

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

EVALUATION OF THE GRID SYSTEMS
IN SOUTH CENTRAL LOS ANGELES AND
SAN FERNANDO VALLEY - AFTER
SIX MONTHS OF OPERATION

Surface Planning Department

(Revised)

November 18, 1975

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SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

SUMMARY OF CONCLUSIONS

- Ridership in both Grids has increased at a rate more than three times that of the District-wide average between May and September of this year.
- Significant cost reducing measures have been effected:
 - South Central Grid - \$400,100 saved principally through elimination of route duplications.
 - San Fernando Valley Grid - \$377,500 saved principally through route/service alterations.
- Productivity relative to the District-wide average shows that further increases in ridership are necessary for an improved and effective operation:
 - District-wide
 - Productivity - 40.0 passengers/bus-hour
 - Operating Ratio - 0.34
 - South Central Grid
 - Productivity - 31.4 passengers/bus-hour
 - Operating Ratio - 0.30
 - San Fernando Intra-Valley Grid Lines
 - Productivity - 22.4 passengers/bus-hour
 - Operating Ratio - 0.20
- A high correlation exists between levels of daytime and nighttime ridership.

GRID EVALUATION REPORT

Background of Report

Pursuant to the agreement between District and the County of Los Angeles on July 1, 1974, two experimental Grid systems were implemented --- one in South Central Los Angeles and the second in the San Fernando Valley. These Grid systems were established in total on March 30, 1975. The objective was to determine whether the Grid concept would attract and significantly increase transit usage. Under this Grid concept, lines were laid out in a simplistic grid pattern under a spatial criterion rather than on the more conventional attractor/generator basis. The result is a system of bus lines, interdependent upon one another for travel. Because of this interdependency, a frequency of service was selected (20-minute) which would not impose significant wait times for transfers and would encourage transient users as well as regular riders. Concomitant expectations included benefits associated with mobility through the use of a more energy efficient, environmentally compatible, cost effective form of transportation than the private automobile.

To determine whether the projects were achieving their objective a Joint-Agency Grid Evaluation Committee composed of the City and County of Los Angeles, CALTRANS and SCRTD, was formed to evaluate the Grids. An assessment of the success was reported on June 18, 1975 in Progress Report and Interim Evaluation of the Grid System Programs in South Central Los Angeles and the San Fernando Valley, reflecting eight weeks of operation. To

recapitulate, the Committee's findings were that the Grids did indeed attract significant ridership and warranted continued financial support by the County. The County subsequently concurred and included a stipulation calling for the maintenance of the Grids in the 1976 fiscal year agreement.

As part of the District's continuing Service Evaluation Program, recent passenger counts were made to measure the ridership growth after approximately six months of operation (late September). Of particular interest was the patronage of night services.

PASSENGER CHECKS

South Central Grid System

Standard Riding Checks were made on all the newer Grid Lines during the week of September 15, 1975 by District checkers. The passenger checks covered each line from open to close of service. Types of fares paid as noted on Exhibit VI provided some insight about the cross section of riders. Patronage counts listed by individual lines are shown on Exhibit I.

Fare Box Revenues of Divisions 4/5 and 18 were reviewed since most of the Grid lines operate out of these operating yards. It should be noted that many other lines also operate out of these Divisions making definitive estimates of passenger volumes by divisional revenues difficult. Although the revenue data cannot quantify exact ridership numbers, incremental growth trends are determinable. The graph of Exhibit X illustrates the growth trend. The Division fare box revenues are tabulated on Exhibit V.

San Fernando Valley

Standard Riding Checks were conducted on all the local intra-Valley Grid lines during the weeks of September 22 and 29, 1975. The regional inter-Valley lines were not checked because of their established high level of ridership as shown in the Line Summaries developed by the Service Analysis Section.

Tabulated on Exhibit II are the ridership counts on individual lines.

Fare box revenues of Valley Divisions 8 and 15 were reviewed since all the Valley lines operate out of these Divisions with very few foreign lines to bias the totals. While admittedly passenger volumes could not be accurately quantified from the revenue tallies, incremental increases could be determined. The plot of the average weekday revenue on Exhibit XI illustrates the growth trend.

