

FIRST YEAR IMPACT  
OF  
REDUCED TRANSIT FARES  
ON  
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

by

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## ABSTRACT

In 1980, voters in Los Angeles County passed a referendum designed to support public transit development through a dedicated sales tax. One feature of this referendum, the Reduced Fare Program, substantially lowered the bus fares at the Southern California Rapid Transit District, and provided a subsidy to maintain adequate service levels. The lower fares precipitated a surge in patronage on District lines. This growth in system boardings made it necessary to accelerate monitoring of the bus lines and to increase service levels in many cases. This paper describes the attempts made by the District to deal with the patronage growth, and also describes the impacts on patronage, service levels, and operating productivity.

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## BACKGROUND

Voter approval of the Transit Development Program referendum in 1980 ushered in a new era for public transportation in Los Angeles County. Through this referendum, the voters have mandated the development of a regional rail rapid transit system. The referendum, known as Proposition A, is one of the largest dedicated taxes for public transportation ever voted by a county electorate in the United States. It represents an opportunity to do more in Los Angeles County than anywhere else in the United States.

The Los Angeles County Transportation Commission (LACTC) placed Proposition A on the November 4, 1980 general election ballot. The measure was approved by 54.2% of the county voters. After a legal challenge, the measure was validated by the California Supreme Court on April 30, 1982. The new Transit Development Program started on July 1, 1982.

Proposition A provided funding for three specific programs: lower bus fares (Reduced Fare Program), local transit improvements, and construction of a rail rapid transit system. Proposition A increased the sales tax in Los Angeles County by 1/2%, and will raise almost 300 million dollars in the first year. This revenue will be combined with state and federal funds, fares, and other revenues to provide a comprehensive public transit program in Los Angeles County.

Every incorporated city in Los Angeles County will receive a direct allocation of sales tax revenues for local transit improvements. Each year, 25% of the sales tax revenue will be set aside in a special fund, and then divided among the 82 cities and the county unincorporated areas, according to the population of each jurisdiction. Each city, (or the County in the case of unincorporated areas), will decide how to provide better local public transportation services for their communities. They may spend the funds themselves or contract with other service providers, such as the District. This 25% allocation of the sales tax funds to cities is permanent.

For the first three years, July 1, 1982 through June 30, 1985, the first claim on the balance of the funds is for fare reductions. The District's base fare was reduced from 85¢ to 50¢ with concurrent reductions in the balance of the District's fare structure. Funds are provided for the additional service necessary to relieve overcrowding from increased ridership induced by the lower fare. Funds will also be allocated to the municipal bus operators, as necessary, to keep their base fare at the 50¢ level. During the first three years, funds not required for the fare reduction program are available for rapid transit development programs.

The fare reduction program of Proposition A ends in July 1985. At that time funds will be reallocated as follows: 25% for the

cities; a minimum of 35% for transit guideway development (Metro Rail and light rail projects) with the balance of 40% available for discretionary public transit improvement purposes as defined by LACTC. These programs could include: fare relief subsidy, maintenance of bus service, or acceleration of rail rapid transit construction.

This paper focuses on one feature of the Transit Development Program. It examines the first year impact of the Proposition A Reduced Fare Program on RTD. The Reduced Fare Program caused significant changes in ridership and service levels. Initially, ridership surged, then continued a slower growth rate throughout the first year. Growth in ridership affected the service levels required to maintain adequate capacity. The first half of the paper describes the attempt made by RTD to deal effectively with the surge in ridership. The second half documents the actual impacts of the Reduced Fare Program on patronage, service level, pass sales, and operating productivity.

#### PREPARING FOR IMPLEMENTATION OF THE REDUCED FARE PROGRAM

##### Actions by the Board of Directors

Subsequent to the April 30 validation of Proposition A by the California State Supreme Court, the policy bodies of the District

and the LACTC approved a Master Agreement, also called the Memorandum of Understanding (MOU). Intended to prevent system productivity from worsening, the MOU outlined actions and constraints under which the District was to implement the Proposition A Reduced Fare Program. The MOU, revised in February 1983, will remain in effect through the end of the mandated Reduced Fare Program, June 30, 1985. Key features of the MOU include the following:

1. The District will lower its fare structure to designated levels on July 1, 1983.
2. The District will provide enhanced service on existing lines to accommodate the increased ridership demand resulting from the lowered fare structure.
3. The District will redeploy its services wherever possible so that capacity is shifted to meet additional demand.
4. The District will maintain its productivity as measured by designated standards and not allow conditions on lines where excessive crowding exists to be worsened.
5. The District will prepare brief statistical reports at regular intervals covering specified performance indicators.

5. The LACTC will reimburse the District for these actions up to a set dollar limit per month, for up to a set limit of vehicle service hours per year.

The RTD Board of Directors affirmed the Master Agreement by approving the revision of the District's fare structure. As required the base fare was lowered from 85 to 50 cents, a 41% decrease. There were corresponding reductions in all fare categories. Student and college/vocational fares experienced the greatest reductions with cash fares reduced over 70% and their respective pass prices reduced over 80%. Table I presents the pre and post Proposition A bus fares.

To prepare for the expected patronage increases due to reduced fares, the Board of Directors authorized the General Manager to proceed with necessary personnel hiring, bus preparation, and additional data collection.

#### Actions by District Staff

The District developed internal guidelines for making service additions<sup>(1)</sup>. In order to stay within the previously mentioned constraints of the Master Agreement, and comply with its spirit and objectives, data showing that any of the following five standards was being exceeded was deemed sufficient justification to recommend additional service.



1. A 140% loading standard exceeded on four consecutive trips each day.
2. Pass-ups caused by crowding reported at the same location or along the same route segment for at least three consecutive days (or on weekends); pass-ups cannot be eliminated by schedule adjustment.
3. The average maximum load (AML) for three-hour peak period exceeds 55 passengers. The maximum load is the highest load occurring on a single trip, and is generally a little higher than the load measured at the "peak point."
4. A 100% loading standard exceeded for local services during the off-peak period and on Saturdays and Sundays. Three consecutive trips must exceed standard each day.
5. A 100% loading standard exceeded on express lines for three consecutive trips each day.

While these guidelines did not state what level of crowding was acceptable, they were intended to identify and alleviate the worst overcrowded services.

