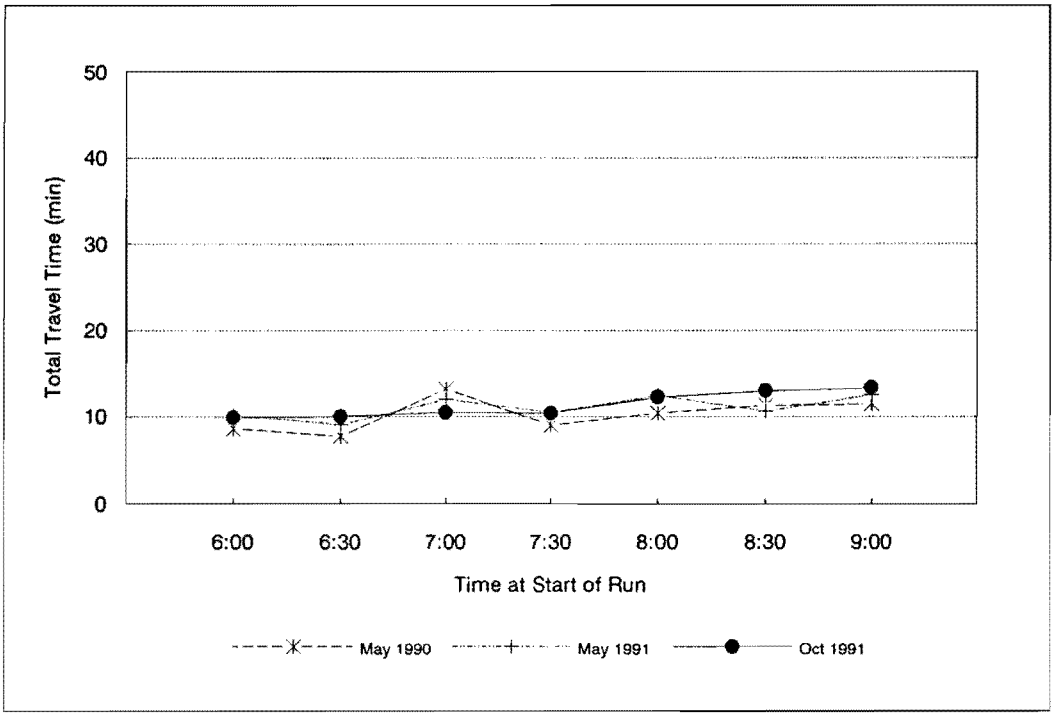


(a) Northbound

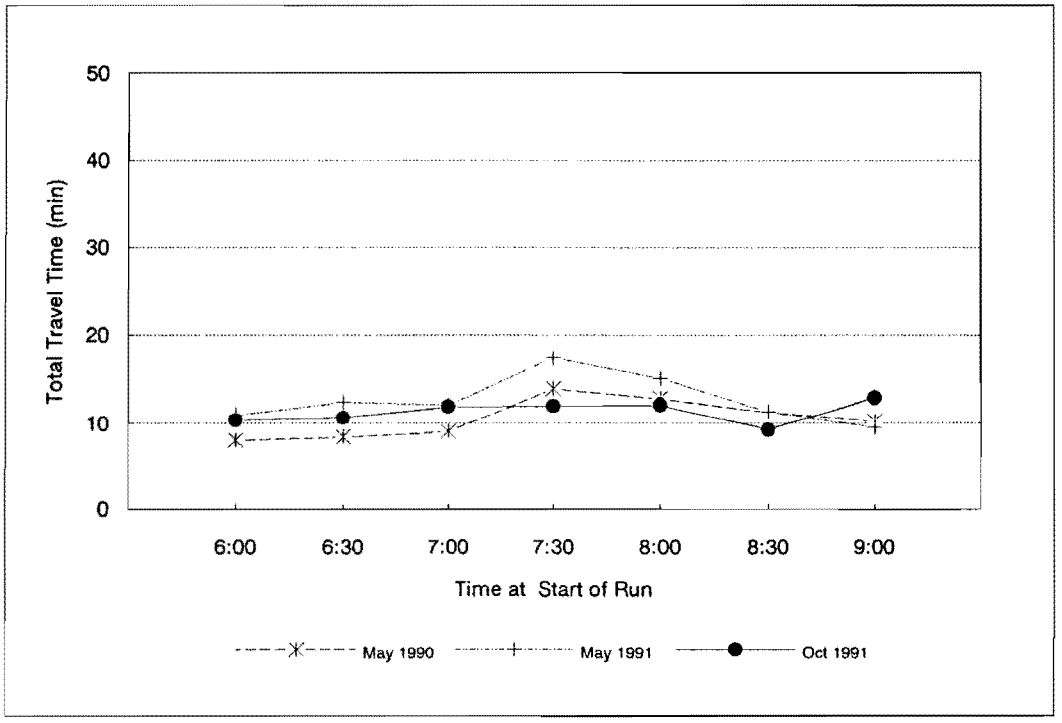


(b) Southbound

Figure D-19. P.M. Peak Period Total Travel Time Between I-635 and CBD: Garland

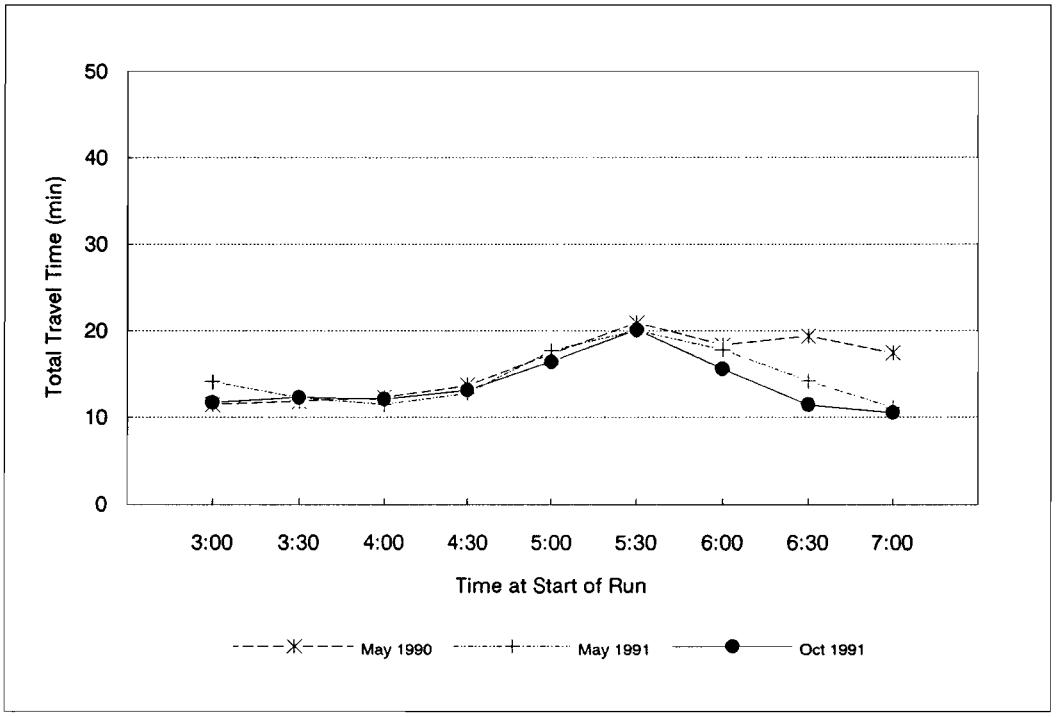


(a) Eastbound

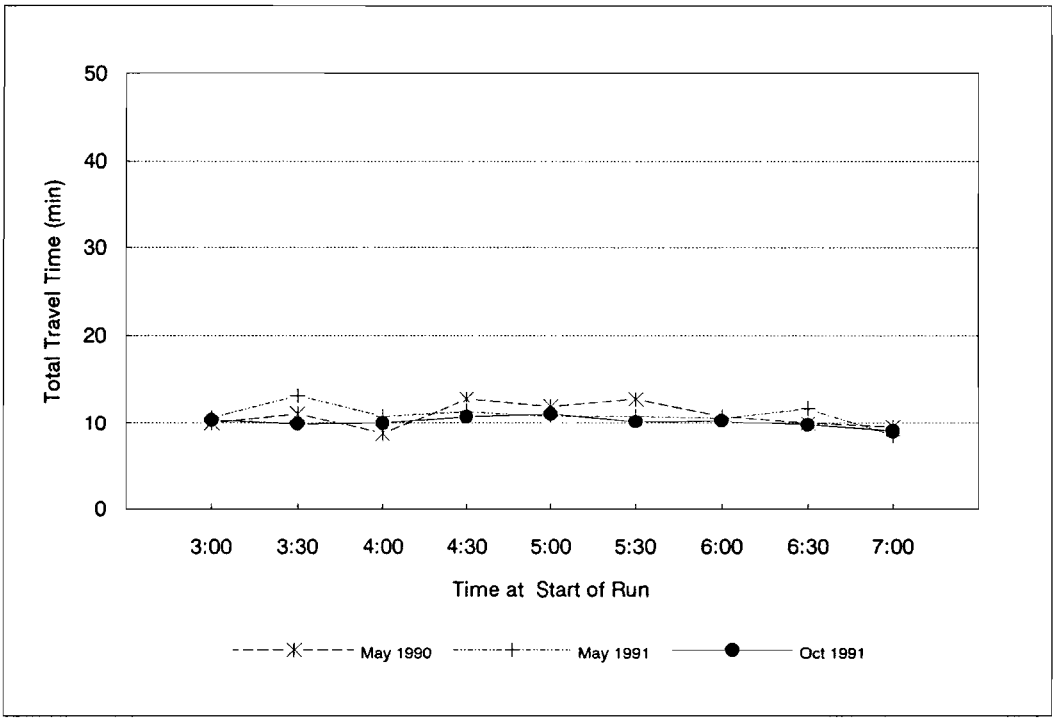


(b) Westbound

Figure D-20. A.M. Peak Period Total Travel Time Between Midway and Abrams: Loop 12

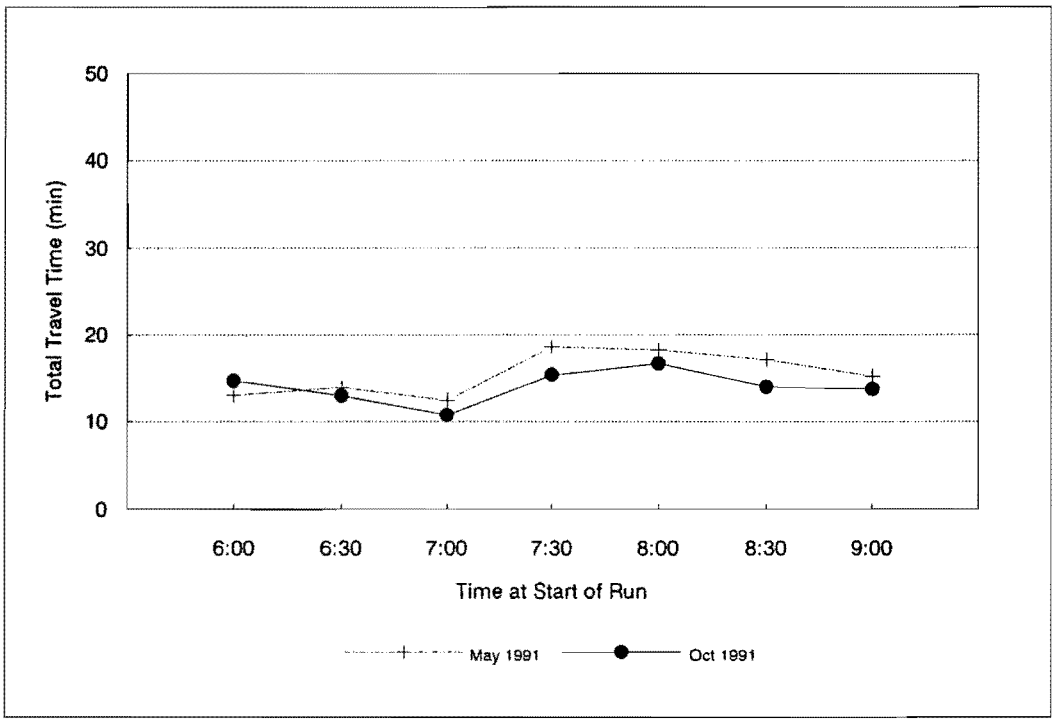


(a) Eastbound

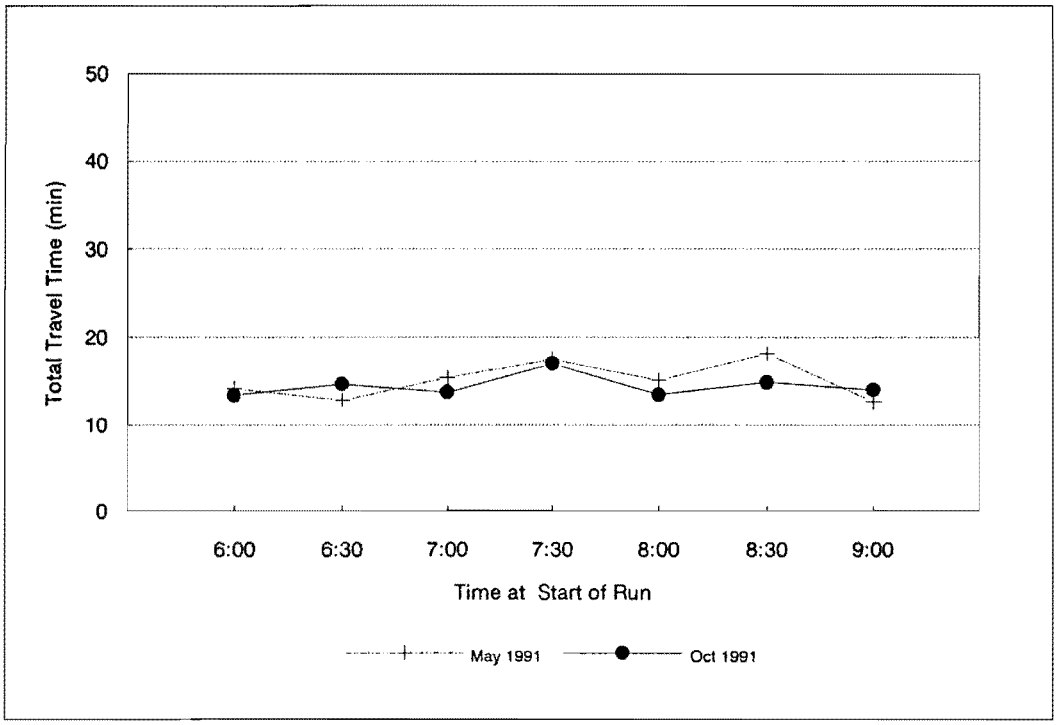


(b) Westbound

Figure D-21. P.M. Peak Period Total Travel Time Between Midway and Abrams: Loop 12