DISCUSSION OF FINDINGS

The passenger totals for the Grid systems as a whole illustrate the increase in ridership to date is substantial.

	<u>TOTAL PASSENGERS*</u>				
	<u>Before Grid</u>	<u>April Count</u>	<u>May Count</u>	<u>September Count</u>	<u>Scheduled Buses</u>
South Central Grid	N/A	19,550	22,050	27,742	54
San Fernando Intra-Valley Lines	14,753	30,619	34,258	44,884	131

* Total passengers include riders on all lines currently in operation.

N/A - Not applicable since existing lines were not altered.

These passenger totals show not only gross ridership increases but a significant rate of growth --- South Central Grid increased 35% between May through September and; San Fernando Intra-Valley lines increased 31%. In comparison the District-wide growth was about 10% for the same period. It should also be noted that ridership on the Intra-Valley lines has tripled with the implementation of the Grid System.

South Central Grid System

Patronage: Comparisons with previous checks revealed ridership increased on all lines except one. Overall weekday productivity averaged 31.4 passenger per bus-hour (up from 20 in May) indicating a high degree of utilization. Night patronage was at a lower level of 17.8, up from the level of 13 in May. Night ridership figures are tabulated on Exhibit III. As Exhibit I illustrates, Grid lines varied in ridership levels from a high of more than 50 per bus-hour to an extreme low on one line of 5. Since the line spacings are a close one-half mile by half mile in most sections of the project area, the need for continuance of the least productive routes is being carefully assessed. An associated consideration is the unlikely but possible situation (except in the more intensively developed areas) of over-service which could virtually preclude development of cost effective operation of individual lines.

An additional major factor requiring consideration is the proximity of long established major lines in the area. Undoubtedly some of the patrons riding the Grid lines are defectors from the

older lines. However, as the Division fare box revenue indicates, there was a significant incremental differential (+19%) from the May revenue totals --- about twice that of the District-wide increase of 10%. It should be noted here that the difference between the growth indicated by the passenger counts and fare box revenues are not in conflict. Two factors which greatly affect the fare box totals are the monthly passes and non-grid lines which operate out of the two Divisions reviewed.

Patronage of the night service (60-minute frequencies between 7:00 p.m. and 10:00 p.m.) is surprisingly high on most lines. This ridership in the face of a very real threat to personal safety can reasonably be attributed to transit "dependency." However, those individual lines not exhibiting high utilization, must regardless be reviewed to ascertain whether continuance of night services is warranted.

Costs: The cost of operating the South Central Grid lines is about \$16,300 per weekday. This operating cost related to the total boarding passengers of 27,742 results in an average cost per passenger of 59 cents --- an improvement over the May figure of 81 cents. The improved cost position can be attributed to a combination of the attraction of new riders, deflection of riders from nearby lines and the enactment of efficiency measures.

San Fernando Valley Grid System

Patronage: The large increases in ridership as measured by the passenger counts were corroborated by the Division fare box review --- tabulated on Exhibit V. Ridership on the individual lines

ranged from a high of 39 per bus-hour to a low of 12. These Intra-Valley lines as a system averaged 22.4 indicating a fair degree of productivity.

Although this patronage is good, it is still much lower than the District-wide average of 40 passengers per bus hour. Consequently the level of ridership must be increased further. Requiring a great deal of consideration is the fact that unlike the situation in the South Central area, existent alternatives or reasonably nearby alternatives are not available. The Valley lines are spaced at approximately one-mile by one-mile intervals in most sections of the Valley rather than the one-half mile in the South Central area. In addition there is virtually no duplication of like services (local service over local service). Contemplation of any route deletions, therefore, requires the most careful assessment of impact.

This is not to imply that services in terms of routes cannot be changed to produce a more cost effective operation. Rather, any route/service changes should be designed to result in an unavoidable lessening of convenience rather than preclusion of a trip. To achieve the goal of engendering transit usage all changes are being designed to promote the increasing growth trend.

Patronage response to night services has been disappointingly poor. Unlike the South Central Grid lines, none of the Intra-Valley lines has shown a high level of utilization. Accordingly, with the concurrence of the Transit Board, night services are scheduled to be significantly reduced.