The District's preparatory activities were coordinated by the Interdepartmental Proposition A Implementation Task Force, which had representation from each of the affected departments. The District obtained additional bus operators, as customary, by converting part-time drivers to full-time status and by hiring additional part-timers. By performing a costly overhaul and upgrading of the retired fleet, the District obtained the necessary additional equipment. All RTD departments made expeditious preparations for the implementation of the fare reduction program, based on an expected surge in ridership.

#### MONITORING OVERCROWDED CONDITIONS

The District's major concern regarding the Reduced Fare Program was that the initial patronage increase might be very large, and might more than fill available capacity on many lines. Some excess capacity existed prior to July 1, due to steady patronage declines during Fiscal Year 1982. However, the District believed that capacity would quickly be exhausted on many lines.

Accurately predicting the size and location of the expected patronage overloads was not possible, especially since the fare decrease was so significant. The primary goal of the District, responding to this uncertainty, was to make plans that would allow overload problems to be quickly identified and corrected, thus avoiding prolonged hardship to patrons.

Initially, the most severe crowding problems were expected to occur during the peak periods when capacity was least. Bus line patronage is not generally tracked at the peak period independently. Therefore, to track peak patronage growth and assess remaining capacity, a system was developed to follow 72 bus lines. These 72 lines comprised 80% of the service and represented a spectrum of service types. To track peak period patronage on these lines, pre-reduced fare peak period data was gathered, creating a base line. A method was established to estimate total peak period ridership on a line from the number of passengers on board at the peak stop. Past experience has shown that the ratio of total passengers to passengers on board at the peak stop is not affected by a change in ridership level. This ratio is especially stable when the time period under consideration has a consistent pattern of ridership, such as the A.M. or P.M. peak period. The base line data for each of the 72 lines determined the ratio. RTD then collected subsequent patronage data at a line's peak stop, and estimated the total ridership for the period using the ratio. This estimation method allowed a savings in manpower, and made it possible to monitor the 72 lines more frequently after the July 1 fare reduction.

Patronage data on individual lines can vary as much as 10% on a typical day, but summing the peak period patronage for the 72 lines gave a more reliable estimate of the growth in peak period ridership. In addition, the individual line estimates were used

to determine possible overloading problems, as defined in the internal guidelines discussed above. Where overloading was indicated, the line would be rechecked to assess the regularity of the occurrence. An example of the results obtained with peak patronage estimation through the month of December are given in Table II.

By early planning, RTD hoped to identify and address the worst overcrowding problems promptly. Due to the size and diversity of the RTD bus system not all capacity problems could be anticipated. For these, RTD relied on complaints. Complaints came from several sources including the public, bus operators, dispatchers and road supervisors. All complaints were evaluated, usually by point check, and then, if necessary, service was augmented. In September when school resumed and student patronage surged, the use of complaints to detect crowding was necessary.

## FIRST YEAR IMPACTS OF THE REDUCED FARE PROGRAM

### Impact on Patronage Growth

The initial two months of the Fare Reduction Program saw a 12% surge in average weekday patronage. However, few demand capacity

problems were experienced. Spare capacity existed in the system as a result of steady patronage losses over the previous two fiscal years, so initial increases could be absorbed.

Checks of ridership in the initial weeks suggested that a majority of the patronage increase was taking place during the mid-day period and on weekends, with the smallest increase on CBD oriented activity during the peak periods. This explained how a .7% increase in service level was able to accommodate a 12% growth in patronage during the first two months of the program.

Table III presents average daily boardings for the calendar months from July 1982, the start of the Reduced Fare Program through June 1983. As can be seen in Table III, the weekday boardings have steadily increased each month except for the November/December seasonal patronage loss which, nevertheless, represented a ridership level over 13% higher than the 1981 holiday season. Saturday and Sunday ridership levels, though more erratic month to month, have also experienced an overall gain since July. Weekend patronage levels have been consistently higher than the previous year, displaying larger increases on Sundays than Saturdays.

The graph in Figure I shows daily system patronage from March 1982 to March 1983. The graph clearly reveals the pattern of patronage growth. Two pronounced increases in patronage occurred.

One happened in July with the advent of reduced fares and one in September concurrent with the opening of the schools. The latter is a seasonal shift which was significantly inflated by the lower student fare. As is evident, patronage continued steady growth through March 1983. Original predictions, drawn from past experiences with fare reductions, had stated that system patronage would probably level off around October or November. This pattern of continuing growth has been unexpected.

#### Impact on Service Hours and Equipment

As the patronage increase strained the capacity of many lines, service was augmented. Table IV reports the annualized system revenue vehicle hours in effect on six representative months from April 1982 to April 1983. The drop in service hours that occurs between April and June 1982 reflects the seasonal service decrease caused by schools recessing. Revenue vehicle service hours climbed again in September, and continued steady growth thereafter. The District made a concerted effort during this period to abide by the Master Agreement when augmenting service. As a result, while patronage increased over 27% by February 1983, revenue service hours had increased by only 2.7%. However, as FY 1983 approached its end, revenue service hours had surpassed, by an estimated 60-80 thousand hours, the 6,883,000 hour cap agreed upon in the MOU\*\*.

\*\* - The MOU currently in effect allows the District to operate 7.02 million vehicle hours during FY 84.

Another aspect of increasing service is the additional bus requirements. Figures II, III, and IV exhibit the number of additional buses added per month from July 1982 to March 1983. As can be seen in Figure II, weekday bus additions hovered around 30 buses from July through September, then rose sharply to around 60 buses in October. Weekday equipment requirements increased in the AM and PM peak periods, while weekends required additional equipment during the mid-day and PM peak periods. Since October, bus patronage has continued a less dramatic but steady rise, and bus additions have grown consistent with this demand.

#### Impact on Pass Sales

Pass sales have escalated in volume as expected, however the various categories of bus passes exhibited dissimilar patterns of growth. The graph in Figure V shows growth in sales by type of pass purchased. Although pass sales for all types are higher since the bus fares were reduced, the student and college/vocational pass categories demonstrated the most dramatic rise, with student pass sales escalating to surpass both senior citizen and regular. The disproportionate growth in student pass sales is attributable to the 80% reduction in student pass price on July 1, versus a 41% reduction in regular pass price. For this reason, some L.A. County school systems are considering cutting costs by reducing or terminating their school bus contracts with

private carriers, and purchasing student passes from RTD(1). Even with staggered school hours and efficient scheduling, providing school bus service exerts a heavy impact on the District, because students travel in patterns requiring extra bus assignments and excessive non-revenue miles.