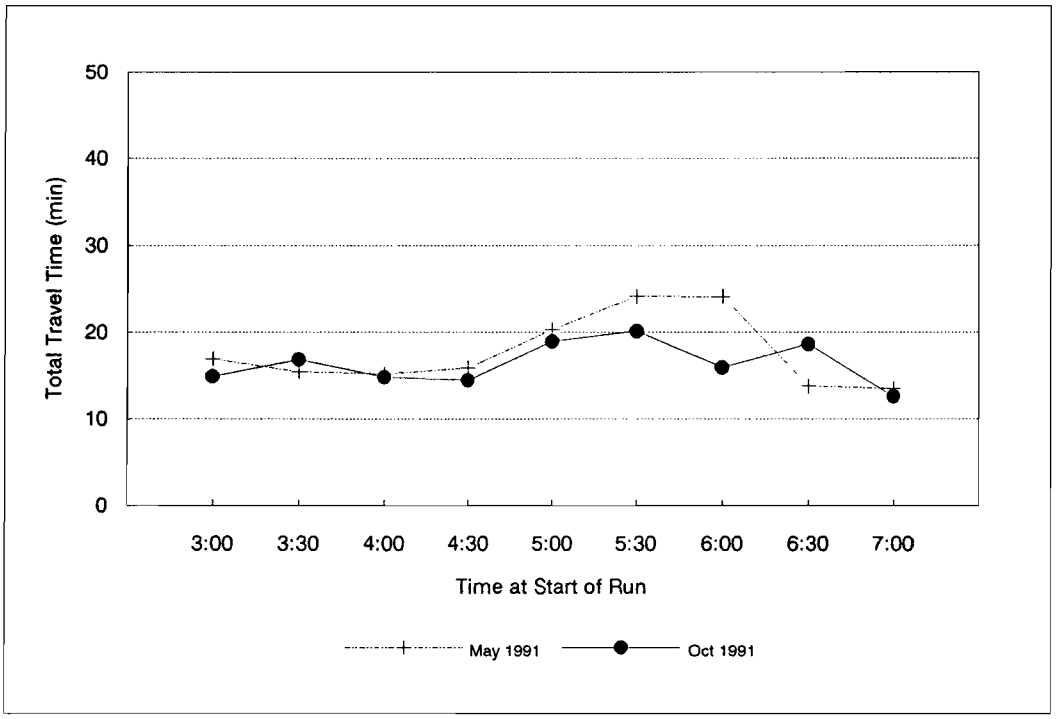


(a) Eastbound

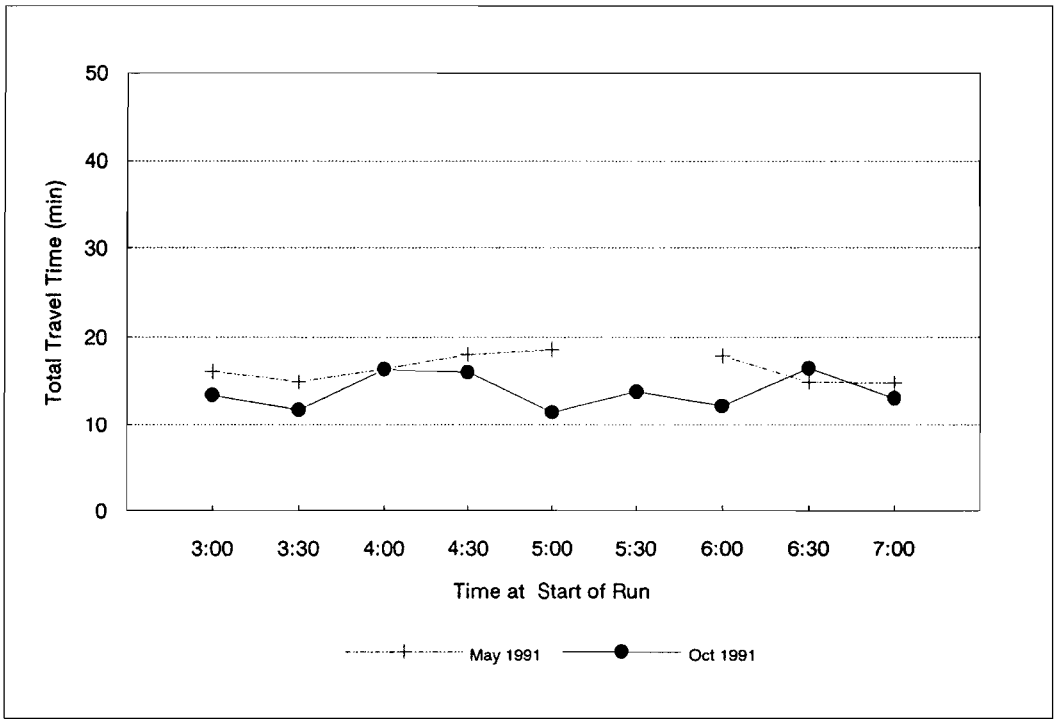


(b) Westbound

Figure D-22. A.M. Peak Period Total Travel Time Between Midway and Skillman: Royal



(a) Eastbound



(b) Westbound

Figure D-23. P.M. Peak Period Total Travel Time Between Midway and Skillman: Royal

APPENDIX E

OCTOBER 1991 AVERAGE TRAVEL SPEEDS

TABLE E-1. Peak Period, Peak Direction Average Travel Speed on North-South Routes (October 1991)

Run Beginning		Travel Speed (mph)								
		DNT	Preston	Hillcrest	US-75	US-75 Fr. Rd.	Greenville	Skillman	Abrams	Garland
A.M. Peak Period South-bound	6:00	- -	23	21	55	27	32	33	29	34
	6:30	59	26	24	56	25	26	31	27	35
	7:00	49	23	21	35	25	28	29	26	32
	7:30	37	20	20	19	20	21	24	27	27
	8:00	28	19	20	24	21	25	26	26	28
	8:30	34	20	20	34	21	25	26	25	32
	9:00	48	25	24	42	26	30	33	29	33
P.M. Peak Period North-Bound	3:00	51	22	20	35	19	25	29	22	31
	3:30	47	20	18	54	21	26	29	25	29
	4:00	52	22	22	54	17	26	24	22	30
	4:30	52	20	20	42	19	24	28	26	32
	5:00	46	19	20	28	18	19	21	26	28
	5:30	32	20	19	21	18	18	21	22	27
	6:00	31	19	23	38	17	25	24	25	26
	6:30	40	21	21	42	- -	28	27	27	32
	7:00	52	24	27	48	- -	26	24	29	32

TABLE E-2. Peak Period, Off-Peak Direction Average Travel Speed on North-South Routes (October 1991)

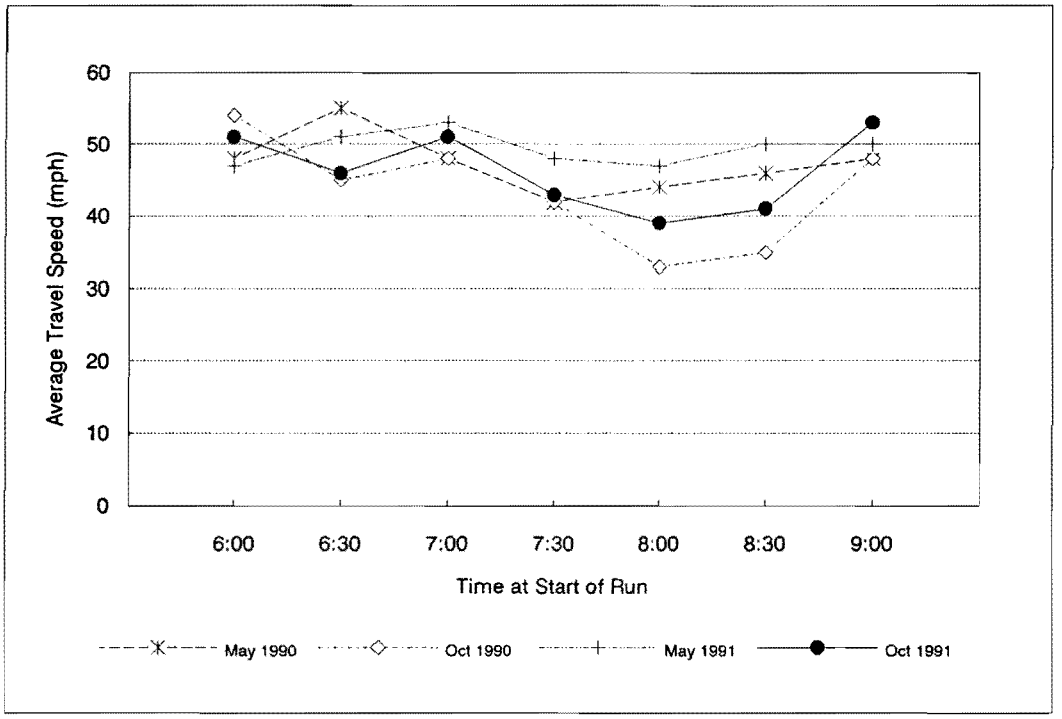
Run Beginning		Travel Speed (mph)								
		DNT	Preston	Hillcrest	US-75	US-75 Fr. Rd.	Greenville	Skillman	Abrams	Garland
A.M. Peak Period Northbound	6:00	51	27	23	59	25	30	31	28	34
	6:30	46	24	21	51	17	29	30	32	30
	7:00	51	23	20	54	16	25	26	23	26
	7:30	43	21	21	34	14	24	21	20	26
	8:00	39	23	21	40	14	23	27	23	25
	8:30	41	20	21	49	14	26	28	23	27
	9:00	53	23	25	50	20	27	29	27	29
P.M. Peak Period Southbound	3:00	49	22	23	44	22	26	30	27	31
	3:30	51	22	24	55	22	26	30	27	30
	4:00	48	20	23	53	19	22	27	25	28
	4:30	53	21	25	54	15	22	27	30	29
	5:00	49	20	23	49	18	20	23	30	29
	5:30	52	19	25	43	18	20	25	26	29
	6:00	44	21	24	48	17	24	26	28	28
	6:30	51	24	26	52	26	24	31	28	31
	7:00	56	24	26	52	25	25	33	31	35

TABLE E-3. Peak Period Average Travel Speed on East-West Routes (October 1991)

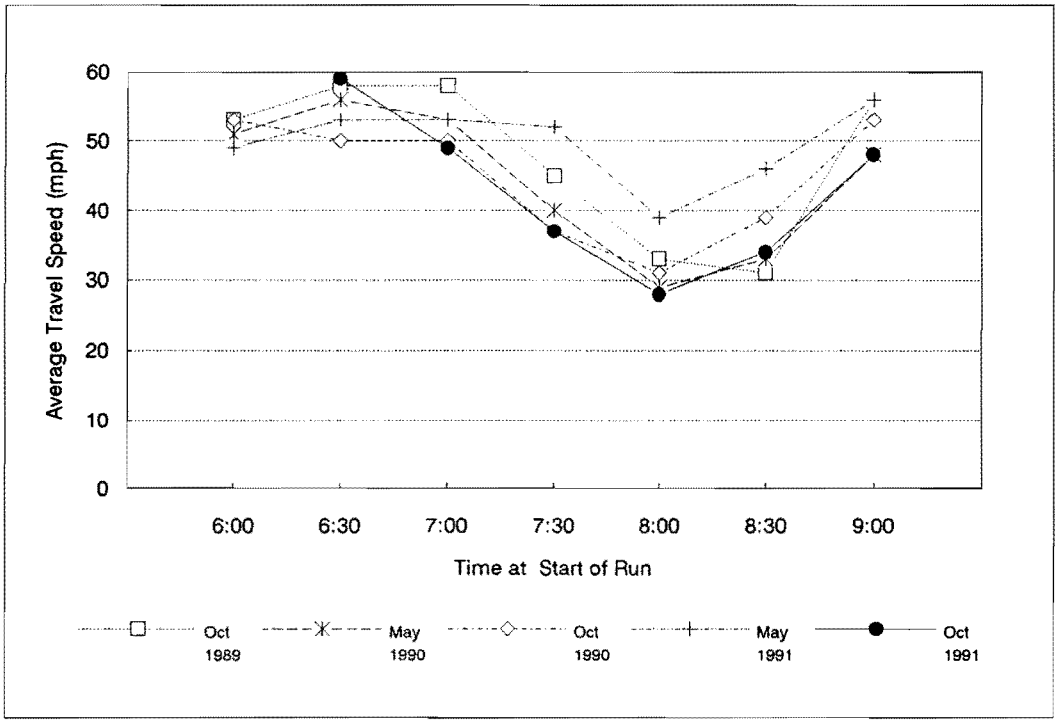
Run Beginning		Travel Speed (mph)			
		Eastbound		Westbound	
		Loop 12	Royal	Loop 12	Royal
A.M. Peak Period	6:00	32	28	31	30
	6:30	32	32	30	28
	7:00	30	38	27	30
	7:30	31	27	27	24
	8:00	26	25	27	30
	8:30	25	29	35	28
	9:00	24	30	25	29
P.M. Peak Period	3:00	27	27	31	31
	3:30	26	24	33	35
	4:00	26	28	32	25
	4:30	24	28	30	26
	5:00	20	22	29	36
	5:30	16	20	32	30
	6:00	21	26	31	34
	6:30	28	22	33	25
	7:00	30	33	36	32

TABLE E-4. Off-Peak Period Average Travel Speed on US-75 (October 1991)

Run Beginning	Travel Speed (mph)	
	Northbound	Southbound
10:00 A.M.	33	36
10:30	31	37
11:00	27	36
11:30	25	35
12:00 P.M.	28	38
12:30	24	36
1:00	27	36
1:30	23	38