Costs: The estimated weekday cost of operation of the intra-Valley lines is \$39,800. Combined with the total boarding passengers of 44,884 results in a per passenger cost of 88 cents-- a vast improvement over the May figure of \$1.26. Although the unit cost figure is much improved, it is still above the District average of 71 cents. However, one factor which must be kept in mind is the relative newness of the Grid systems and the indicated continued growth potential.

GRID IMPACTS

The extent to which the Grid systems are meeting public transportation needs are quite notable. While not precisely quantifiable, inferences drawn from passenger traffic volumes indicate that significant social, economic and environmental benefits are being derived through utilization of bus services.

The passenger traffic graphs for the South Central (Exhibit VIII) and San Fernando Intra-Valley (Exhibit IX) lines illustrate that while many trips were work related, most trips were made for other purposes such as: shopping, school, recreation, social and other as indicated by a questionnaire survey conducted in April. The evidence as provided by the fare and passenger traffic data indicates that:

- The commuter trip does not predominate.
- A large number of occasional riders use the bus services.
- Public transportation is being provided --- that is a transit system meeting the needs of all trip types.

The beneficial externalities directly associated with the increased

transit usage are: a reduction in auto usage thus mitigating adverse effects on air quality; and utilization of a more energy efficient form of transportation than the private automobile.

Although the total regional benefits accrued cannot be accurately quantified, the evidence in the form of increasing patronage indicates socially-a growing awareness and acceptance of public transportation, economically - recognition of the personal savings achievable and environmentally - less exploitation of limited natural resources.

The relative levels of ridership throughout the course of a typical weekday on individual lines and as a system, were quite different in the two areas. While no causal relationships have been developed, the land use development with attendant socio-economic differences, undoubtedly have some effect. For example, based on 1970 census information, the median family income for the South Central area was \$6,579 and the San Fernando Valley \$12,741 which is approximately twice the former. In the Valley unlike South Central Los Angeles are trip generators in the form of highly developed community and retail activity centers. Of additional note, were the households without automobiles: South Central - 26 percent and the San Fernando Valley - 5 percent. While these indices do not make up a comprehensive geographic, demographic profile, they do provide some insight of the differentials in the response in the daytime/nighttime ridership in the respective Grid areas.

DISCUSSION OF NIGHT RIDERSHIP

The sharp contrast in response to night services in the two Grid areas prompted further investigation. Factors in two broad categories prominently come under consideration. The first dealt with the social, economic implications and the second pertained to the high cost associated with a service which was not utilized.

An analysis of the night per bus-hour ridership indicated that: (1) per unit ridership was generally less at night than daytime hours and (2) a correlation existed between the level of ridership during the two periods. By ranking the lines in order of their respective unit ridership, a coefficient of correlation was calculated. These coefficients were: South Central area 0.91 and San Fernando Valley 0.86. Perfect correlation being 1.0, the coefficients show that; in fact, the level of daytime ridership provided some index of probable nighttime patronage.

The differential between daytime and nighttime ridership could not as directly be rationalized. However, contrasts in median family incomes and auto ownership per household provided some insight into possible reasons. Median family income in the South Central area was about one-half that of the San Fernando Valley. In addition auto ownership was about one-fifth. The significant differences in these two indices, essentially identify that group more dependent on public transportation for mobility.

The evidence relating to night patronage indicates that while response to night services is not quantifiable with certainty, a propensity toward utilization can be determined. By careful analysis and evaluation of the potential market, the probable response to night service could be reasonably ascertained.

GRID SYSTEMS MODIFICATIONS

Previous reports submitted to your Board described the Grid systems and the rationale under which bus line routings in each area, South Central Los Angeles and San Fernando Valley, were designed. In South Central Los Angeles, because of the prevailing high level of ridership in major sections of the project area, the Grid lines were superimposed over the existing lines. In the San Fernando Valley the pre-grid level of ridership was relatively low. Consequently, the then existing bus line system was removed and completely redesigned into a grid pattern. Because of the contrast in situations, the review and evaluation procedures followed were adapted to meet the unique needs of each area.