When pass use is viewed as a percent of average daily unlinked boardings, another effect of the reduced fares can readily be seen. Table V compares pass use as a percent of average daily unlinked boardings for the fiscal months of February 1982 and February 1983. It is interesting to note that while actual sales of regular passes rose 2% from February 1982 to February 1983, the percentage of average daily boardings by regular pass fell 2.8%. Concurrently, the sale of student passes rose 162% and the percentage of average daily boardings by student pass gained 6.3%. Student pass sales surpassed the sale of regular passes for the first time in RTD history in January 1983.

#### Impact on Operating Productivity

The District makes an ongoing effort to maintain and increase the productivity of its bus operations. Productive bus operations are marked by good utilization of bus capacity and a high proportion of operating time spent in revenue service. In the



case of RTD, the need to offer service to a wide service area such as Los Angeles County, limits the efficiency that can be obtained. However, the rise in patronage caused by the lower fares, has favorably affected productivity by increasing bus utilization in the mid-day period when excess capacity is available on most lines.

Bus service productivity is measured by a variety of indicators. Some common measures are: passengers carried per hour or per mile of service, non-revenue bus hours as a percentage of total bus hours and rate of return from passenger fares (farebox operating ratio). Table VI exhibits these performance measures for intervals from April 1982 through February 1983. All productivity measures in Table VI experienced improvement concurrent with the patronage growth, except as expected the last column, farebox recovery.

Some of the added efficiency, demonstrated in Table VI, occurred due to the increases in off-peak patronage. The remainder resulted from productive scheduling measures which contained peak vehicle requirements in spite of the significant patronage increase. Between June and December 1982, a 21% increase in total monthly boardings occurred. Approximately 15% of this increase occurred during the peak periods, supplemented by a 3.5% increase in peak buses.

Figure VI displays the District's monthly operating costs, farebox revenue, and Proposition A subsidy from May 1982 to March 1983. The rate of growth in operating costs has declined between FY 1982 and FY 1983. Of course, farebox revenue fell dramatically in July, but, interestingly enough, it has maintained a fairly uniform level since then, in spite of continuing growth in patronage. The even farebox revenue levels combined with significant patronage growth during the weekday base and weekend time periods, tends to indicate a notable increase in discretionary bus travel, and not solely the attraction of new patrons. Pass sales data would indicate that student pass buyers, and to a lesser extent regular pass buyers, are making these discretionary trips. However, the true proportion of discretionary trips contained in the increase is as yet unsubstantiated.

A study can be made of District patronage and its sensitivity to fare increases and decreases, using demand elasticities.<sup>1</sup>

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<sup>1</sup>The elasticity of demand is a convenient measure of the relative responsiveness of transit ridership to changes in fares. A quantitative measure of relative change, the elasticity of demand is defined as the ratio of the percentage change in transit demand (ridership) induced by a given percentage change in fares. Since the elasticity measure is a ratio of percentage changes, it is therefore a good measure to compare demand elasticity responses between different agencies.

Between FY 1981 and FY 1982, through an increase in base fare of 31% (65¢ to 85¢) and a decrease in patronage of -12%, an elasticity measure of -0.39 was produced. However, between FY 1982 and FY 1983, the decrease in fares from 85¢ to 50¢ (-41%) and increase in patronage of 17% produced an elasticity measure of -0.42. Compared to a nationally used demand elasticity measure of -0.33, developed by Simpson and Curtain, the District's patrons appear to be relatively sensitive to increases and decreases in fares. The District's patrons appear to react with the same magnitude to fare increases (-0.39) as fare decreases (-0.42). Given the relative size of the two fare changes, the District gained more riders in the fare decrease than it lost in the previous year's fare increase. This translates into approximately 12 Million additional boardings in FY 1983 compared to FY 1981, which was the year prior to the major fare increase of FY 1982.

### CONCLUSION

Perceiving the need to improve their public transportation, the voters of L.A. County mandated development of rail and light rail transit systems by approving the Transit Development Program referendum in 1980. The sales tax referendum also called for reduced bus fares during the first three years, and compensated the affected bus companies by providing a subsidy derived from

the sales tax. This local funding allowed the District to avoid major service cutbacks that had been planned to begin in July, 1983. The Transportation Development Program was a real boon to the District, since it demonstrated local support for a rail system and obviated the need to cut bus service in FY 1983.

However, the reduced bus fare imposed by the Program severely underpriced the cost of a bus ride for all riders. The extremely low cost of the student pass has led to tremendous growth in student patronage. The resultant need to add service for this relatively low revenue producing segment of the transit market has been especially costly for the District in terms of bus requirements, high non-revenue service hours, and lowered operating ratio. Additionally, the District's patrons who have been misled by the low subsidized fares will be distressed when the mandated subsidy ends in July 1985, and fares return to a more reasonable level.

Patronage levels had been expected to stabilize within the first six months of the Reduced Fare Program. However, this has not occurred and patronage is continuing to rise. The District is working with the LACTC to restrain the growth of service hours as much as possible, since the District has already exceeded the maximum hours agreed upon for FY 1983(1). It is necessary to contain the service hours of the bus system at this time, because

in FY 1985 the guaranteed subsidy for bus transit will end.  
Unguarded growth now would assure major service withdrawals in  
1985 and encourage the loss of the goodwill of District patrons.

ACKNOWLEDGEMENTS

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REFERENCE

1. RTD BOARD OF DIRECTORS REPORT. Proposed measures to relieve overcrowding. Southern California Rapid Transit District, July 22, 1983.