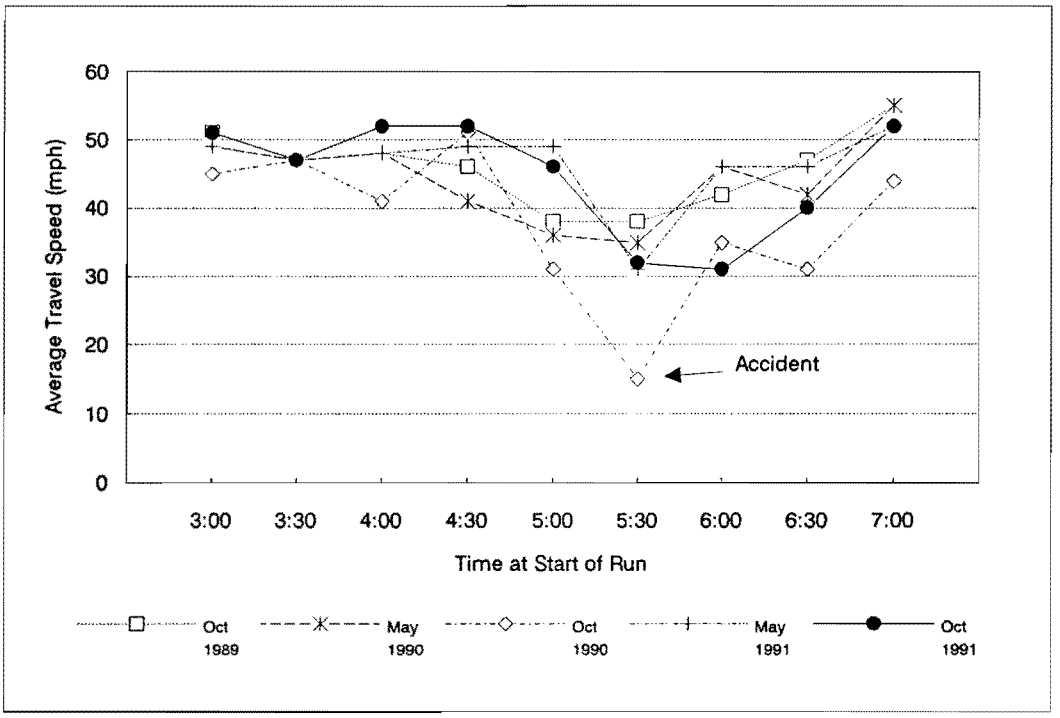


(a) Northbound

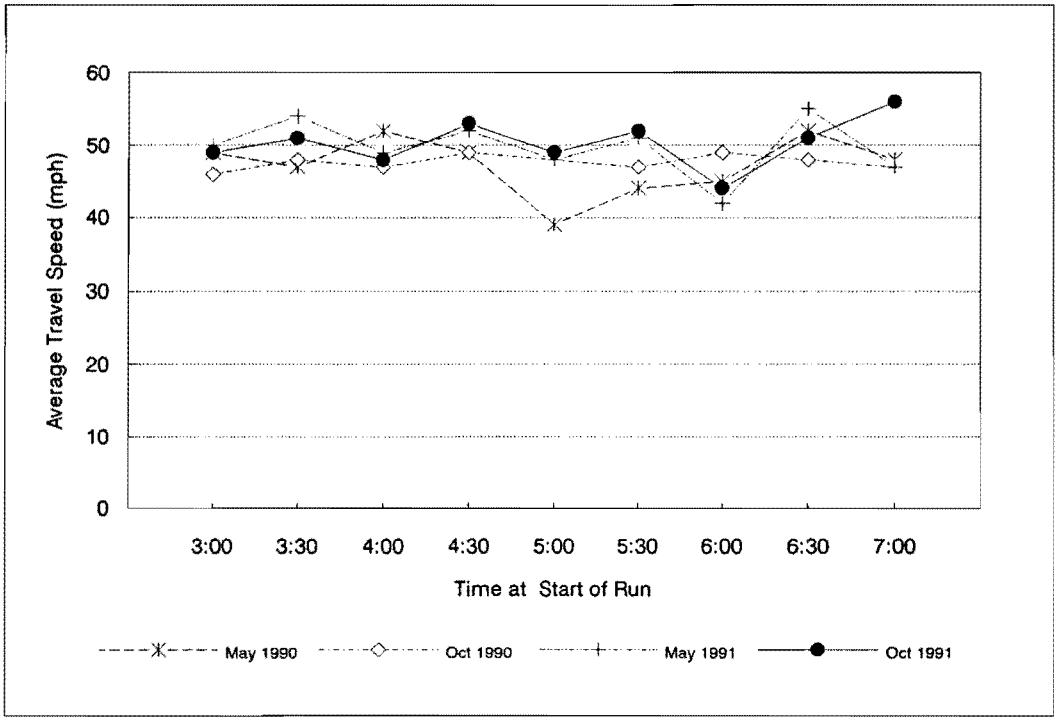


(b) Southbound

Figure E-1. A.M. Peak Period Average Travel Speed Between I-635 and CBD: DNT

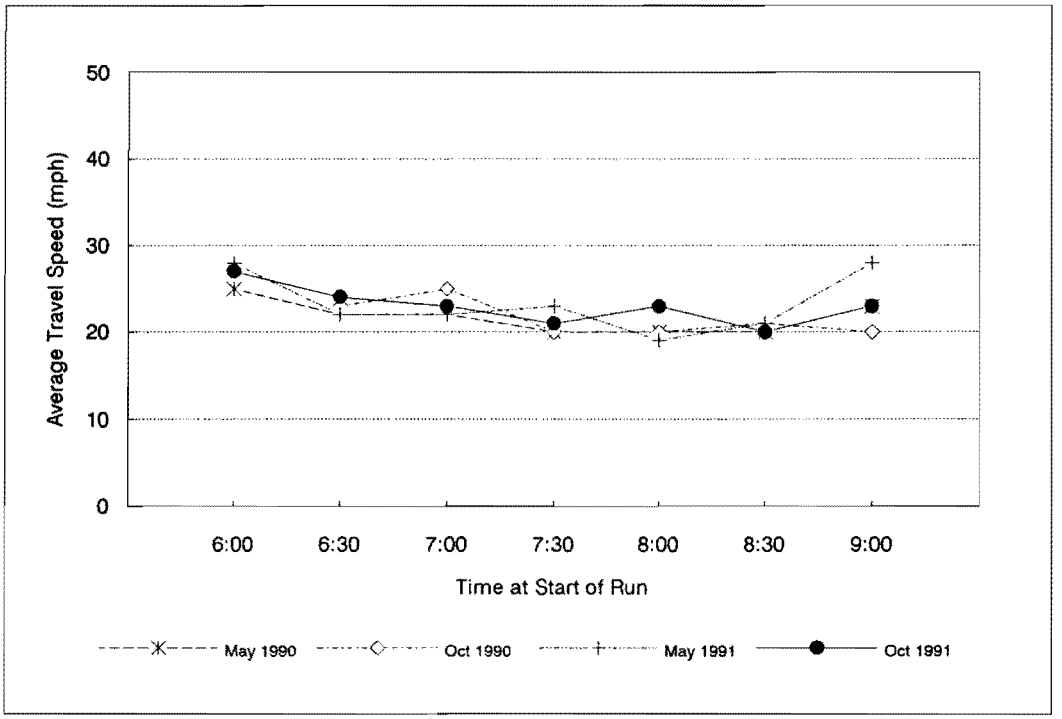


(a) Northbound

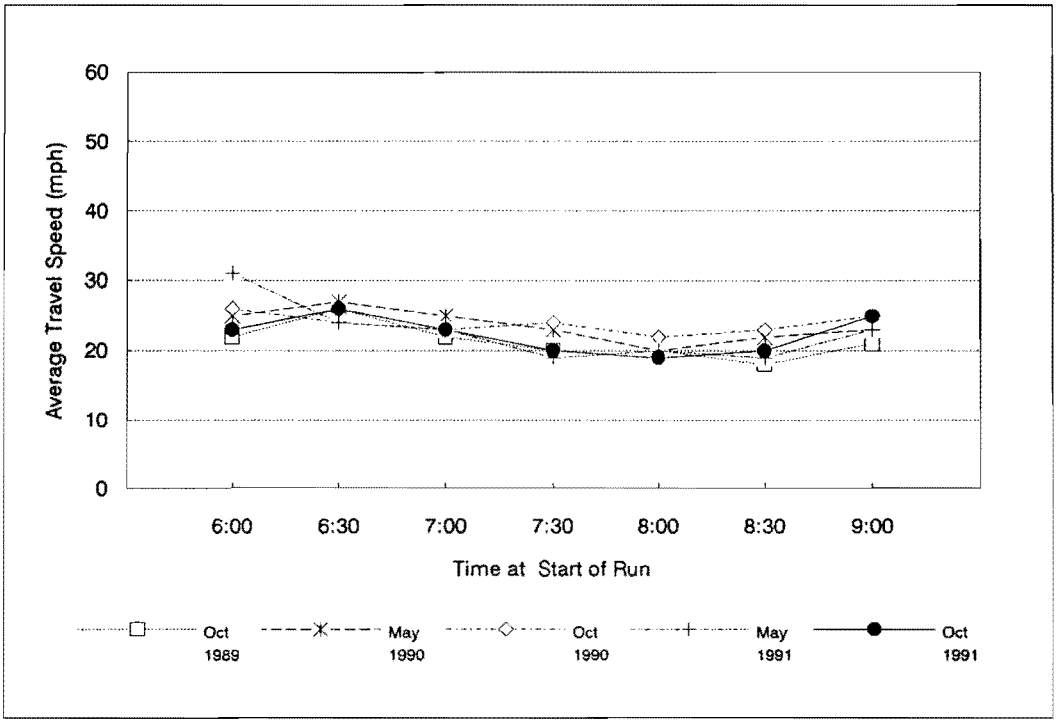


(b) Southbound

Figure E-2. P.M. Peak Period Average Travel Speed Between I-635 and CBD: DNT

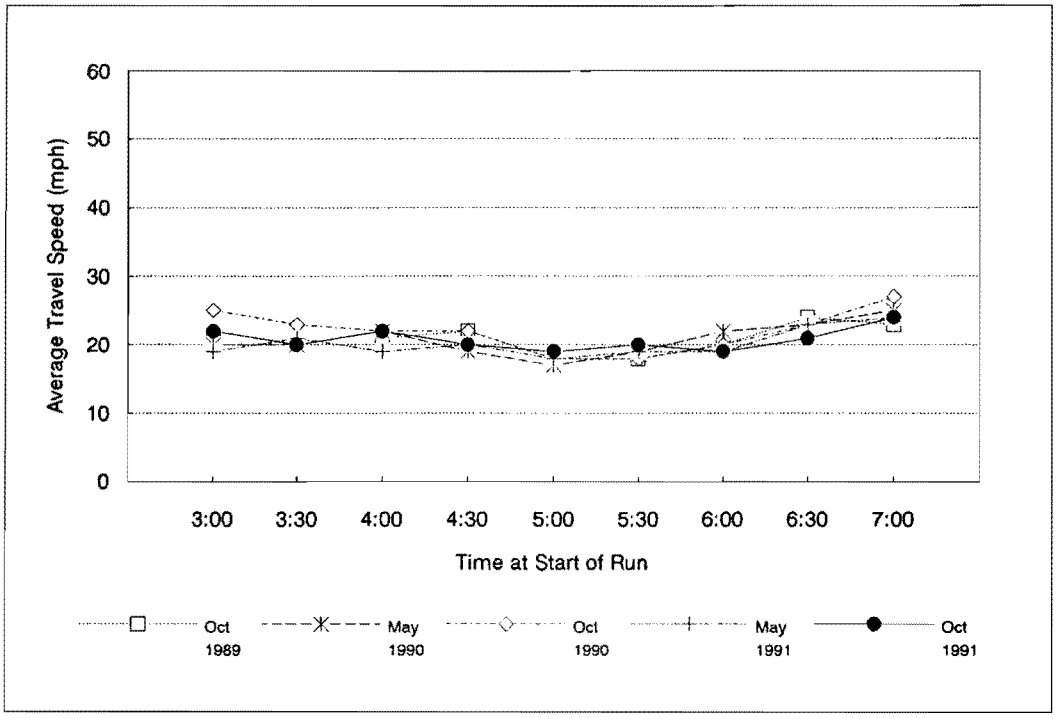


(a) Northbound

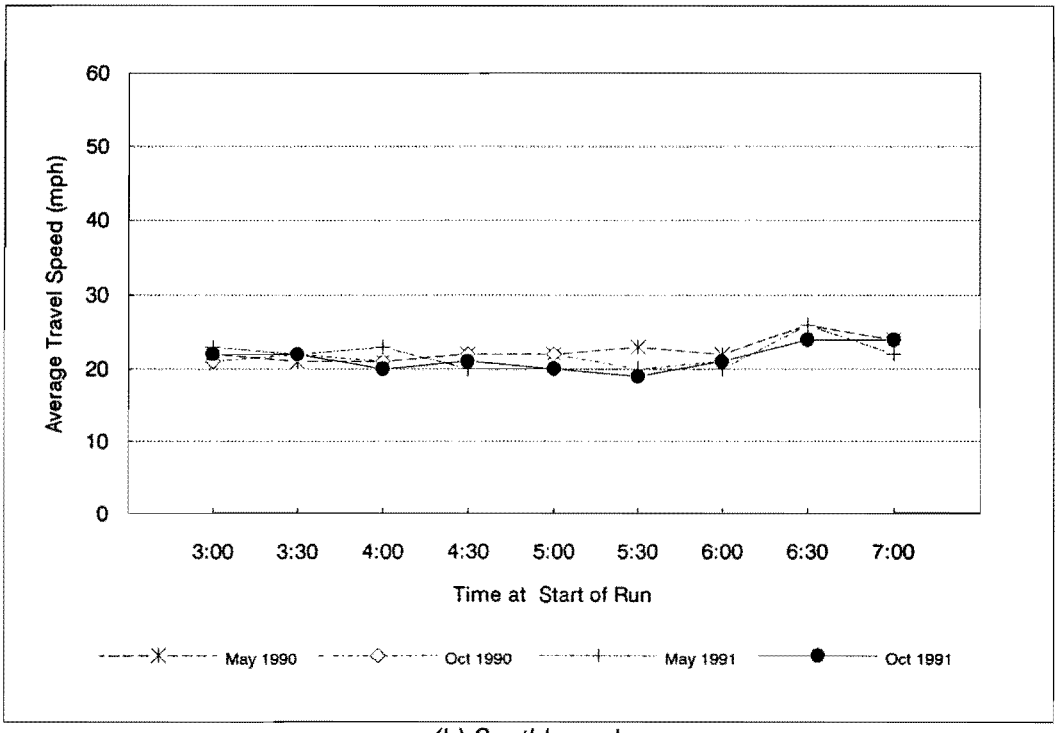


(b) Southbound

Figure E-3. A.M. Peak Period Average Travel Speed Between I-635 and CBD: Preston

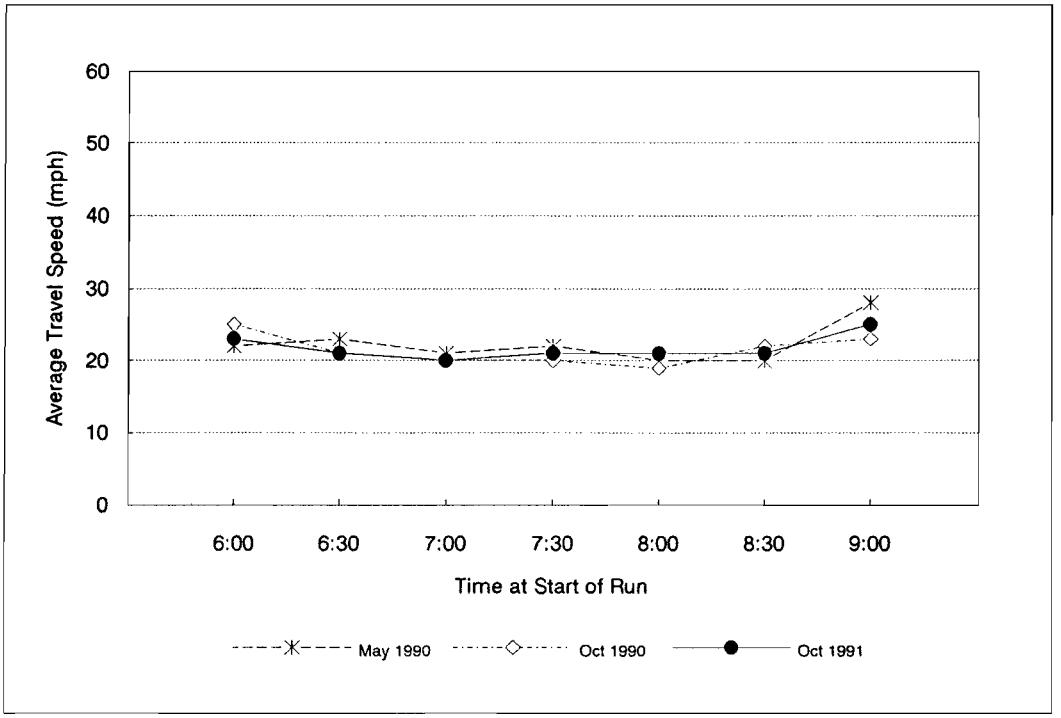


(a) Northbound

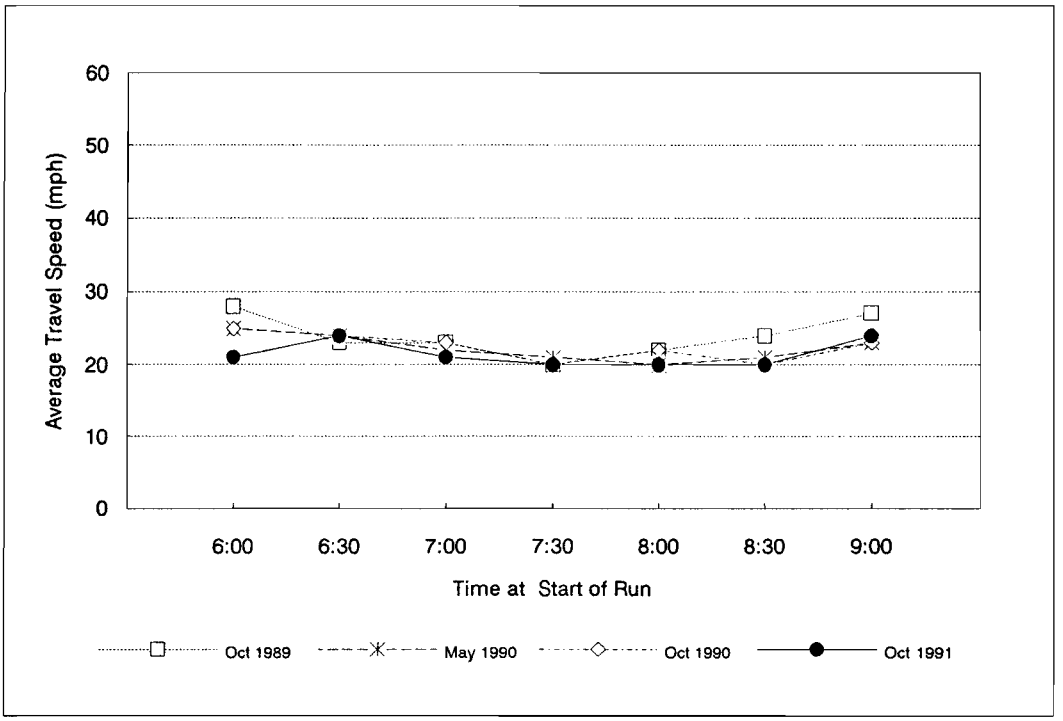


(b) Southbound

Figure E-4. P.M. Peak Period Average Travel Speed Between I-635 and CBD: Preston

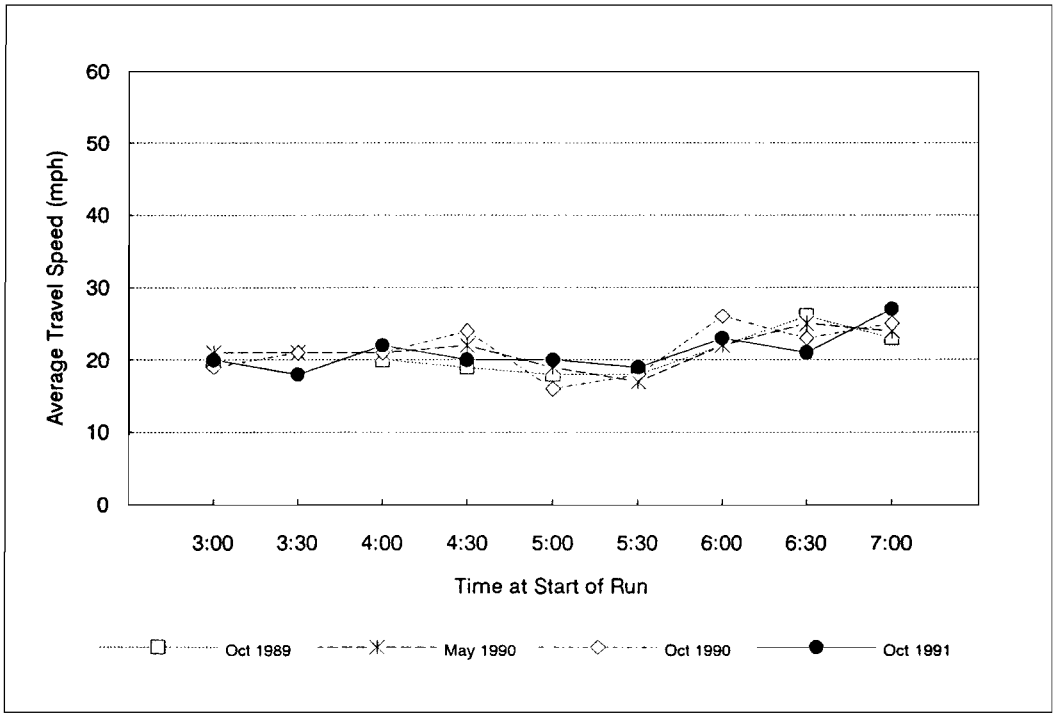


(a) Northbound

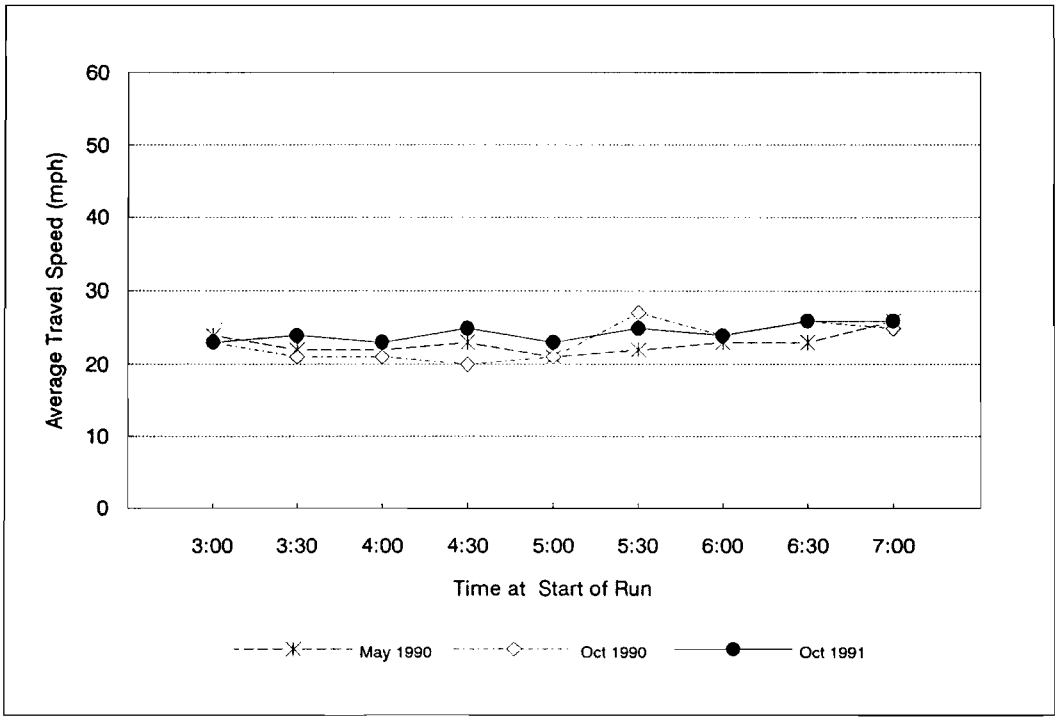


(b) Southbound

Figure E-5. A.M. Peak Period Average Travel Speed Between I-635 and CBD: Hillcrest