South Central Grid System: In the South Central Grid area the major efforts of the Service Evaluation Program have been directed toward the elimination of unnecessary route duplication. To achieve this end, proposals have been developed and approved by the District Board which have resulted in the release of 13 scheduled buses with minimal service reductions or disruption to present riders. The proposals involved the replacement of the services provided by certain Grid lines by route extensions and/or service modifications of long existing lines. By thoughtfully making the

changes, the integrity of the Grid network was and is maintained. Five Grid lines involved are: 351, 352, 355, 357 and 364; equating to \$400,100 in cost savings. In addition to these measures the three least productive lines were discontinued by Board action. The net result of all the changes and deletions made thus far is the establishment in the southerly Grid area of a one-half mile (north/south lines) by one mile (east/west lines) Grid. It should be noted that in spite of the increased east/west spacings, a three-block walk access will still be provided in more than half the project area.

The net effect of the changes made to the South Central Grid are:

- Expansion of the Grid into contiguous areas.
- More cost effective operation.
- More simplistic, comprehensible bus line routings.
- Enactment of economy measures.
- Improved efficiency of operation.

Improvement of Productivity: As the individual line passenger checks indicate Lines 359 - 120th Street, 361-135th Street and 363 - Rosecrans Avenue require specific attention.

Specific recommendations are being developed which will directly address these three lines for submittal to the Transit Board. In addition Saturday and Sunday services are being checked to determine the degree of utilization.

San Fernando Intra-Valley Lines: The ridership response in this area predominated by the discretionary transit user, has been very good thus far. Passenger counts, reflecting approximately six

months of operation of the greatly expanded system have reached the pre-grid productivity level in terms of passengers per bus-hour with every indication of continued growth. This increased transit usage in an urban setting not generally conducive to transit usage attests to the effectiveness of the marketing program as well as the concept of the Grid. This growth is highly desirable for attainment of ridership levels which would justify continuation of the present level of service. A marketing program is continuing in operation to inform Valley residents and encourage additional usage.

Because of the interdependence of the Grid lines and lack of any alternative services, the principal efforts in terms of operation have been directed toward identifying those segments of each line experiencing the greatest passenger traffic. Concurrently, those segments least utilized were identified. Through this careful, comprehensive review process several changes and modifications were approved by the Transit Board resulting in potential economies totalling \$377,500. These changes included reroutes, route deletions, operational changes, night service reductions and line combinations. Five scheduled buses have been released for other services. The net effect of the changes, however, did not measurably compromise the integrity of the Grid system.

Improvement of Productivity: The review of several intra-Valley lines requiring investigation because of low utilization are complicated by the issue of public services to key activity centers and institutions. Lines falling in this category are:

<u>Line No.</u>	<u>Line Name</u>	<u>Considerations</u>
154	Tampa Ave. - Ventura	Nobel Jr. High School, Cleveland High School, West Valley Community Hospital, Woodview Hospital, Los Angeles Valley College, Ulysses S. Grant High School, Burbank High School.
155	White Oak Ave. - Zelzah Ave. - Rinaldi St.	Holy Cross Hospital, Alemany High School, California State University, Granada Hills High School, California State University at Northridge, Northridge Jr. High School, Valley Youth Center.
162	Riverside Drive - Olive Ave.	Valley Doctors Hospital, St. Joseph's Hospital and a service area containing a high concentration of senior citizens.
163	Sherman Way - Magnolia Ave.	North Hollywood High School, Wyandotte Junior High School.
168	Lassen St.	Provides service in Pacoima, a local area of high unemployment.
169	Saticoy St. - Sunland Blvd.	Provides service to Sunland, an otherwise isolated community.

In addition to the above considerations, Saturday and Sunday services are presently being reviewed. Specific recommendations are being developed to increase passenger productivity through additional service, route changes and marketing.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