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TABLE I: PRE AND POST PROPOSITION A BUS FARES

	<u>PRE JULY 1 PRICE</u>	<u>POST JULY 1 PRICE</u>
<b>REGULAR CASH FARES</b>		
Base Fare	0.85	0.50
Transfers	0.15*	0.10@
Express Increments - each	0.40	0.25
<b>SENIOR CITIZENS AND HANDICAPPED CASH FARES</b>		
Base Fare	0.40	0.20
Transfers	0.05*	0.10@
Express Increments - each	0.20	0.00
<b>STUDENTS (UNDER 19) CASH FARE</b>		
Base Fare	0.65	0.20
Transfers	0.05*	0.10@
Express Increments - each	0.20	0.00
<b>COLLEGE/VOCATIONAL CASH FARE</b>		
Base Fare	0.85	0.20
Transfers	0.15*	0.10@
Express Increments - each	0.40	0.00
<b>REGULAR PASS PRICE</b>		
Base Pass	34.00	20.00
Express Stamps - each	12.00	7.00
<b>SENIOR CITIZEN AND HANDICAPPED PASS PRICE</b>		
Base Pass	7.50	4.00
Express Stamps - each	6.00	0.00
<b>STUDENTS (UNDER 19) PASS PRICE</b>		
Base Pass	22.00	4.00
Express Stamps - each	6.00	0.00
<b>COLLEGE/VOCATIONAL PASS PRICE</b>		
Base Pass	26.00	4.00
Express Stamps - each	6.00	0.00

**Transfer Notes**

\*Charge per use - limit 2 uses

@Charge for multiple uses with one hour limit

TABLE II: PEAK POINT PATRONAGE ESTIMATES\*

LINE NO.	JUNE		JULY		SEPT		OCT		NOV/DEC	
	VOL	DATE	VOL	DATE	VOL	DATE	VOL	DATE	VOL	DATE
1	1228	6-21	1226	7-08	1540	9-30	--	--	1646	11-05
2	973	6-23	1106	7-13	1042	9-24	--	--	1211	11-19
4	1009	6-21	1115	7-08	1120	9-30	--	--	1296	11-05
5	1682	6-23	2077	7-12	1907	9-22	1679	10-11	2029	12-15
6	1023	6-23	1160	7-19	1169	9-24	--	--	1151	11-12
7	1292	6-23	1247	7-09	--	--	1277	10-01	1339	11-22
8	561	6-23	577	7-09	--	--	605	10-01	638	11-22
9	2224	6-28	2660	7-06	2364	9-22	2998	10-25	2562	11-17
10	1543	6-17	1400	7-27	1427	9-24	--	--	1520	11-08
12	1089	6-23	1071	7-06	--	--	1123	10-25	1116	12-15
16	1968	6-23	1896	7-14	2149	9-22	2442	10-25	2323	11-05
18	1637	6-23	1953	7-14	1930	9-22	--	--	2006	11-05
20	2820	6-22	2933	7-13	--	--	2901	10-11	--	--
24	611	6-23	649	7-20	--	--	443	10-29	696	12-13
25	861	6-23	1105	7-14	1016	9-24	--	--	1141	11-12
26	1167	6-23	1141	7-12	1293	9-30	1285	10-25	1296	12-03
28	1978	6-23	2237	7-14	2054	9-22	2349	10-25	--	--
29	1133	6-23	1289	7-12	1184	9-30	1230	10-25	1248	12-08
35	1139	6-23	1488	7-13	1645	9-28	1745	10-11	1760	12-16
39	911	6-23	846	7-19	853	9-24	862	10-25	863	12-08
44	1488	6-23	1489	7-20	--	--	--	--	1639	11-01
47	1064	6-23	1049	7-16	911	9-23	1170	10-29	1215	12-13
49	899	6-23	862	7-22	--	--	952	10-22	892	12-15
50	804	6-21	898	7-07	1024	9-22	--	--	1055	12-21
75	1472	6-18	1470	7-07	1551	9-30	--	--	1598	11-01
76	689	6-17	779	7-27	--	--	746	10-14	733	12-14
86	657	6-23	633	7-27	645	9-29	647	10-20	729	11-18
88	268	6-23	352	7-13	394	9-28	659	10-18	528	11-18
90	548	6-23	576	7-08	588	9-22	555	10-22	606	11-09
92	567	6-23	562	8-11	540	9-22	622	10-11	--	--
93	701	6-23	740	7-19	718	9-28	765	10-28	743	11-18
97	103	6-23	--	--	--	--	135	10-29	138	12-14
115	484	6-25	485	7-12	--	--	--	--	619	11-19
120	459	6-23	420	8-04	--	--	--	--	602	11-01
150	692	6-23	603	7-19	528	9-23	509	10-26	571	12-16

\* For three hour peak periods.

TABLE II: PEAK POINT PATRONAGE ESTIMATES\*

LINE NO.	JUNE		JULY		SEPT		OCT		NOV/DEC	
	VOL	DATE	VOL	DATE	VOL	DATE	VOL	DATE	VOL	DATE
163	237	6-23	262	7-22	--	--	--	--	295	11-12
165	277	6-23	355	8-05	--	--	--	--	238	11-12
180	672	6-25	752	7-21	722	9-28	--	--	662	11-18
200	824	6-23	1017	7-07	--	--	--	--	--	--
204	1687	6-23	2269	7-29	2327	9-22	2418	10-25	2166	11-04
206	544	6-23	596	7-21	--	--	624	10-22	591	12-17
207	1190	6-21	1236	7-26	1302	9-24	1561	10-28	923	12-23
210	247	6-23	1026	7-06	--	--	--	--	1177	11-25
212	698	6-23	649	7-29	661	9-23	--	--	841	11-05
232	204	6-23	265	7-20	--	--	--	--	216	12-17
260	103	6-23	141	8-25	--	--	114	10-04	--	--
401	627	6-23	731	7-15	--	--	683	10-20	707	11-12
420	569	6-23	608	8-25	615	9-22	607	10-01	--	--
422	1179	6-15	1145	7-07	--	--	1260	10-04	1322	11-04
428	592	6-23	663	8-25	706	9-24	659	10-01	546	12-28
432	427	6-17	512	7-07	--	--	450	10-01	370	12-28
456	413	6-23	446	7-15	539	9-29	529	10-20	587	11-18
460	343	6-23	392	7-22	354	9-29	415	10-20	424	12-16
462	250	6-24	311	7-15	230	9-29	239	10-20	221	12-16
470	824	6-23	917	7-15	862	9-29	881	10-20	915	12-16
480	868	6-23	971	7-15	1094	9-29	1053	10-20	681	12-16
483	596	6-24	639	7-15	607	9-29	651	10-20	643	12-16
484	270	6-23	--	--	--	--	--	--	320	11-18
487	544	6-24	606	7-15	663	9-29	685	10-20	588	11-18
490	286	6-23	347	8-04	--	--	--	--	487	11-18
604	126	6-23	254	7-07	237	9-30	--	--	237	11-01
606	167	6-23	137	7-07	156	9-30	--	--	144	11-01
607	120	6-23	157	7-07	117	9-30	--	--	--	--
721	373	6-23	389	7-15	404	9-29	394	10-20	408	11-18
757	553	6-23	670	7-15	612	9-29	692	10-20	660	11-18
758	182	6-23	194	7-15	225	9-29	191	10-20	185	11-18
760	468	6-23	522	7-15	650	9-29	506	10-20	734	11-18
762	446	6-23	484	7-15	535	9-29	569	10-20	551	11-18
810	311	6-23	406	7-15	430	9-29	405	10-20	--	--
813	192	6-23	247	7-15	--	--	--	--	340	11-18
826	380	6-23	438	8-11	--	--	--	--	--	--
841	346	6-23	424	7-30	456	9-27	448	10-4	437	12-21