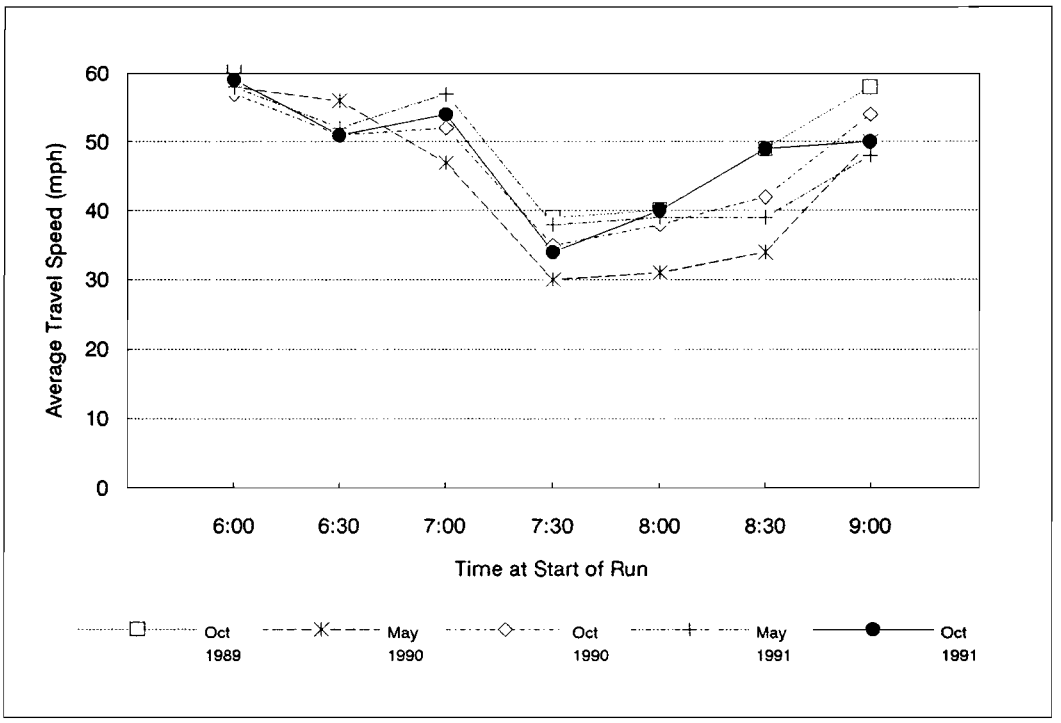


(a) Northbound

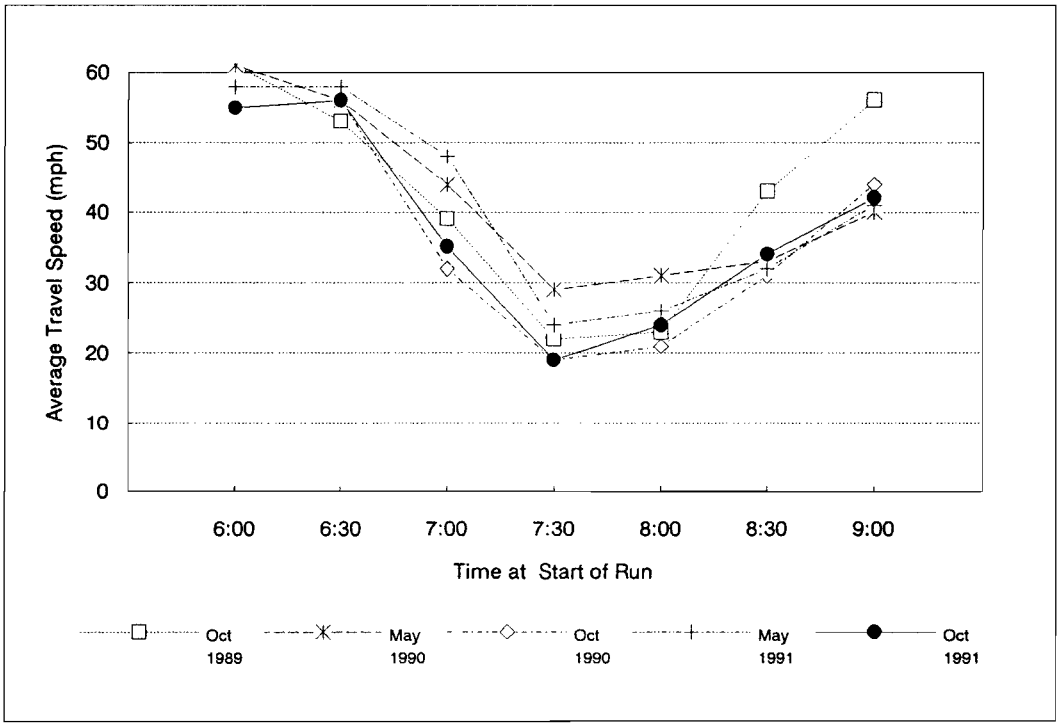


(b) Southbound

Figure E-6. P.M. Peak Period Average Travel Speed Between I-635 and CBD: Hillcrest