SOUTH CENTRAL GRID SYSTEM

<u>Line No.</u>	<u>Line Name</u>	<u>May Count</u>	<u>September Count **</u>	<u>Comments and Studies</u>
		<u>Total Passengers</u>	<u>Total Passengers Per Bus-Hour *</u>	
73	Van Ness Ave.	1,751	2,432	Growth potential substantiates continued operation on present schedule.
351	Normandie Ave.	2,631	3,462	Service replaced by Line 96 - Normandie Avenue modified. Line 351 discontinued 10/26/75.
352	Santa Barbara Ave.- Vernon Ave.	3,127	3,817	Service replaced by extension of Line 27 - Vernon-Santa Barbara-La Cienega. Line 352 discontinued 10/26/75
353	Vermont Ave.	3,988	5,032	Ridership justifies continued operation on present schedule.
354	54th St.	1,254	1,449	Ridership warrants continued operation on present schedule.
355	Avalon Blvd.	2,862	3,469	Route to be replaced by extension of Line 29 - San Pedro St.- West Seventh St. Approved by BOD 10/8/75.
356	Gage Ave.	1,267	1,718	Growth potential substantial.
357	Central Ave.	3,864	4,061	Route to be replaced by extension of Line 3 - W. Sixth St.- Central Ave. Approved by BOD 10/8/75.
359	120th St.	432	680	Service reduction under study.
361	135th St.	217	219	Extremely low patronage indicates service not warranted.
363	Rosecrans Ave.	657	1,403	Service reduction under study.
364	El Segundo Blvd.	426	---	Service to be replaced by Line 123 - El Segundo Boulevard modified. Approved by BOD 8/6/75.
		<u>22,050</u>	<u>27,742</u>	
			<u>31.4</u>	

* Actual computed vehicle hours

** Counts made the week of September 15, 1975

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

SAN FERNANDO INTRA-VALLEY GRID LINES

Line No.	Line Name	May Count	September Count **		Comments and Studies
		Total Passengers	Total Passengers	Per Bus-Hour *	
151	Topanga Canyon Blvd.-Mulholland Dr.-Valley Circle Blvd.	1,221	1,969	21.0	Growth potential substantiates continued operation on present schedule.
152	Fallbrook Ave.-Ventura Blvd.-Winnetka Ave.	3,373	4,446	28.6	Growth potential substantiates continued operation on present schedule.
153	DeSoto Ave.-Ventura Blvd.-Winnetka Ave.	1,255	2,024	19.2	Night service reduction approved by BOD at 9/17/75 meeting.
154	Tampa Ave.-Ventura Blvd.-Burbank Blvd.-Oxnard St.	1,533	2,173	16.3	Night service discontinuance approved by BOD at 9/17/75 meeting.
155	White Oak Ave.-Zelzah Ave.-Rinaldi Ave.	937	1,553	17.3	Service adjustments under study.
156	Balboa Blvd.-Ventura Blvd.-Woodley Ave.	1,652	2,180	18.9	Night service reduction approved by BOD at 9/17/75 meeting.
157	Sepulveda Blvd.-Ventura Blvd.-Van Nuys Blvd.	5,075	5,702	39.0	Ridership warrants continued operation on present schedule.
158	Devonshire St. - Woodman Ave.	1,625	2,429	22.9	Growth potential substantiates continued operation on present schedule.
159	Coldwater Canyon-Sheldon St.-Lanker-shim Blvd.-Tujunga Av.	1,931	2,467	26.7	Growth potential substantiates continued operation on present schedule. Night service under review.
160	Laurel Canyon Blvd.	2,495	2,721	36.6	Ridership warrants continued operation on present schedule.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

SAN FERNANDO INTRA-VALLEY GRID LINES

Line No.	Line Name	May Count	September Count **		Comments and Studies
		Total Passengers	Total Passengers	Per Bus-Hour *	
161	Buena Vista St.	---	---	---	Discontinued 7/13/75.
162	Riverside Dr. - Olive Ave.	910	1,193	14.1	Night service discontinuance approved by BOD at 9/17/75 meeting. Further operational changes under study.
163	Sherman Way - Magnolia Ave.	1,674	1,974	18.7	Night service discontinuance approved by BOD at 9/17/75 meeting. Further route changes under study.
164	Victory Blvd.	2,788	3,574	26.6	Operating efficiency effected by tie to Line 165 releasing one bus. The improvement in operating efficiency will increase productivity on both 164 and 165.
165	Vanowen St.	2,849	3,780	28.6	Night service discontinuance approved by BOD at 9/17/75 meeting.
166	Nordhoff St. - Osborne St.	1,162	1,851	21.0	Growth potential quite high. Present night student usage under study.
167	San Fernando Rd. - Roxford St. - Maclay Ave. - Sayre St.	1,027	984	13.6	Service route completely replaced by extension of Lines 24 and 157. Line discontinuance approved by BOD at 10/15/75 meeting.
168	Lassen St. - Plummer St.	1,075	1,464	12.1	Night service discontinuance approved by BOD at 9/17/75 meeting. Major route change approved by BOD (8/6/75) will improve productivity to about 20 passengers per bus-hour.
169	Saticoy St. - Sunland Blvd.	1,676	2,400	17.1	Night service reduction approved by BOD at 9/17/75 meeting. Further major route changes under study.
<u>Totals</u>		34,258	44,884	22.4	

* Actual counts computed vehicle hours.