\* For three hour peak periods. 26

TABLE III: AVERAGE DAILY BOARDINGS SINCE JULY 1, 1982

	<u>WEEKDAY</u>			<u>SATURDAY</u>			<u>SUNDAY</u>		
	<u>AVERAGE DAILY BOARDINGS</u> (000)	<u>% CHANGE LAST MONTH</u>	<u>% CHANGE LAST YEAR</u>	<u>AVERAGE DAILY BOARDINGS</u> (000)	<u>% CHANGE LAST MONTH</u>	<u>% CHANGE LAST YEAR</u>	<u>AVERAGE DAILY BOARDINGS</u> (000)	<u>% CHANGE LAST MONTH</u>	<u>% CHANGE LAST YEAR</u>
<u>1982</u>									
JUL	1116	3.5%	-4.7%	673	1.8%	-3.7%	475	9.3%	-2.0%
AUG	1220	9.3%	4.8%	736	9.5%	8.9%	576	21.2%	21.1%
SEP	1256	3.0%	3.8%	718	-2.6%	5.5%	538	-6.6%	18.5%
OCT	1374	9.4%	12.5%	700	-2.5%	1.8%	544	1.2%	22.5%
NOV	1360	-1.1%	13.2%	706	.9%	6.1%	498	-8.5%	13.7%
DEC	1351	-.7%	17.8%	724	2.6%	9.3%	503	1.0%	12.0%
<u>1983</u>									
JAN	1391	3.0%	23.8%	667	-8.0%	9.0%	493	-2.1%	16.0%
FEB	1402	.8%	24.9%	702	5.3%	.2%	495	.5%	7.0%
MAR	1422	1.5%	25.5%	739	5.3%	1.4%	521	5.3%	22.3%
APR	1442	1.4%	30.2%	756	2.3%	16.9%	525	.8%	23.7%
MAY	1471	2.0%	33.4%	773	2.2%	19.9%	536	2.1%	27.7%
JUNE	1476	.3%	36.9%	755	-2.3%	14.2%	587	9.5%	35%

TABLE IV: CHANGE IN REVENUE VEHICLE HOURS<sup>1</sup>

		<u>ANNUALIZED REVENUE HOURS</u>	<u>PERCENTAGE CHANGE</u>
<u>1982</u>	APRIL	6,650,353	-----
	JUNE	6,599,144	-.77%
	SEPT	6,673,098	+1.12%
	DEC	6,767,312	+1.41%
<u>1983</u>	JAN	6,860,569	+1.38%
	FEB	6,874,360	+.20%
	APR	6,928,705	+.79%

<sup>1</sup>-For months coinciding with significant changes in the bus system.

TABLE V: PASS BOARDINGS AS A PERCENTAGE OF AVERAGE  
DAILY BOARDINGS

<u>PASS TYPE</u>	<u>FEBRUARY 1982</u>	<u>FEBRUARY 1983</u>	<u>CHANGE</u>
Regular	25.6%	22.8%	-2.8%
Senior & Handicap	12.7%	12.1%	-0.6%
College/Vocational	3.6%	7.6%	+4.0%
Student	9.2%	15.5%	+6.3%
TOTAL	51.1%	58.0%	+6.9%

TABLE VI: OPERATING PRODUCTIVITY MEASURES<sup>1</sup>

	<u>PSGRS. PER REVENUE HRS.</u>	<u>PSGRS. PER REVENUE MILES</u>	<u>NON-REVENUE HRS. PER TOTAL HRS.</u>	<u>FAREBOX OPERATING RATIO</u>
<u>1982</u>				
APRIL	53.0	4.0	7.39%	42%
<sup>2</sup> JUNE	52.1	3.9	6.75%	38%
<u>FARE REDUCTION</u>				
SEPT	59.9	4.5	6.92%	24%
DEC	63.4	4.7	6.91%	23%
<u>1983</u>				
JAN	65.1	4.8	6.60%	23%
FEB	66.0	4.9	6.67%	24%
APR	66.1	4.9	6.45%	24%

<sup>1</sup>-For month coinciding with significant changes in the bus system.