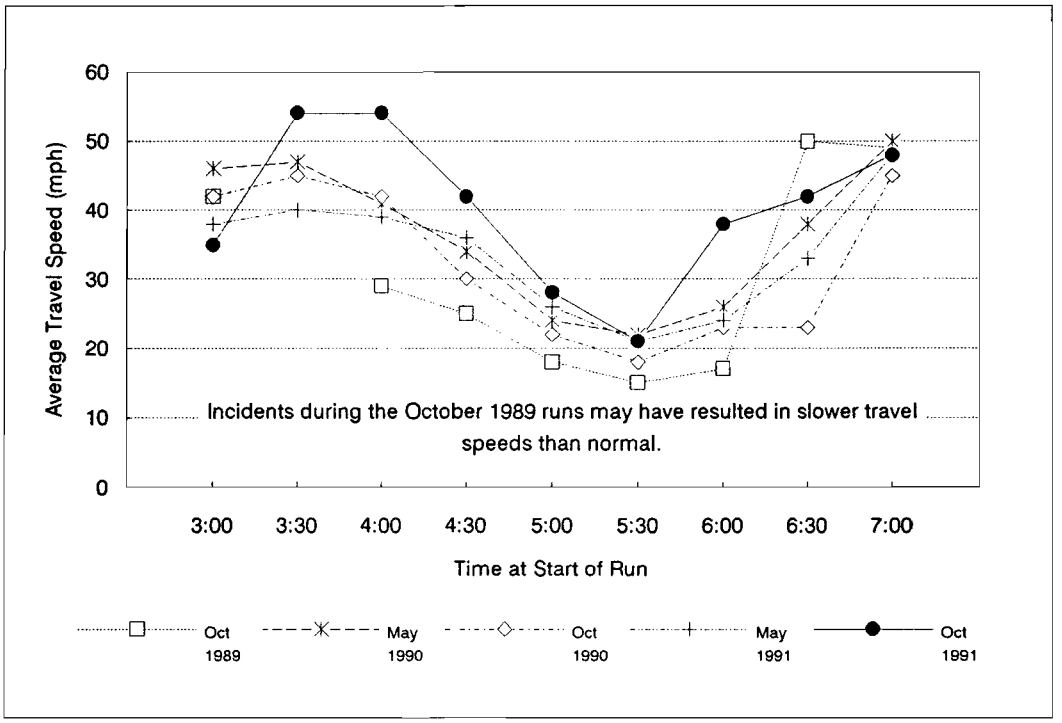


(a) Northbound

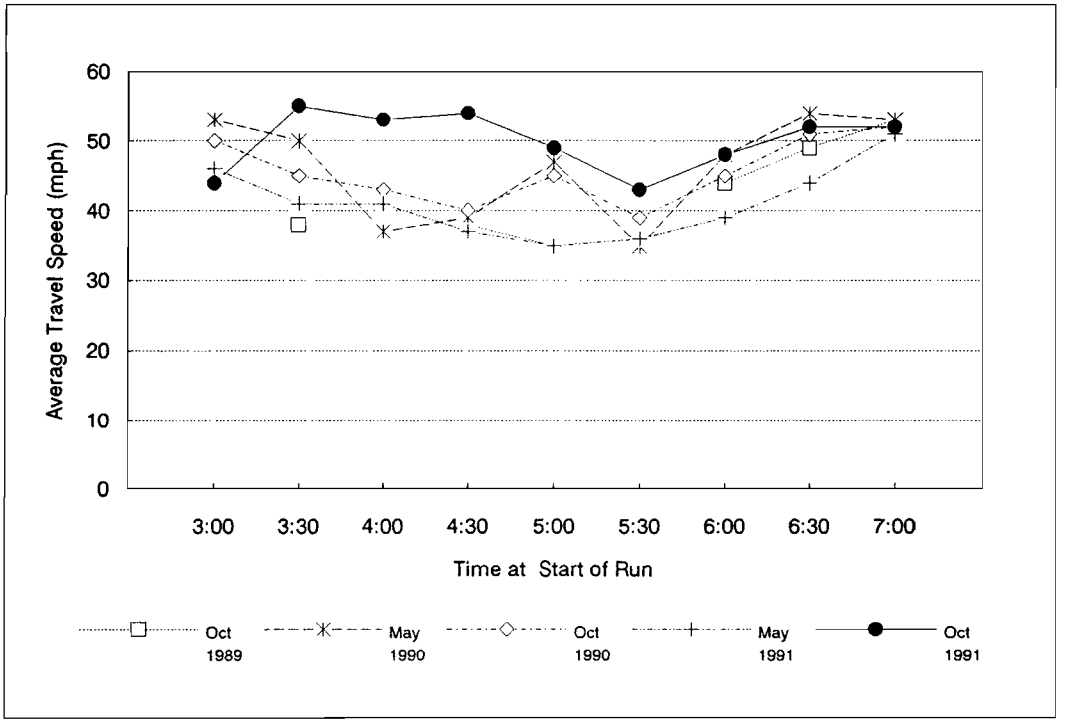


(b) Southbound

Figure E-7. A.M. Peak Period Average Travel Speed Between I-635 and CBD: US-75

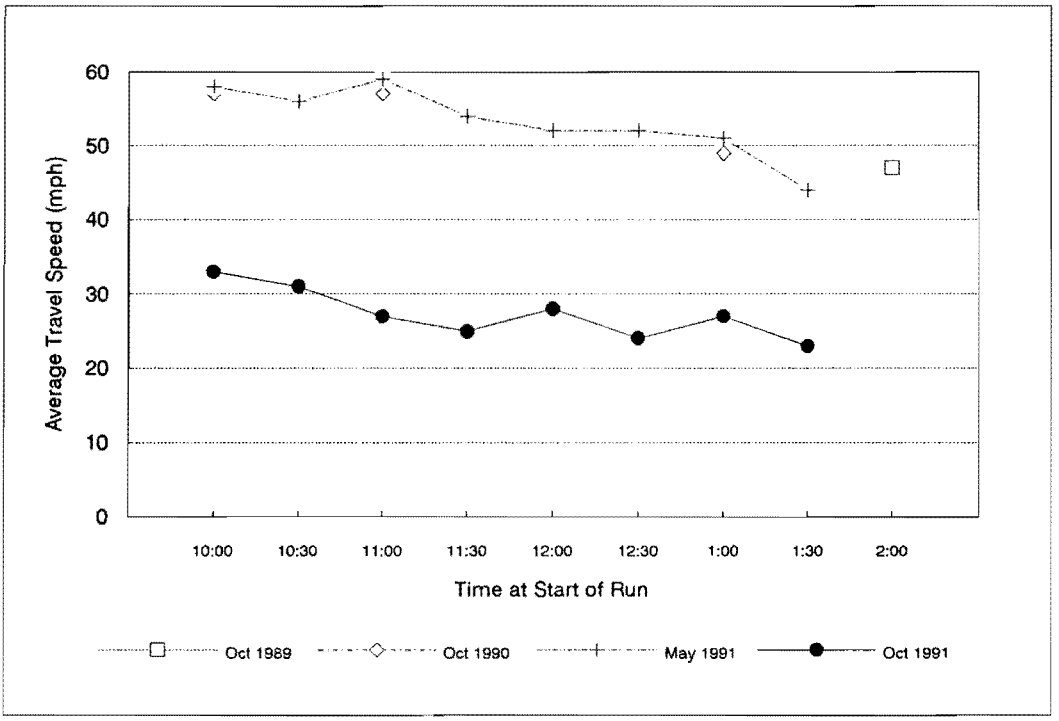


(a) Northbound

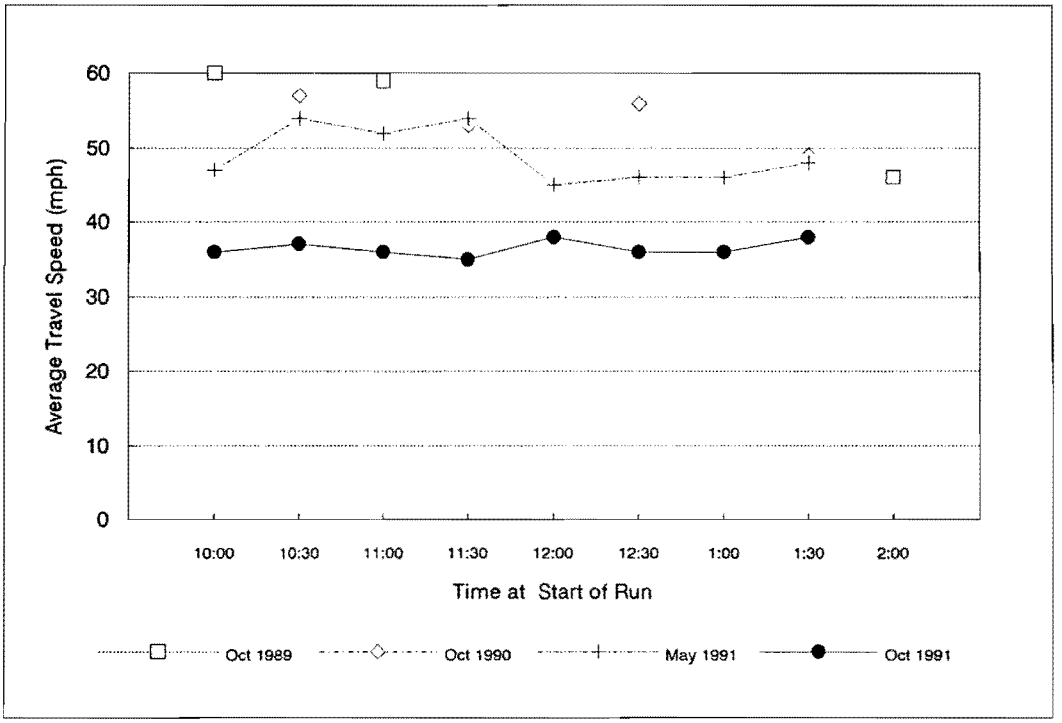


(b) Southbound

Figure E-8. P.M. Peak Period Average Travel Speed Between I-635 and CBD: US-75

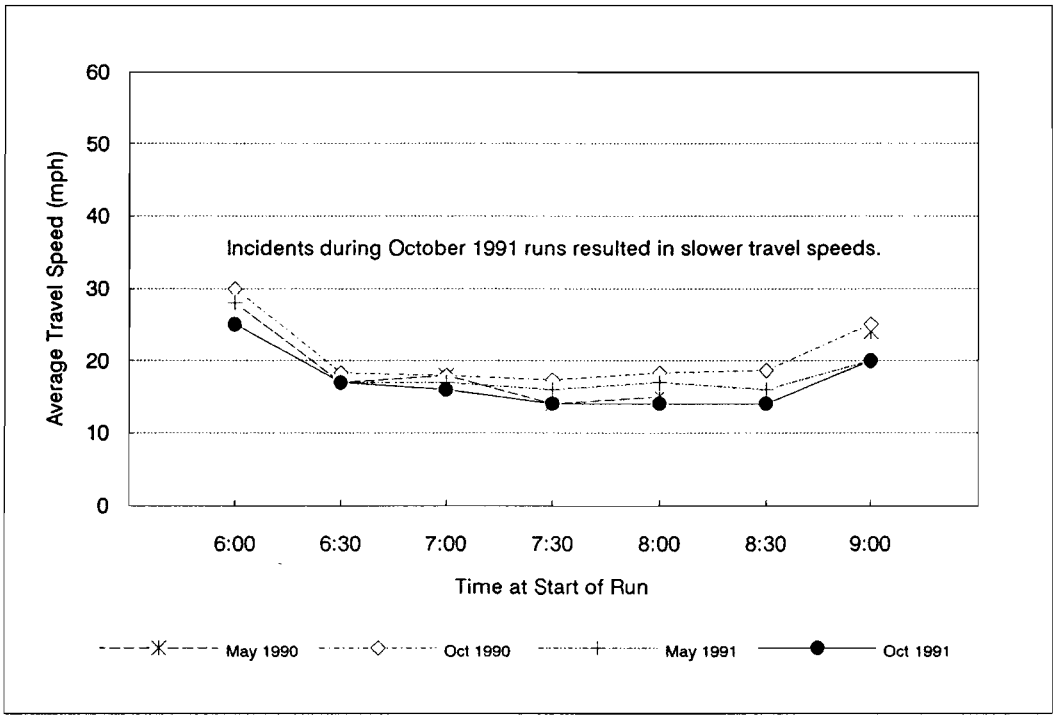


(a) Northbound

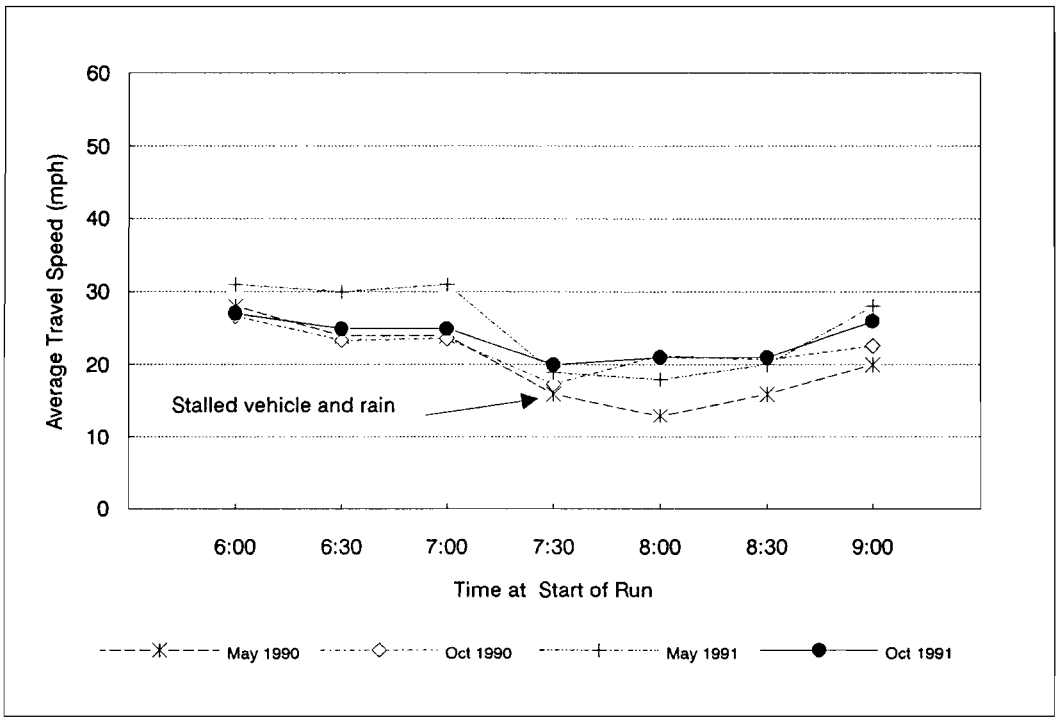


(b) Southbound

Figure E-9. Off-Peak Period Average Travel Speed Between I-635 and CBD: US-75

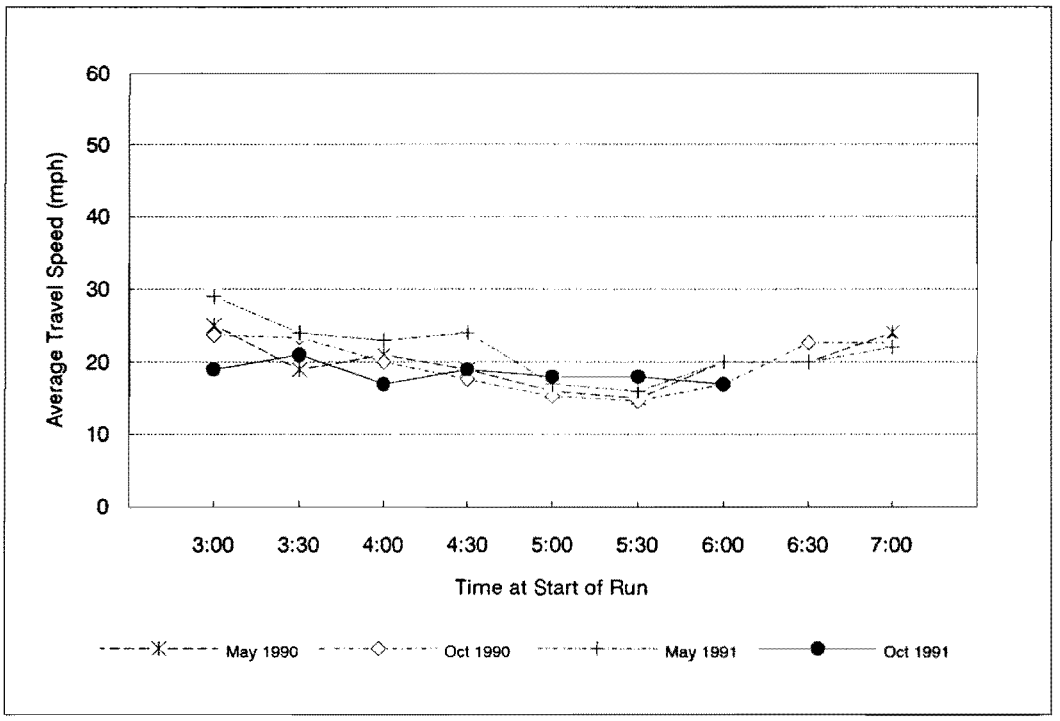


(a) Northbound

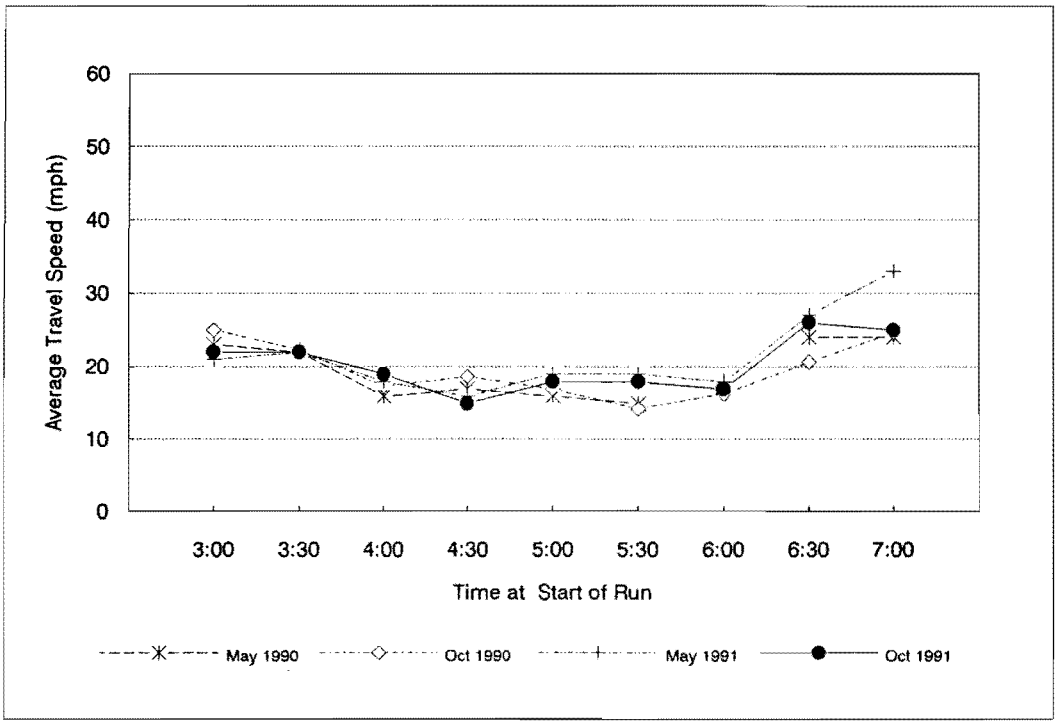


(b) Southbound

Figure E-10. A.M. Peak Period Average Travel Speed Between I-635 and CBD: US-75 Frontage Road

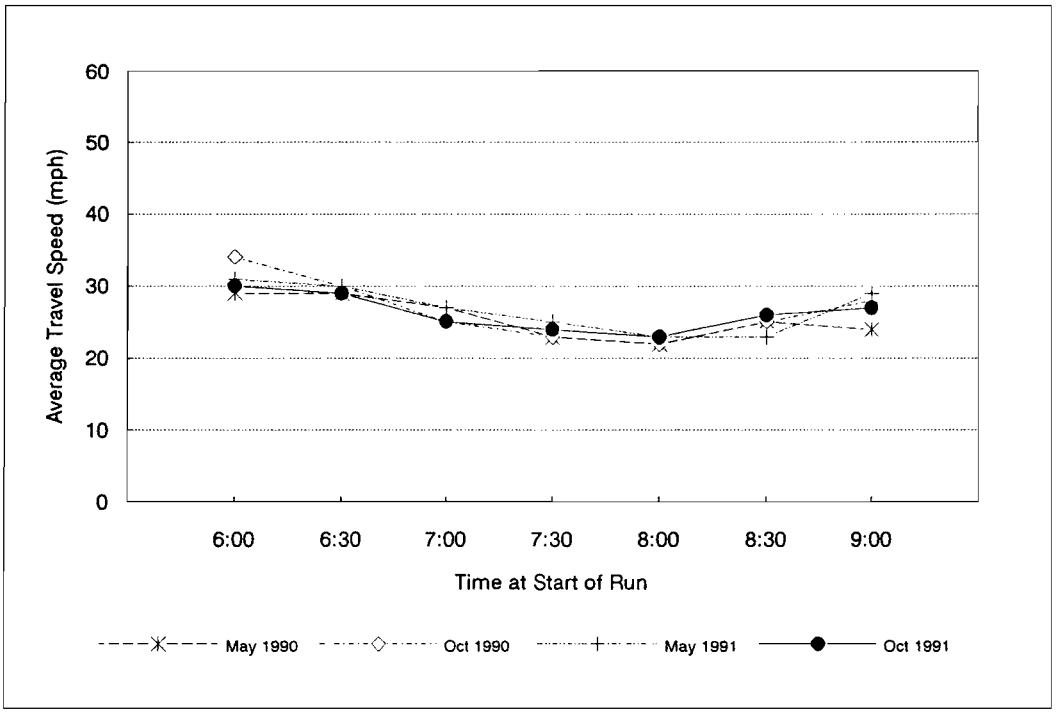


(a) Northbound

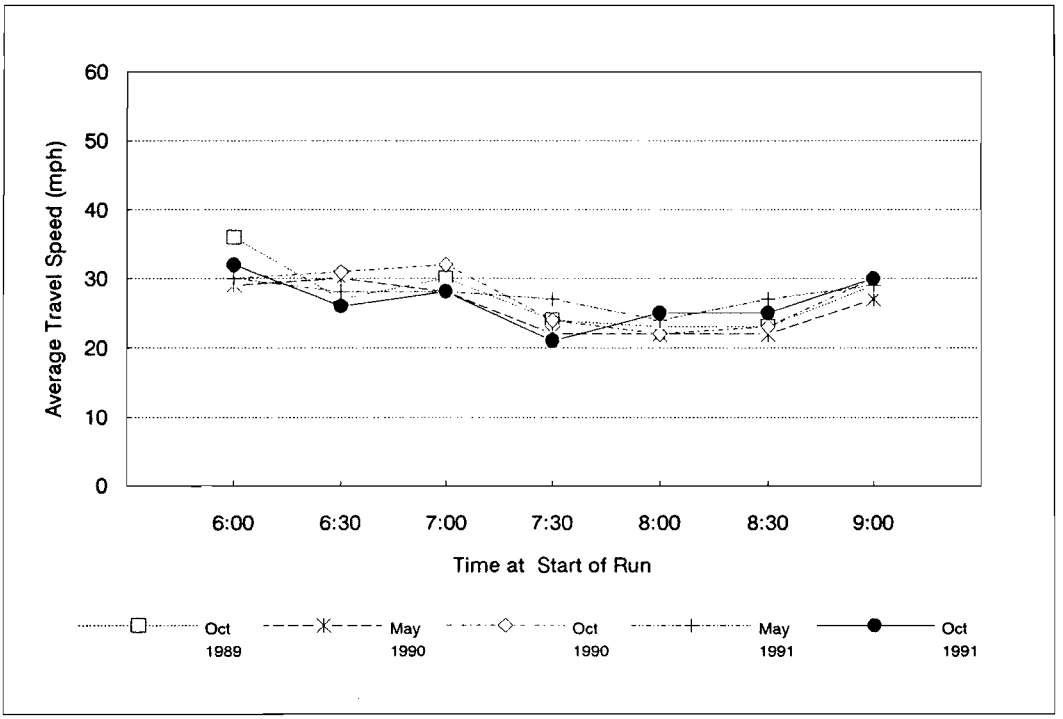


(b) Southbound

Figure E-11. P.M. Peak Period Average Travel Speed Between I-635 and CBD: US-75 Frontage Road

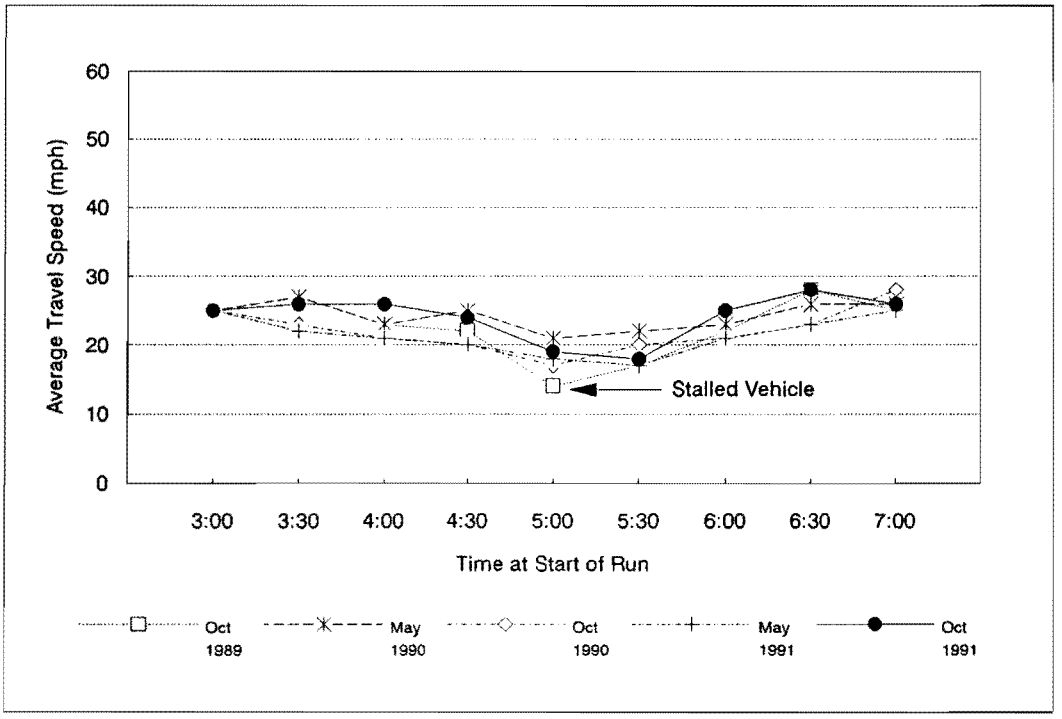


(a) Northbound

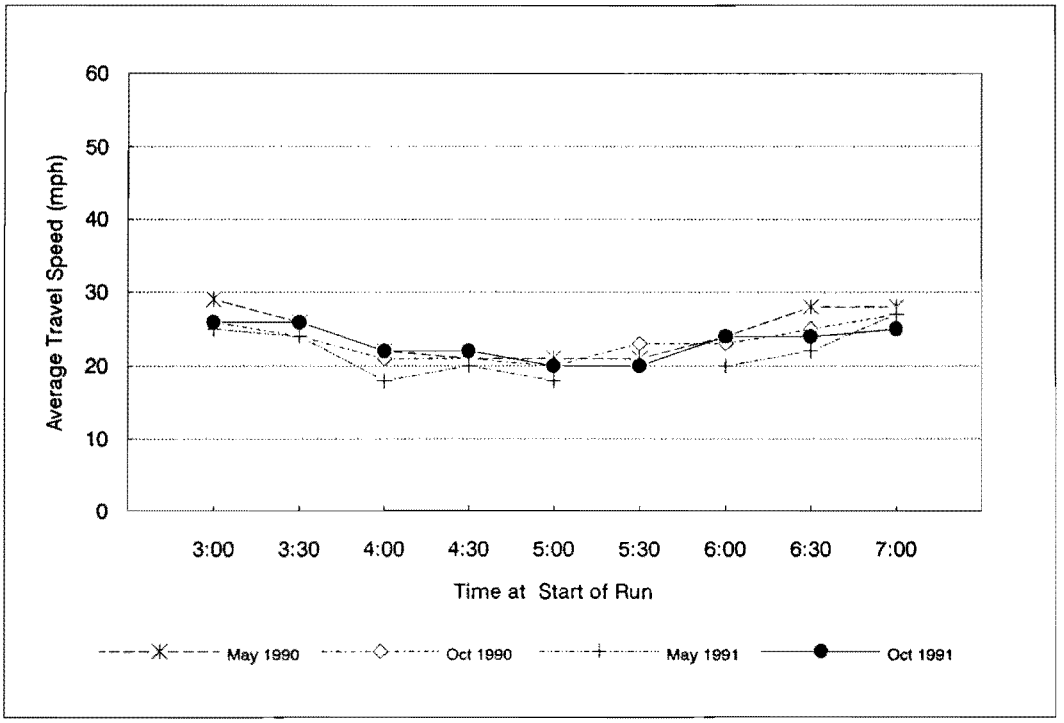


(b) Southbound

Figure E-12. A.M. Peak Period Average Travel Speed Between I-635 and CBD: Greenville