** Counts made the weeks of September 22 and 29, 1975

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
SOUTH CENTRAL GRID SYSTEM
NIGHT RIDERSHIP (7:00 p.m. to CLOSE)

Line No.	Scheduled Night Buses	APRIL COUNT			MAY COUNT			AUGUST COUNT			SEPTEMBER COUNT		
		Total Passengers	Passengers per Bus Hour **	Total Passengers	Passengers per Bus Hour **	Total Passengers	Passengers per Bus Hour **	Total Passengers	Passengers per Bus Hour **	Total Passengers	Passengers per Bus Hour **		
73	2	44	8.1	58	10.6	--	--	58	10.6	98	17.8	98	17.8
351	2	72	13.1	112	20.1	96	17.1	133	25.3	125	23.7	125	23.7
352	2	146	27.7	164	31.1	175	32.0	175	32.0	157	28.7	157	28.7
353	2	236	43.2	217	39.7	71	26.1	122	22.6	60	22.1	95	17.6
354	1	91	33.5	79	29.1	47	16.3	185	34.4	34	11.8	34	11.8
355	2	120	22.2	108	20.0	30	10.9	30	10.9	36	13.1	36	13.1
356	1	7	2.4	42	14.6	1	.4	1	.4	4	1.6	4	1.6
357	2	--	--	132	24.5	34	6.4	34	6.4	46	8.7	46	8.7
359	1	20	7.3	24	8.7	15	2.7	15	2.7	--	--	--	--
361	1	11	4.3	18	3.4	4	.7	4	.7	868	17.8	868	17.8
363	2	--	--	4	.7	909	18.7	909	18.7				
364	2	--	--	4	.7								
TOTALS	20	747	19.7	959	17.7								

** Actual in service vehicle hours.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
 San Fernando Valley Grid System
 Night Ridership (7:00 p.m. to Close)

INTRA-VALLEY LINES

Line No.	Scheduled Buses	APRIL COUNT			MAY/JUNE COUNT			AUGUST COUNT			SEPTEMBER COUNT		
		Total Passengers	Passengers per Bus Hour (3 hrs.)	Passengers per Bus Hour (3 hrs.)	Total Passengers	Passengers per Bus Hour (3 hrs.)	Passengers per Bus Hour (3 hrs.)	Total Passengers	Passengers per Bus Hour (3 hrs.)	Passengers per Bus Hour (3 hrs.)	Total Passengers	Passengers per Bus Hour (3 hrs.)	Passengers per Bus Hour (3 hrs.)
151	2	26	4.8	72	13.4	61	11.3	41	7.6				
152	4	52	5.7	84	9.1	101	11.0	72	7.8				
153	2	10	1.8	34	6.2	26	4.7	49	8.8				
154	3	34	4.4	56	7.2	41	5.3	45	5.8				
155	2	23	4.3	20	3.7	17	3.2	21	3.9				
156	2	25	4.4	34	5.9	42	7.3	49	8.5				
157	3	118	14.7	168	20.9	134	16.6	134	16.6				
158	2	41	7.2	45	7.8	58	10.1	48	8.4				
159	2	35	6.4	44	8.0	52	9.5	53	9.7				
160	2	71	13.9	68	13.9	61	11.9	63	12.3				
162	2	26	4.9	21	4.0	20	3.8	18	3.4				
163	2	37	6.5	43	7.6	35	6.2	41	7.3				
164	3	65	9.1	96	13.5	85	11.9	86	12.1				
165	3	59	8.1	66	9.1	74	10.2	67	9.2				
166	2	39	7.2	31	5.7	41	7.6	77	14.3				
167	2	22	4.2	31	6.0	33	6.4	5	1.0				
168	3	28	5.5	29	5.6	10	1.9	13	2.5				
169	3	55	7.0	57	7.2	30	3.8	29	3.7				
	45	766	6.8	999	8.9	921	8.2	911	8.1				