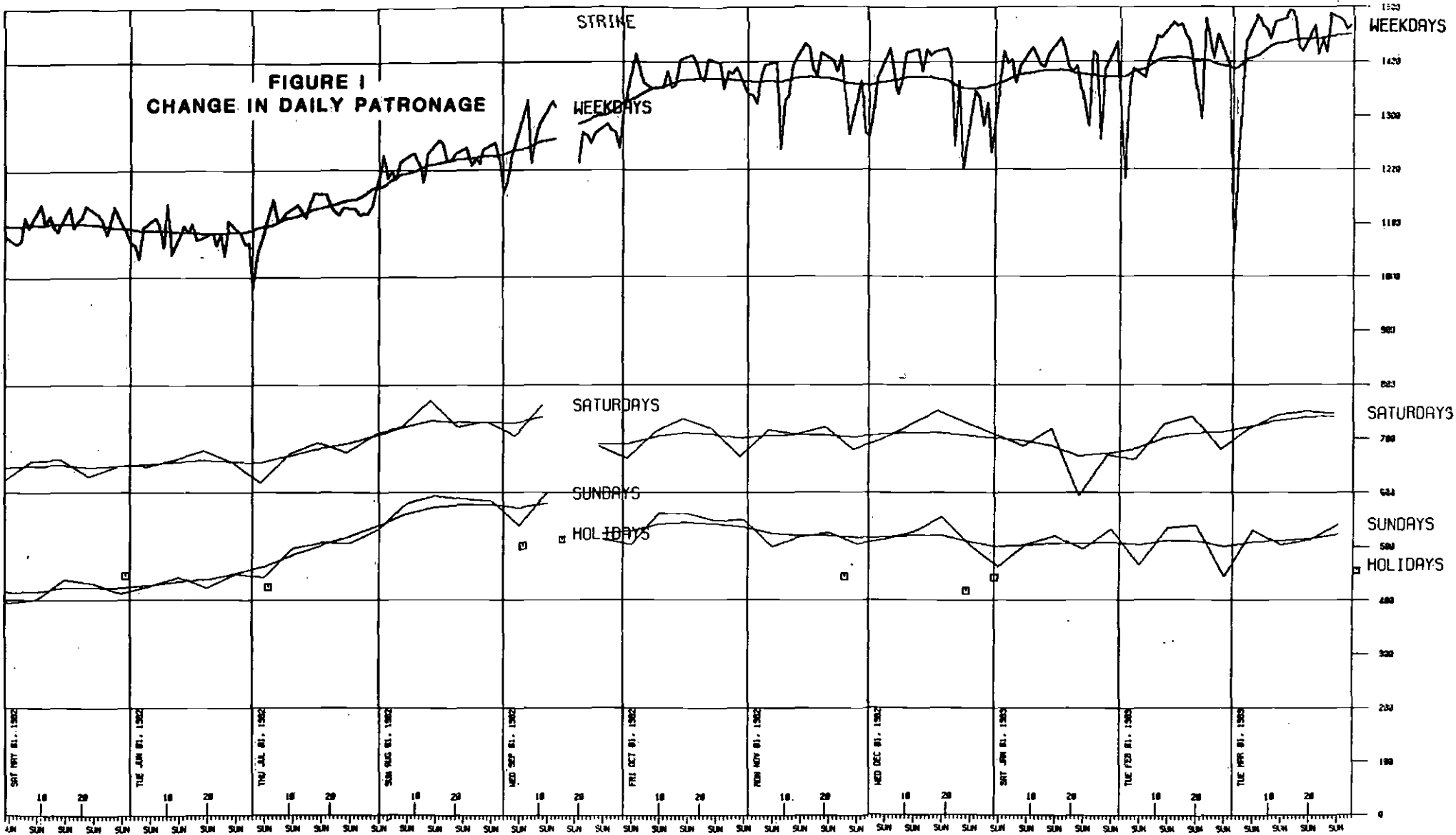
<sup>2</sup>-School Recess

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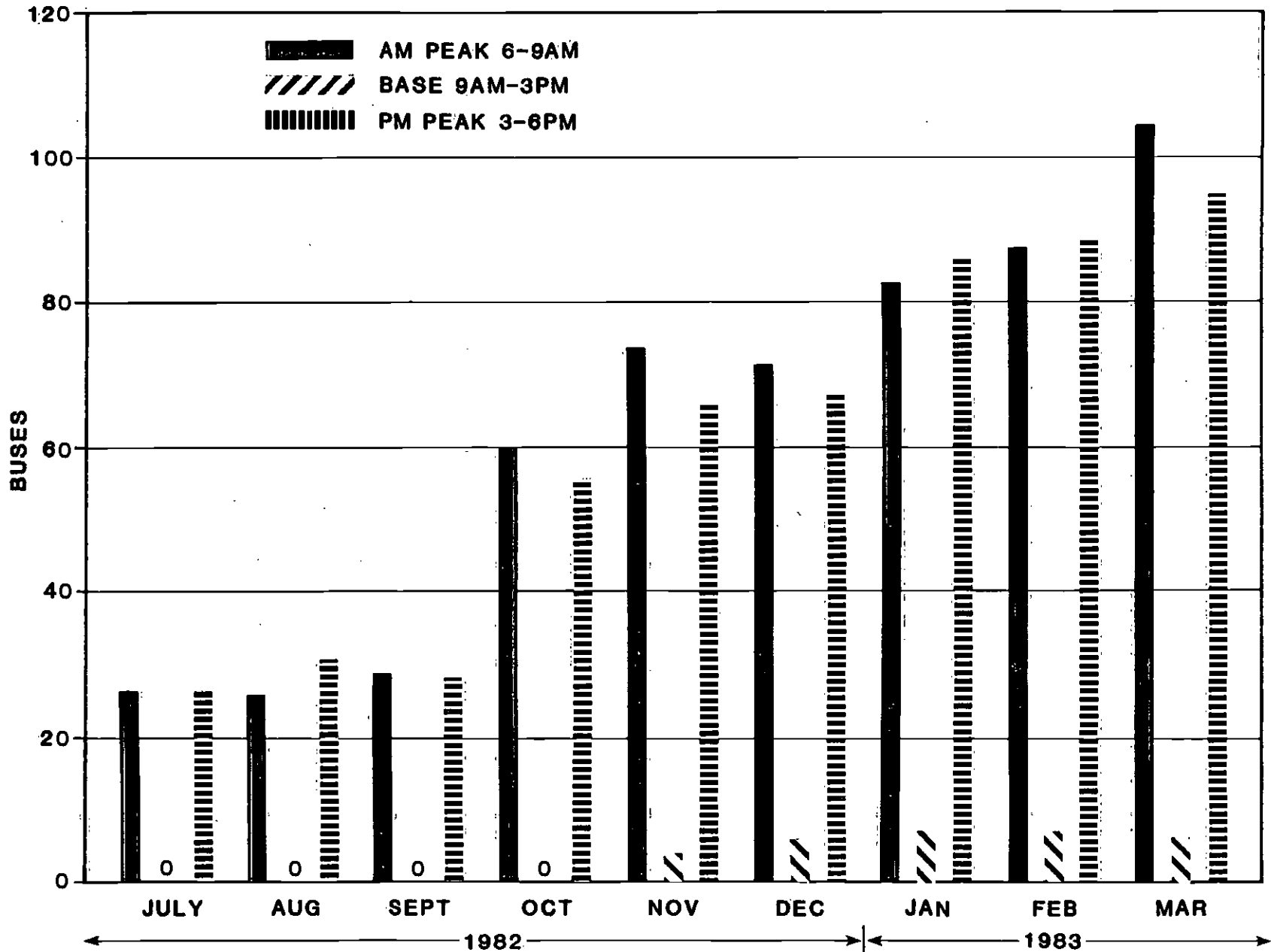
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**FIGURE I  
CHANGE IN DAILY PATRONAGE**