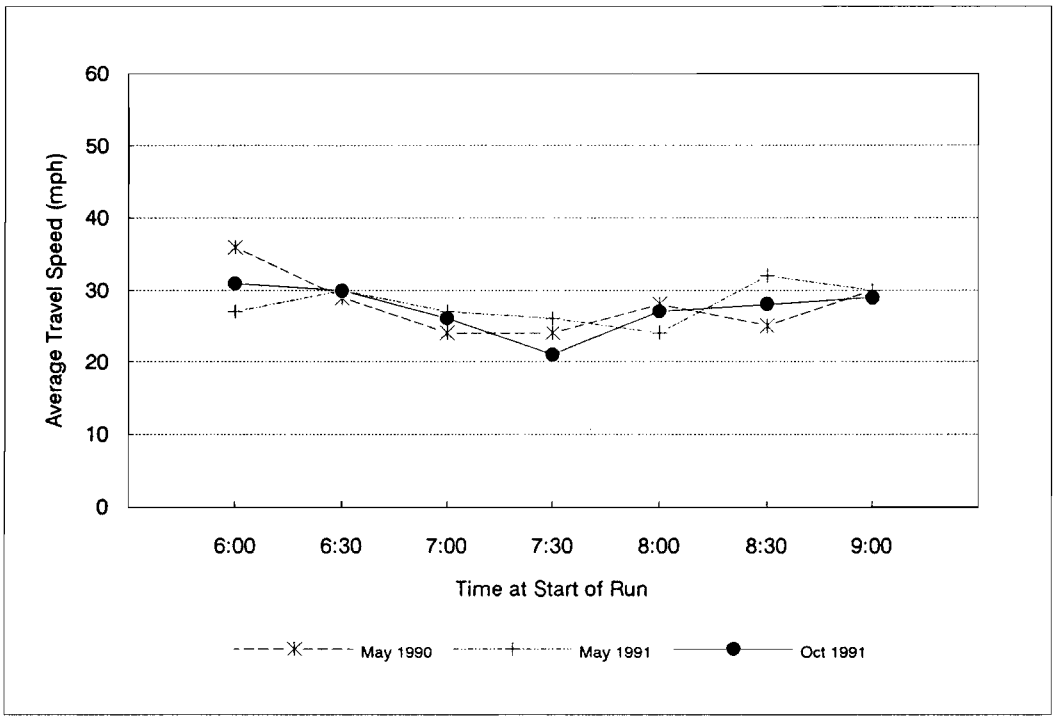


(a) Northbound

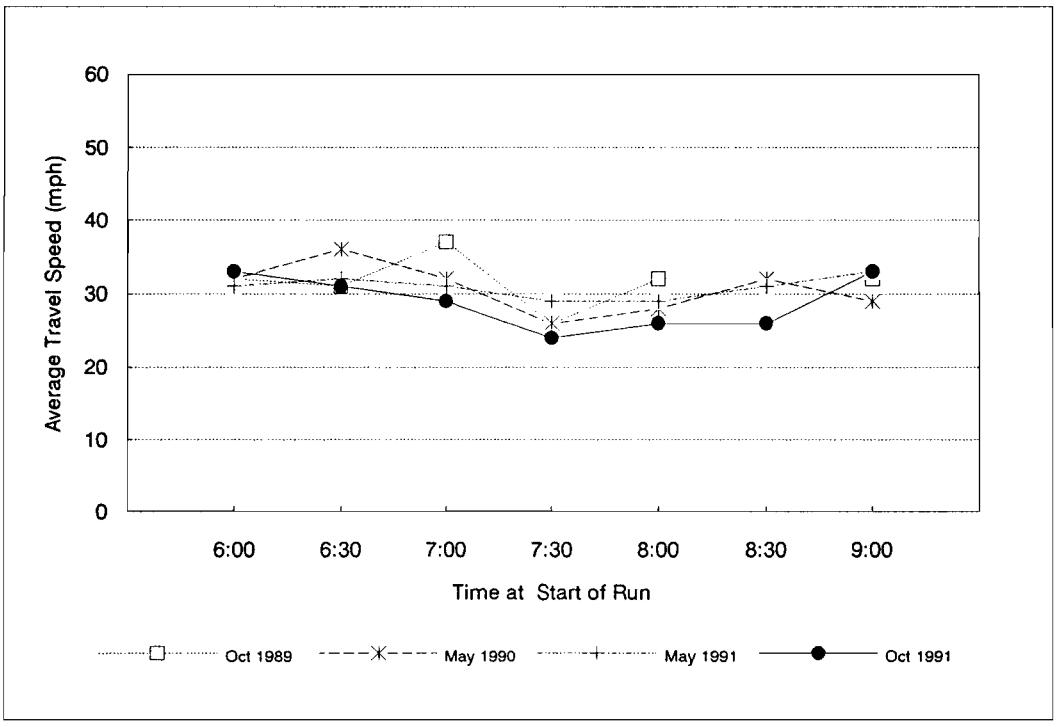


(b) Southbound

Figure E-13. P.M. Peak Period Average Travel Speed Between I-635 and CBD: Greenville

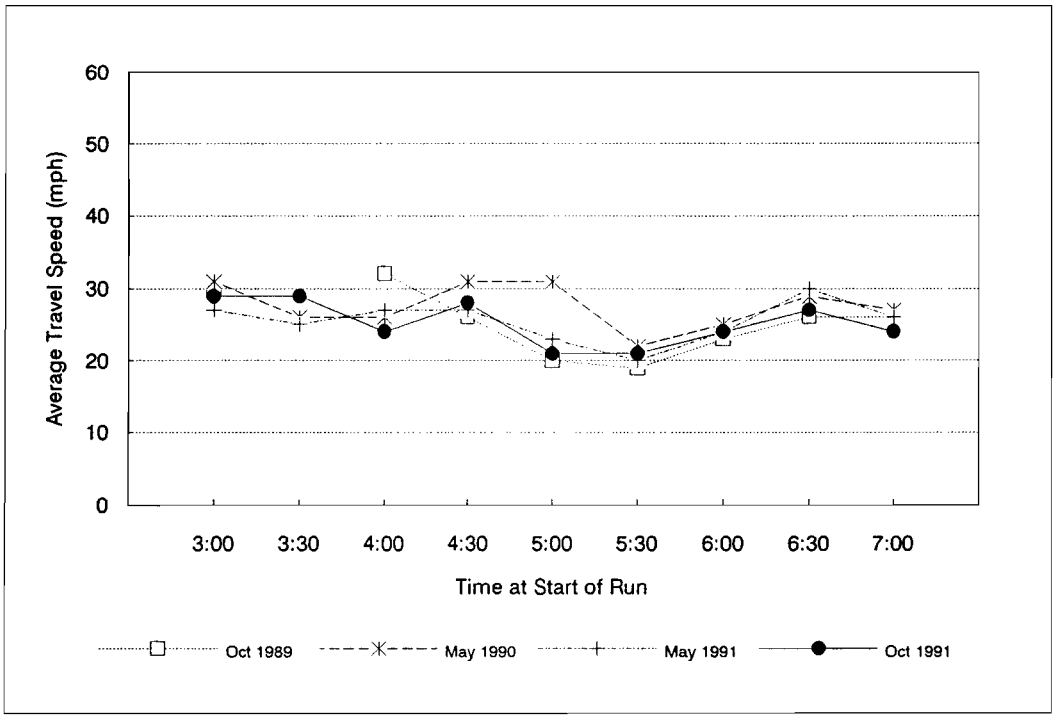


(a) Northbound

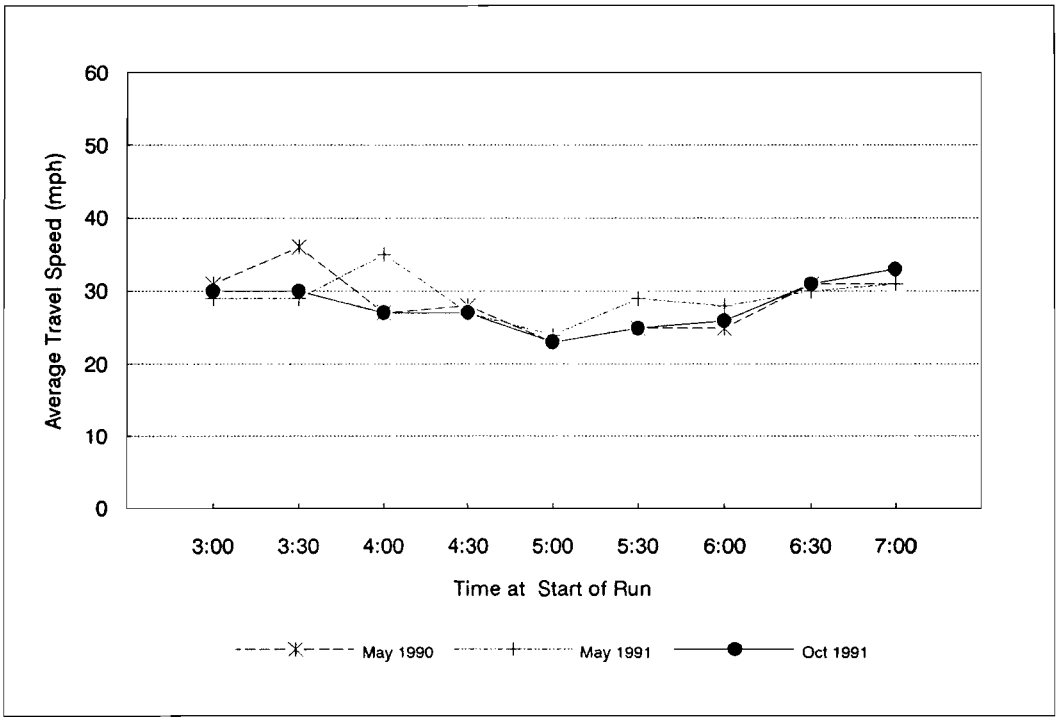


(b) Southbound

Figure E-14. A.M. Peak Period Average Travel Speed Between I-635 and CBD: Skillman

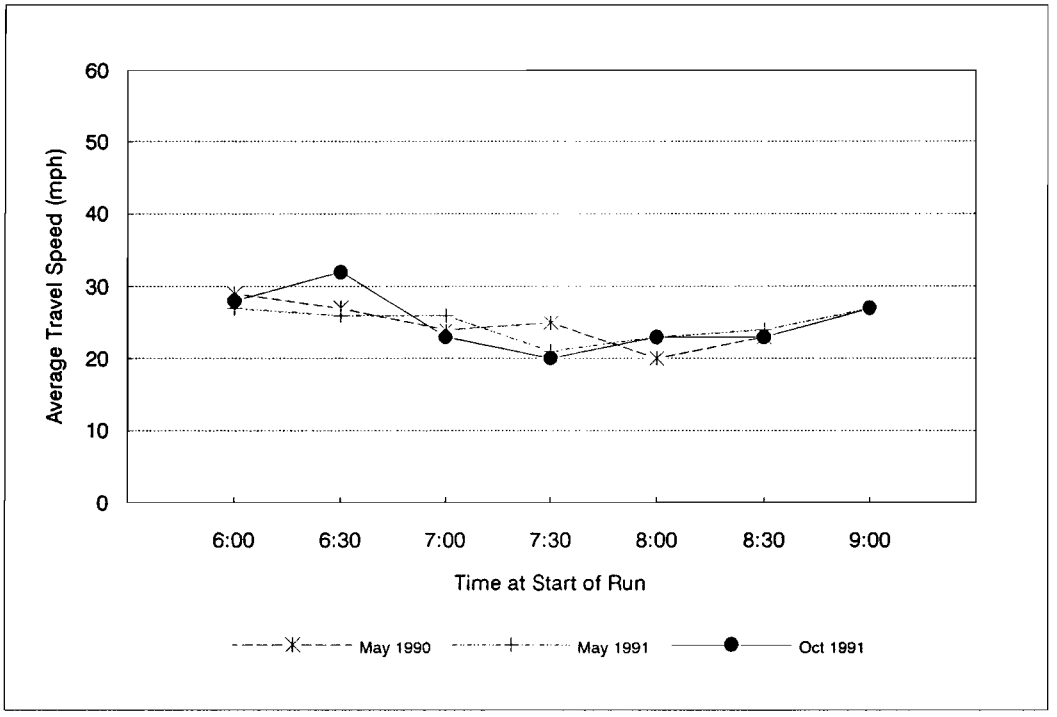


(a) Northbound

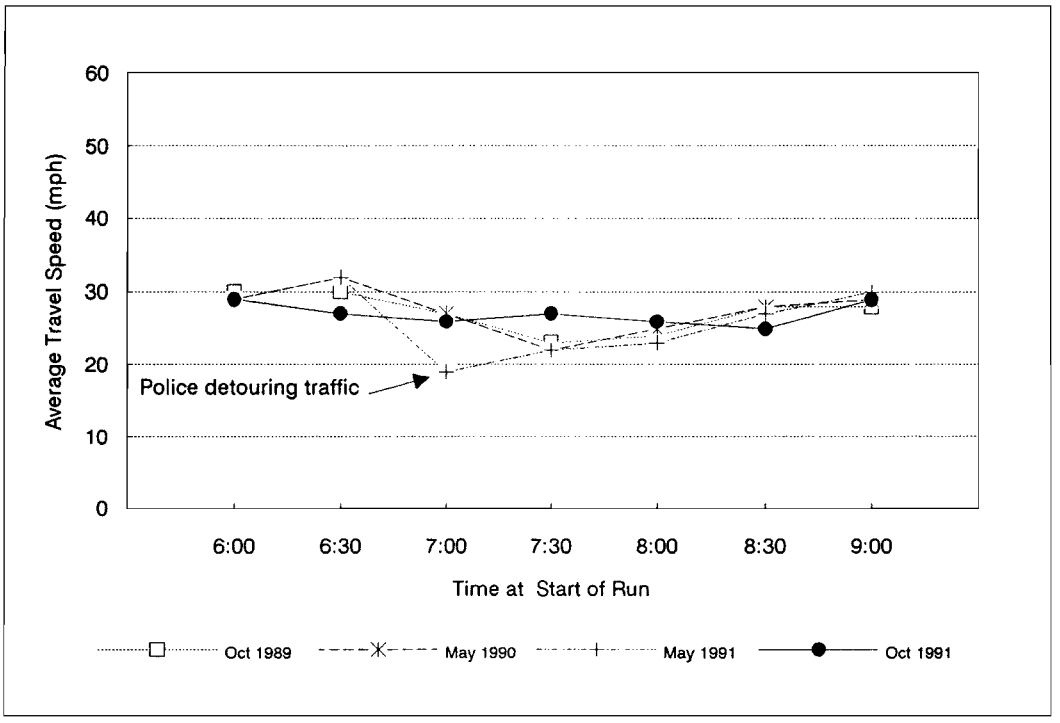


(b) Southbound

Figure E-15. P.M. Peak Period Average Travel Speed Between I-635 and CBD: Skillman