** Actual in service vehicle hours

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

DIVISION FAREBOX REVENUE

South Central Grid	<u>Average Weekday Revenue</u>		<u>Percent Increase</u>
	<u>May *</u>	<u>September</u>	
Division 4/5	\$ 17,058	\$ 20,053	18%
Division 18	<u>5,333</u>	<u>6,661</u>	<u>25%</u>
	\$ 22,391	\$ 26,714	19%
San Fernando Valley	<u>Average Weekday Revenue</u>		<u>Percent Increase</u>
	<u>May</u>	<u>September</u>	
Division 8	\$ 7,158	\$ 9,365	31%
Division 15	<u>6,056</u>	<u>7,907</u>	<u>31%</u>
	\$ 13,214	\$ 17,272	31%

* Grid system in operation approximately 8 weeks.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
 Summary of Fare Box Revenue Components
 South Central Los Angeles Grid Lines

Bus Line No.	Line Name	Total Fares Paid	FARE BOX REVENUE COMPONENTS											
			Cash 25¢ %	Fare and Trans-fer 35¢ %	Cash 50¢ %	Fare and Trans-fer 60¢ %	Trans-fer %	All Monthly Passes %	Students 15¢ %	Students 25¢ %	Blind Free %	Senior Citizens 10¢ %	Senior Citizens 20¢ %	All Tickets %
73	Van Ness - Arlington	2,432	14.1	17.8	0.2	0.2	28.0	21.2	6.2	8.6	0.7	1.2	1.0	1.0
351	Normandie Ave.	3,462	22.8	17.1	0.1	0.4	23.5	21.8	7.3	4.8	0.3	1.1	0.5	0.3
352	Santa Barbara-Vernon Aves.	3,817	19.6	14.7	0.0	0.0	28.6	20.8	6.2	5.3	0.1	2.5	1.5	0.7
353	Vermont Ave.	5,032	23.2	15.8	0.0	0.0	26.3	24.7	4.1	2.8	0.1	2.1	0.6	0.3
354	54th St.	1,449	18.2	19.9	0.0	0.0	30.4	16.8	3.8	6.5	0.1	3.0	1.2	0.1
355	Avalon Blvd.	3,469	29.0	14.9	0.0	0.6	20.5	25.9	3.3	1.5	0.1	2.7	0.9	0.6
356	Gage Ave.	1,718	28.4	17.9	0.0	0.0	23.5	13.6	9.9	4.4	0.1	1.3	0.2	0.7
357	Central Ave.	4,061	26.3	15.3	0.0	0.1	24.1	23.5	3.3	1.8	0.0	3.3	0.8	1.5
359	120th St.	680	30.2	16.8	0.0	0.0	27.5	14.1	5.7	2.9	0.2	1.0	0.3	1.3
361	135th St.	219	37.9	19.2	0.4	0.0	21.4	8.7	9.1	1.8	0.5	0.5	0.0	0.5
363	Rosecrans Ave.	1,403	32.2	19.0	0.0	0.1	26.9	14.1	2.3	2.6	0.0	1.7	0.7	0.4
	TOTALS	27,742	23.8%	16.4%	0.0%	0.2%	25.4%	21.4%	5.1%	3.9%	0.2%	2.1%	0.8%	0.7%

Surface and Advanced Planning
 CLG: 11/10/75

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
SUMMARY OF FARE BOX REVENUE COMPONENTS