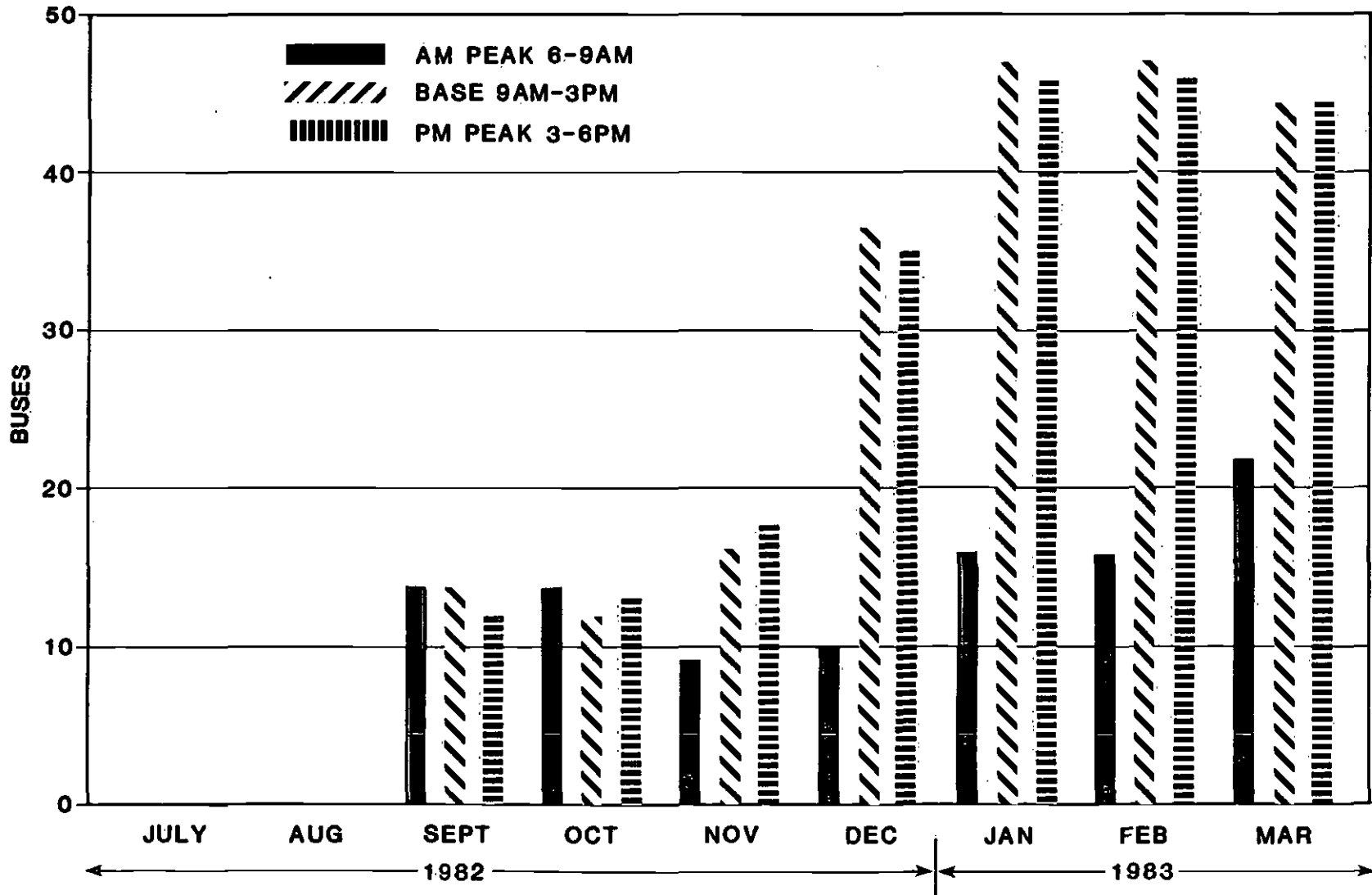


**FIGURE II  
CUMULATIVE MONTHLY BUS ADDITIONS  
WEEKDAYS**



2

**FIGURE III  
CUMULATIVE MONTHLY BUS ADDITIONS  
SATURDAYS**



**FIGURE IV  
CUMULATIVE MONTHLY BUS ADDITIONS  