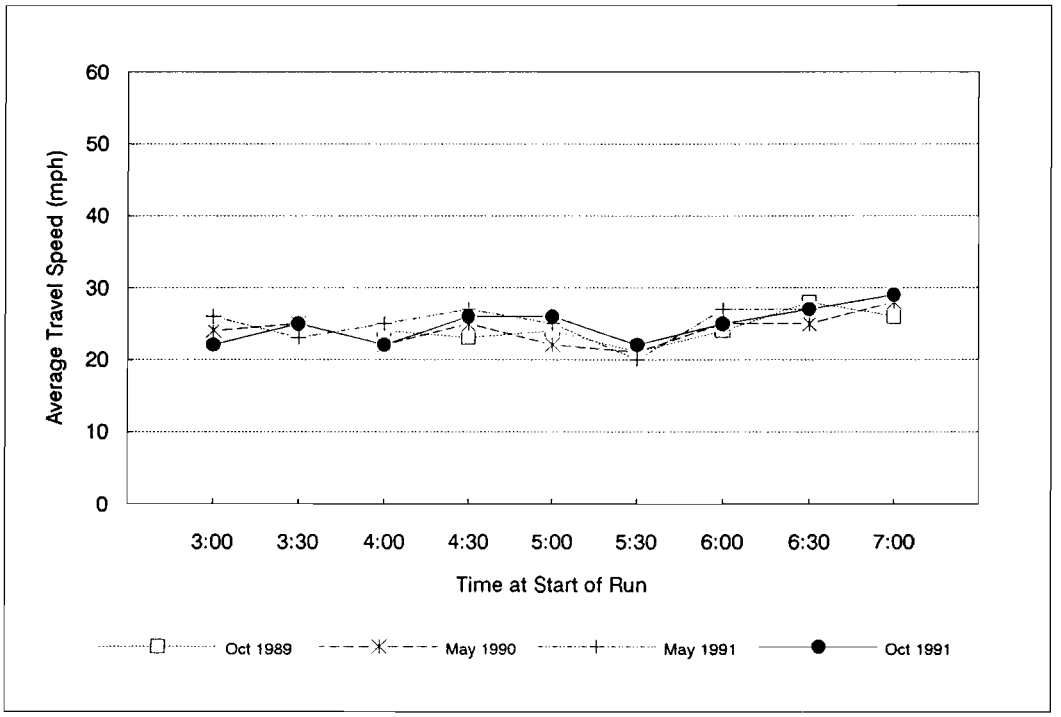


(a) Northbound

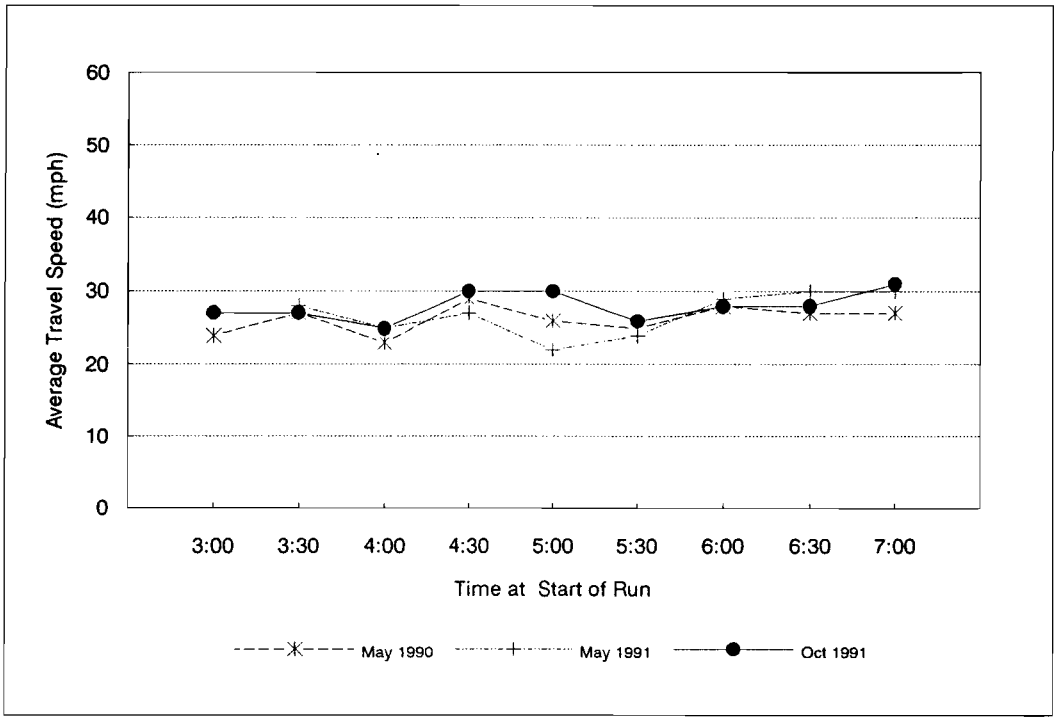


(b) Southbound

Figure E-16. A.M. Peak Period Average Travel Speed Between I-635 and CBD: Abrams

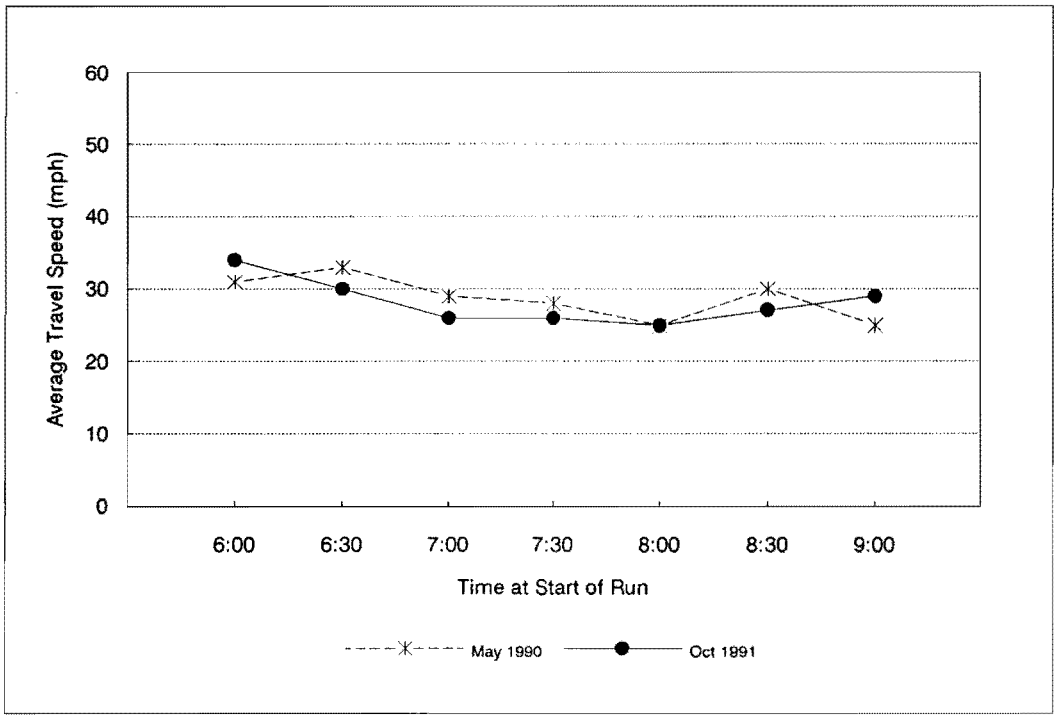


(a) Northbound

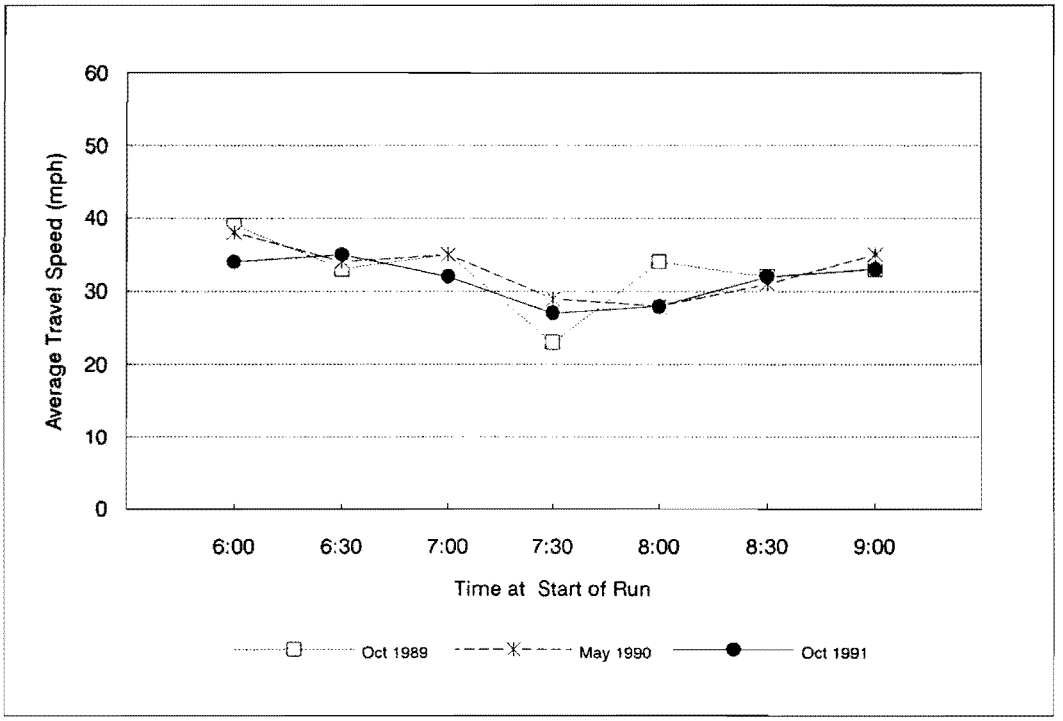


(b) Southbound

Figure E-17. P.M. Peak Period Average Travel Speed Between I-635 and CBD: Abrams

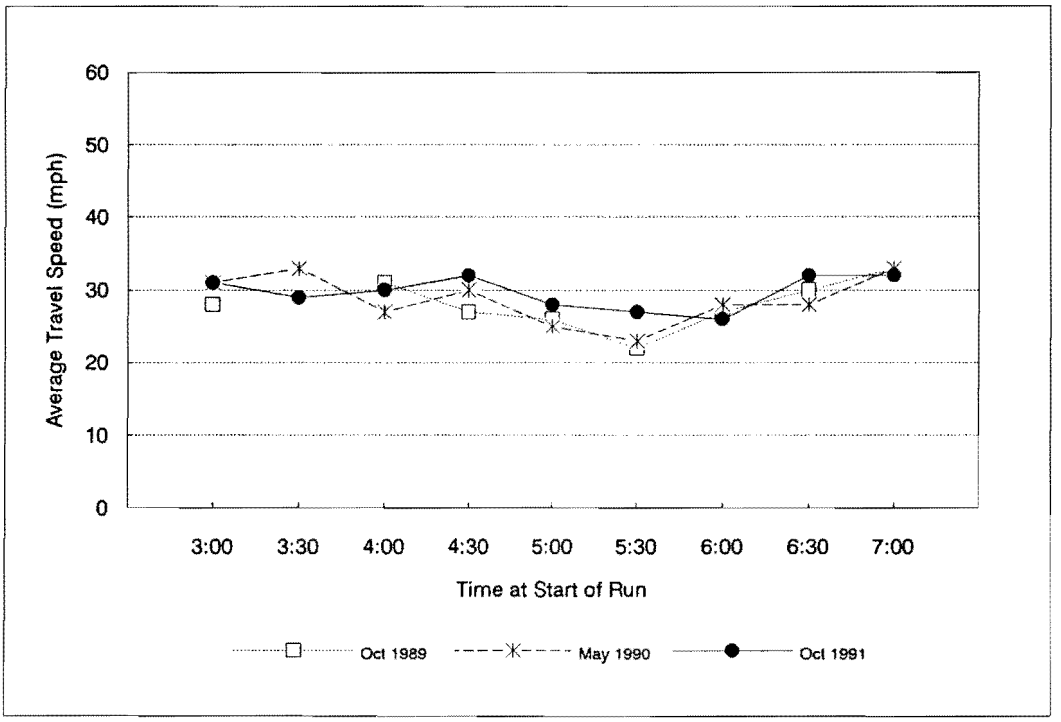


(a) Northbound

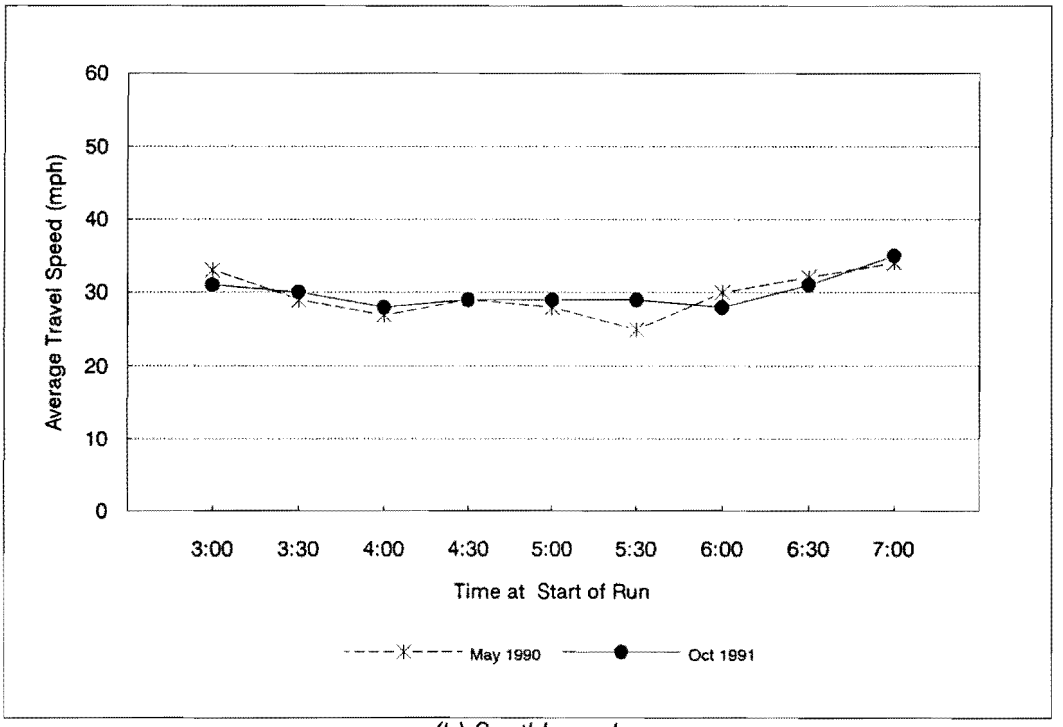


(b) Southbound

Figure E-18. A.M. Peak Period Average Travel Speed Between I-635 and CBD: Garland

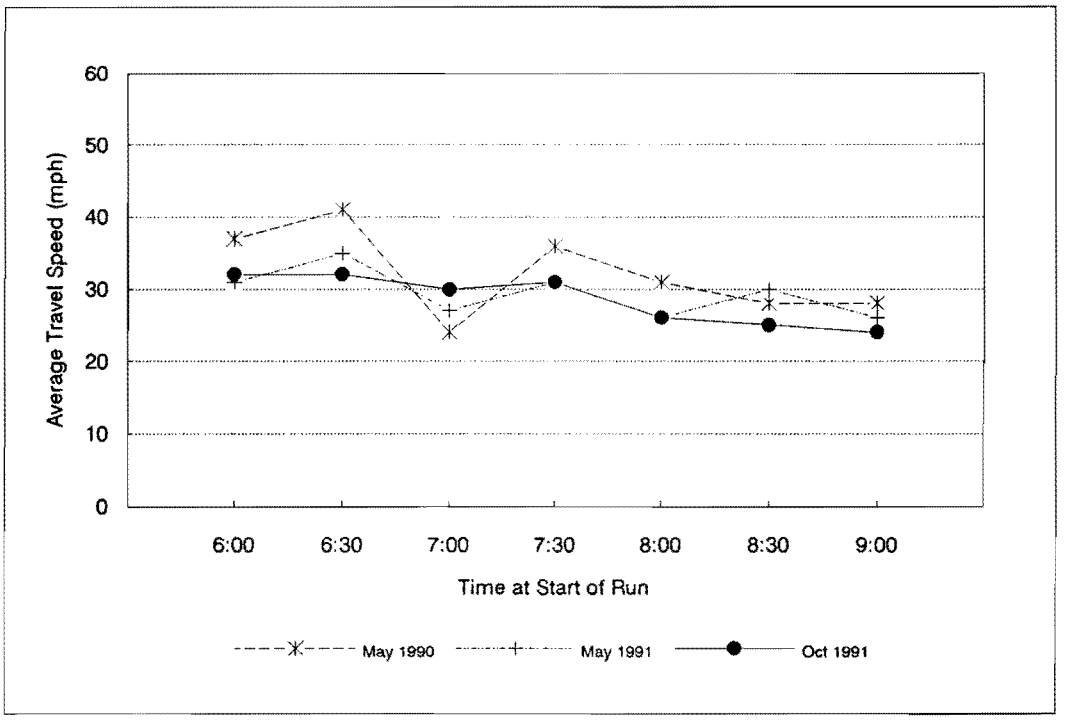


(a) Northbound

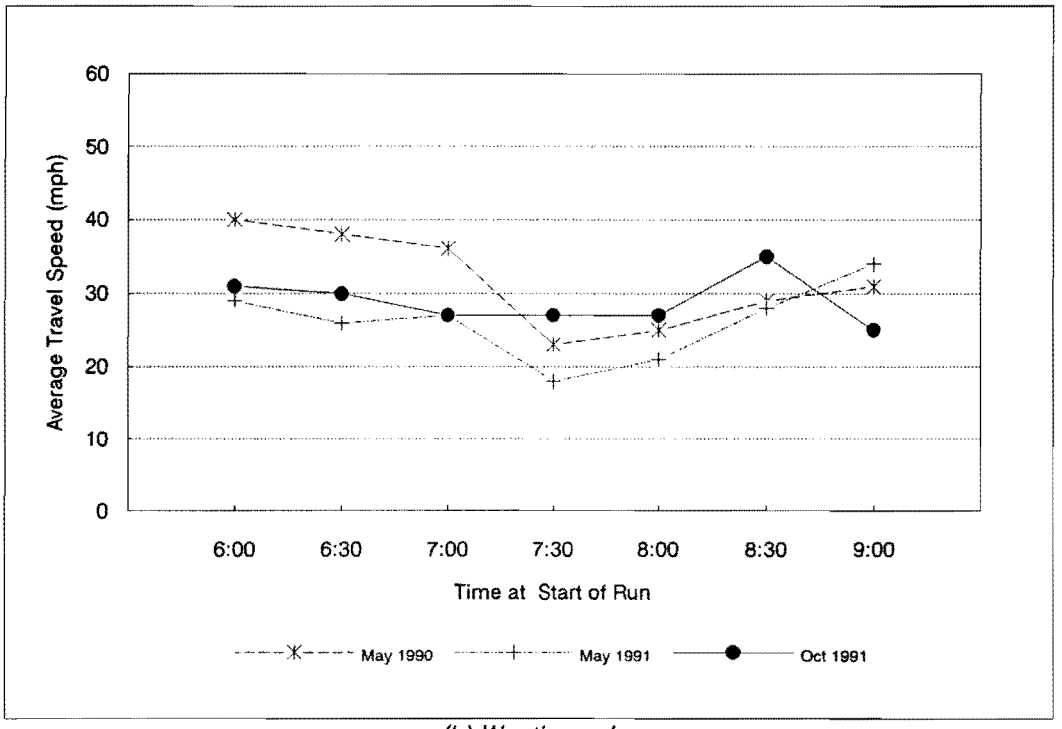


(b) Southbound

Figure E-19. P.M. Peak Period Average Travel Speed Between I-635 and CBD: Garland

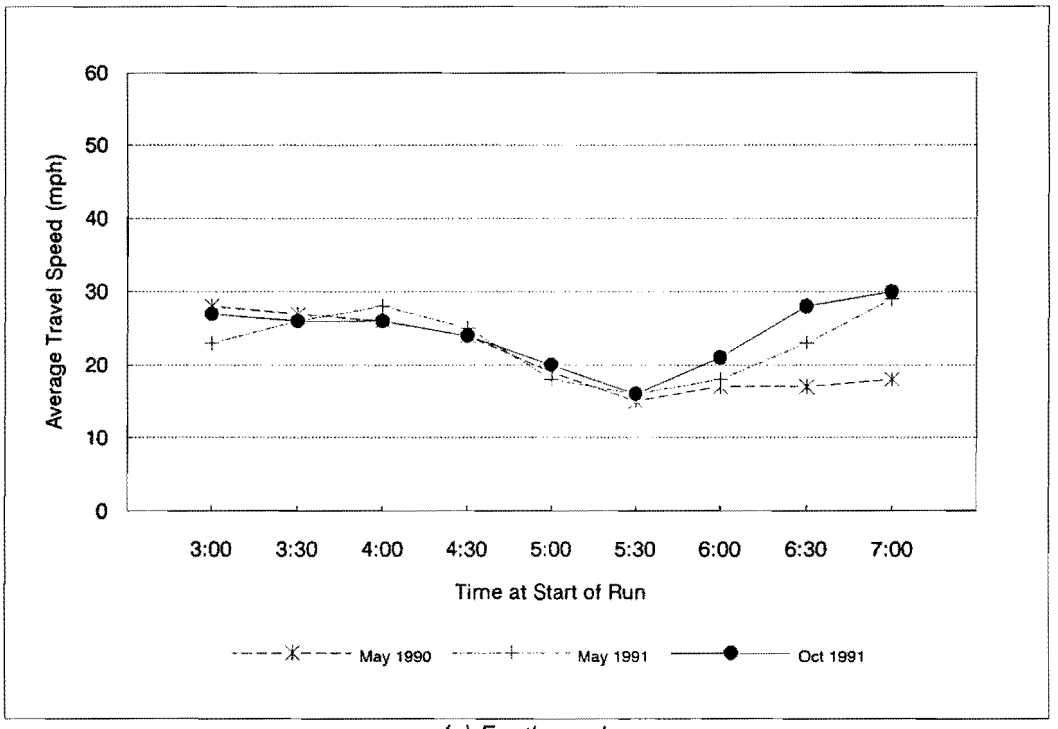


(a) Eastbound

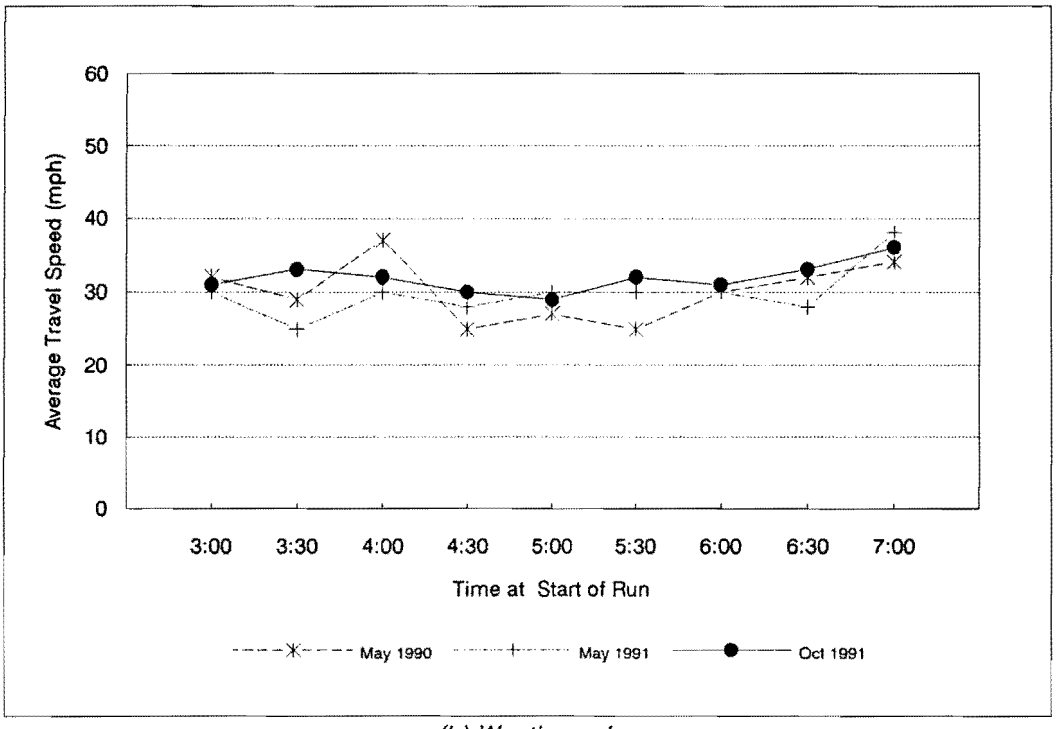


(b) Westbound

Figure E-20. A.M. Peak Period Average Travel Speed Between Midway and Abrams: Loop 12

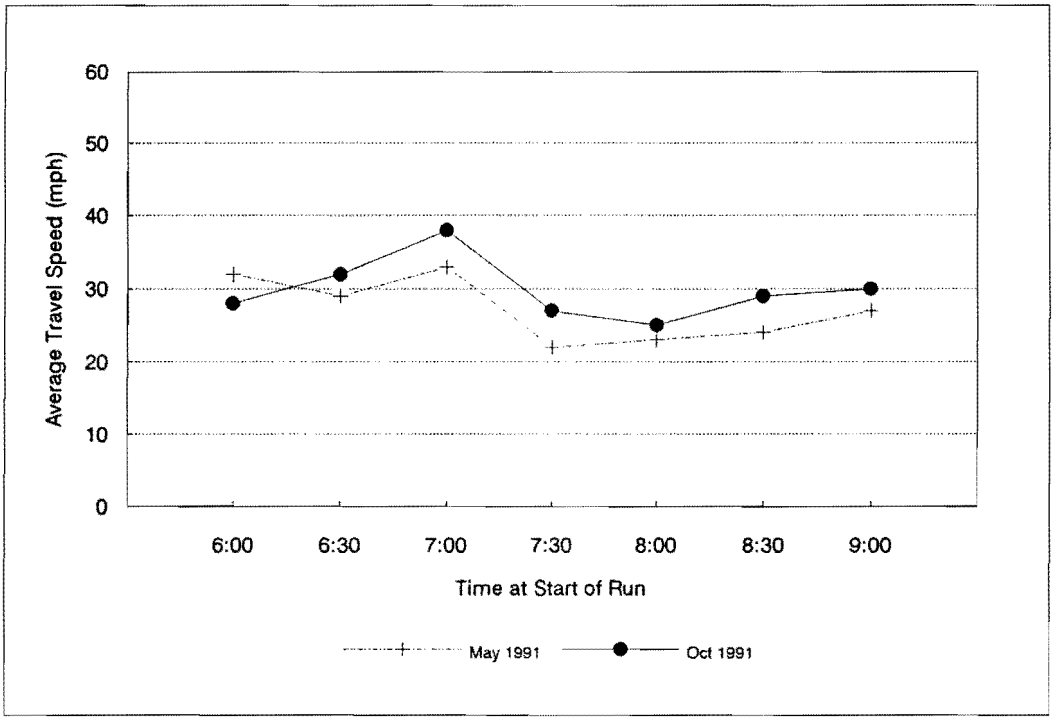


(a) Eastbound

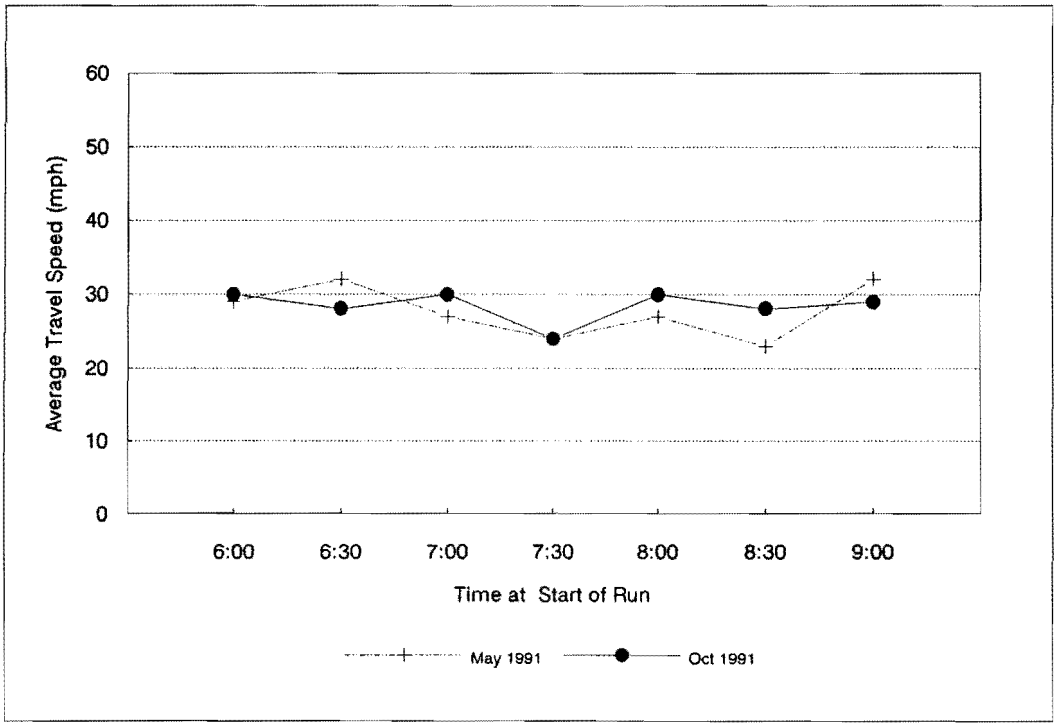


(b) Westbound

Figure E-21. P.M. Peak Period Average Travel Speed Between Midway and Abrams: Loop 12

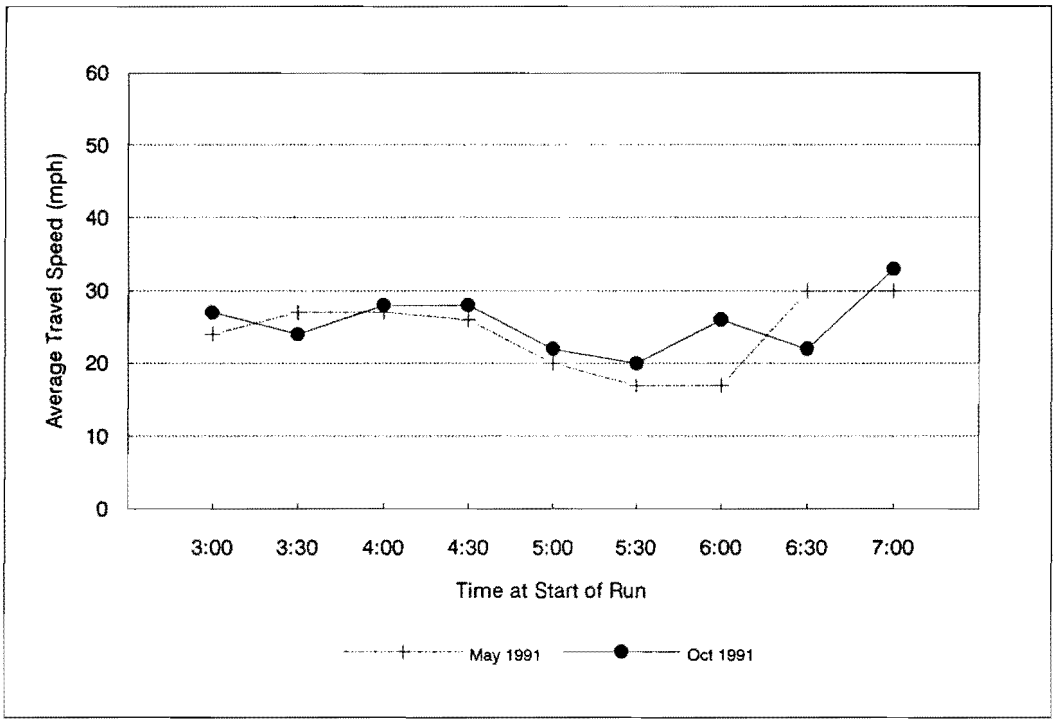


(a) Eastbound

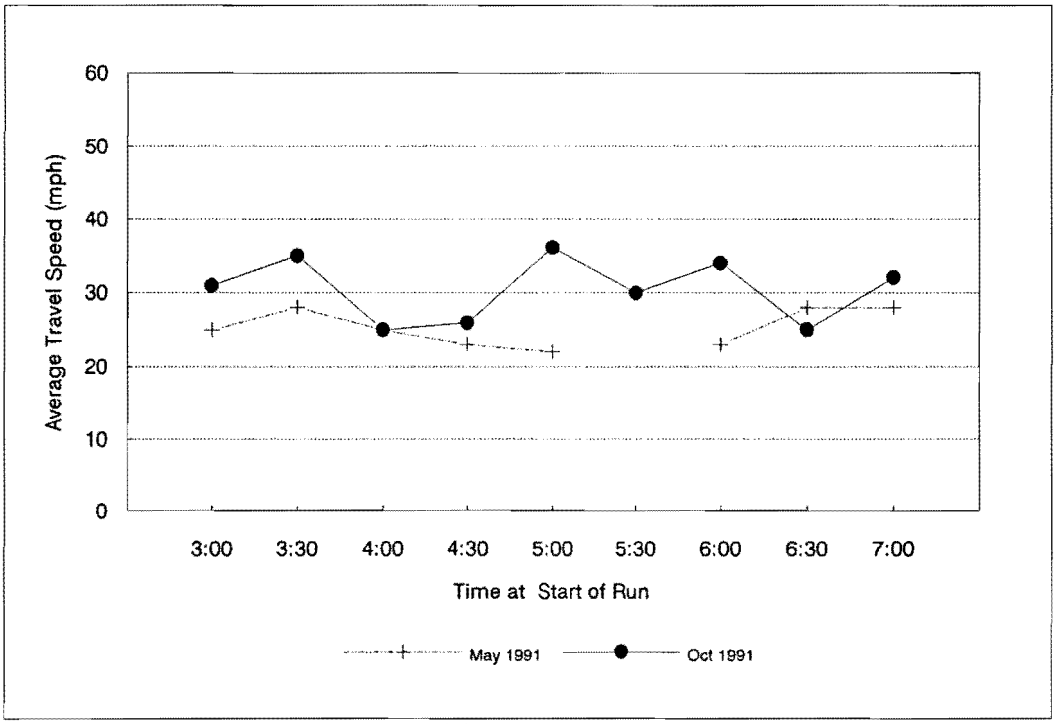


(b) Westbound

Figure E-22. A.M. Peak Period Average Travel Speed Between Midway and Skillman: Royal



(a) Eastbound



(b) Westbound

Figure E-23. P.M. Peak Period Average Travel Speed Between Midway and Skillman: Royal