SUNDAYS**

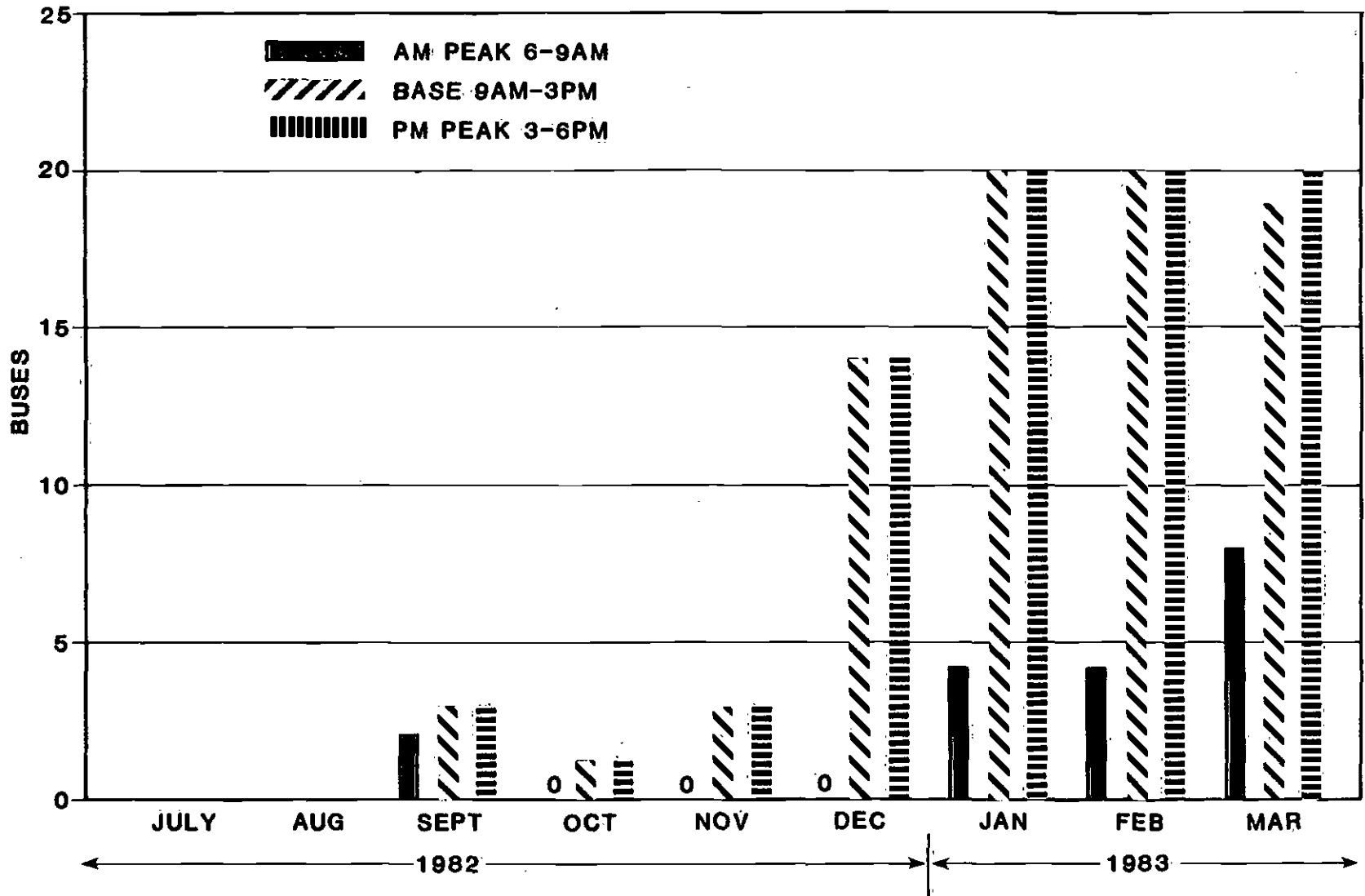
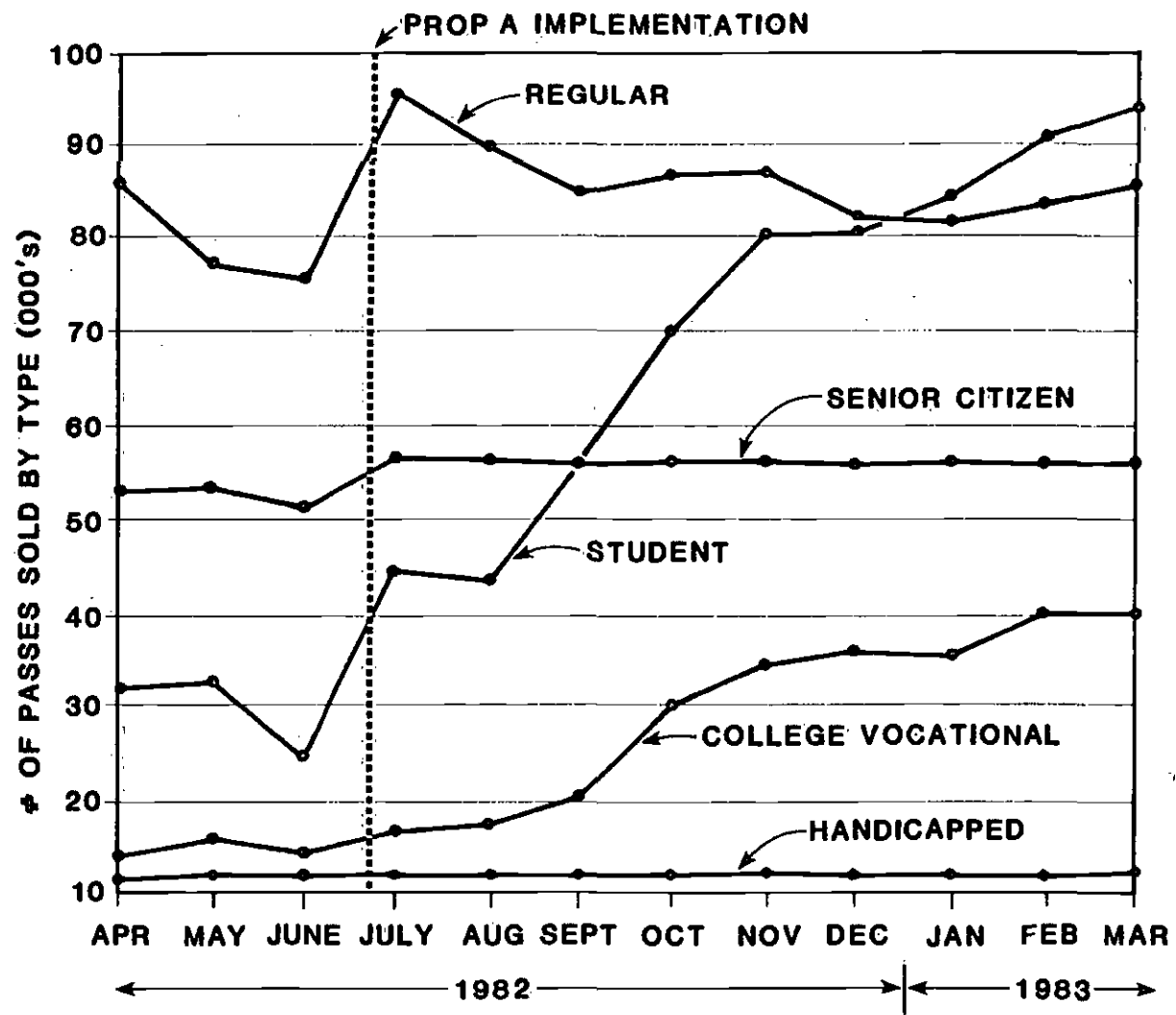


FIGURE V  
PASS SALES BY TYPE PER MONTH



**FIGURE VI  
PASSENGER REVENUE AND OPERATING COST  
MAY 1982 - MARCH 1983**