SAN FERNANDO INTRA-VALLEY GRID LINES

BUS LINE NO.	LINE NAME	TOTAL FARES PAID	FARE AND TRANSFER					FARE BOX REVENUE COMPONENTS					SENIOR CITIZEN 10¢ 20¢ %	BLIND FREE %	ALL TICKETS %
			CASH 25¢ %	CASH 50¢ %	FARE AND TRANSFER 60¢ %	TRANSFER %	ALL MONTHLY PASSES %	STUDENTS 15¢ 25¢ %	TRANSFER %	MONTHLY PASSES %	STUDENTS 15¢ 25¢ %				
151	Valley Circle-Topanga Canyon	1,969	35.7	10.2	0.0	1.6	16.2	9.0	17.6	5.3	0.1	3.7	0.3	0.4	
152	Fallbrook-Roscoe- Vineland	4,446	32.5	14.5	0.0	0.5	18.6	12.8	13.4	3.7	0.2	2.5	0.3	1.0	
153	DeSoto-Ventura-Winnetka	2,024	36.5	11.6	0.0	0.2	17.5	8.9	18.5	4.6	0.6	0.5	0.1	1.0	
154	Tampa-Ventura-Burbank- Oxnard	2,114	28.8	15.6	0.0	0.1	22.1	15.9	6.8	6.0	0.1	3.5	0.7	0.4	
155	White Oak-Zelza-Rinaldi	1,553	27.4	12.5	0.0	0.7	18.6	10.7	19.1	8.2	0.1	1.9	0.2	0.6	
156	Balboa-Ventura-Woodley	2,127	22.0	17.4	0.0	0.7	26.7	12.6	9.3	6.9	0.2	2.8	0.7	0.7	
157	Sepulveda-Ventura- Van Nuys	5,702	31.5	15.6	0.0	0.3	22.5	14.8	6.8	2.6	0.2	4.7	0.5	0.5	
158	Devonshire St.	2,424	24.9	13.4	0.0	0.5	22.5	14.5	13.8	7.1	0.2	2.7	0.4	0.0	
159	Coldwater Canyon	2,467	25.2	13.8	0.0	0.4	18.0	15.3	17.7	5.0	0.0	4.1	0.4	0.1	
160	Laurel Canyon Blvd.	2,721	29.9	12.3	0.0	0.4	20.0	15.5	12.7	2.4	0.2	4.0	0.7	1.9	
162	Riverside Dr.- Victory Blvd.	1,193	27.3	10.8	0.1	0.0	18.0	17.5	10.1	3.8	0.3	10.0	1.8	0.3	
163	Magnolia Ave.-Sherman Way	1,930	29.6	11.2	0.0	0.1	18.6	18.5	9.9	2.4	0.3	8.6	0.5	0.3	
164	Victory Blvd.	3,574	34.7	12.6	0.0	1.0	19.3	12.9	9.7	4.0	0.3	5.0	0.2	0.3	
165	Vanowen St.	3,788	34.3	12.0	0.1	0.2	15.6	19.8	9.0	2.8	0.5	4.3	0.6	0.8	
166	Nordhoff-Osborne Sts.	1,807	32.7	11.9	0.0	0.1	21.0	12.8	14.6	4.2	0.0	2.0	0.1	0.6	
167	San Fernando Rd.-Roxford St.-MacLay Ave.-Sayre St.	984	32.2	8.6	0.1	0.1	18.3	7.5	17.5	5.6	0.4	3.6	0.3	5.8	

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
SUMMARY OF FARE BOX REVENUE COMPONENTS

SAN FERNANDO INTRA-VALLEY GRID LINES

BUS LINE NO.	LINE NAME	FARE BOX REVENUE COMPONENTS												
		TOTAL FARES PAID	CASH 25¢ %	FARE AND TRANSFER 35¢ %	CASH 50¢ %	FARE AND TRANSFER 60¢ %	TRANSFER %	ALL MONTHLY PASSES %	STUDENTS 15¢ 25¢ %	BLIND FREE %	SENIOR CITIZEN 10¢ 20¢ %	ALL TICKETS %		
168	Lassen-Plummer Sts.	1,464	27.7	9.5	0.0	0.2	17.0	10.0	28.8	4.8	0.1	1.1	0.2	0.6
169	Saticoy St.	<u>2,400</u>	<u>32.6</u>	<u>10.4</u>	<u>0.0</u>	<u>0.2</u>	<u>17.2</u>	<u>14.5</u>	<u>17.5</u>	<u>3.0</u>	<u>0.0</u>	<u>3.5</u>	<u>0.4</u>	<u>0.7</u>
	TOTALS	44,687	30.8%	13.0%	0.0%	0.5%	19.5%	14.0%	12.8%	4.2%	0.2%	3.8%	0.4%	0.8

* 197 Fares not recorded by checkers.

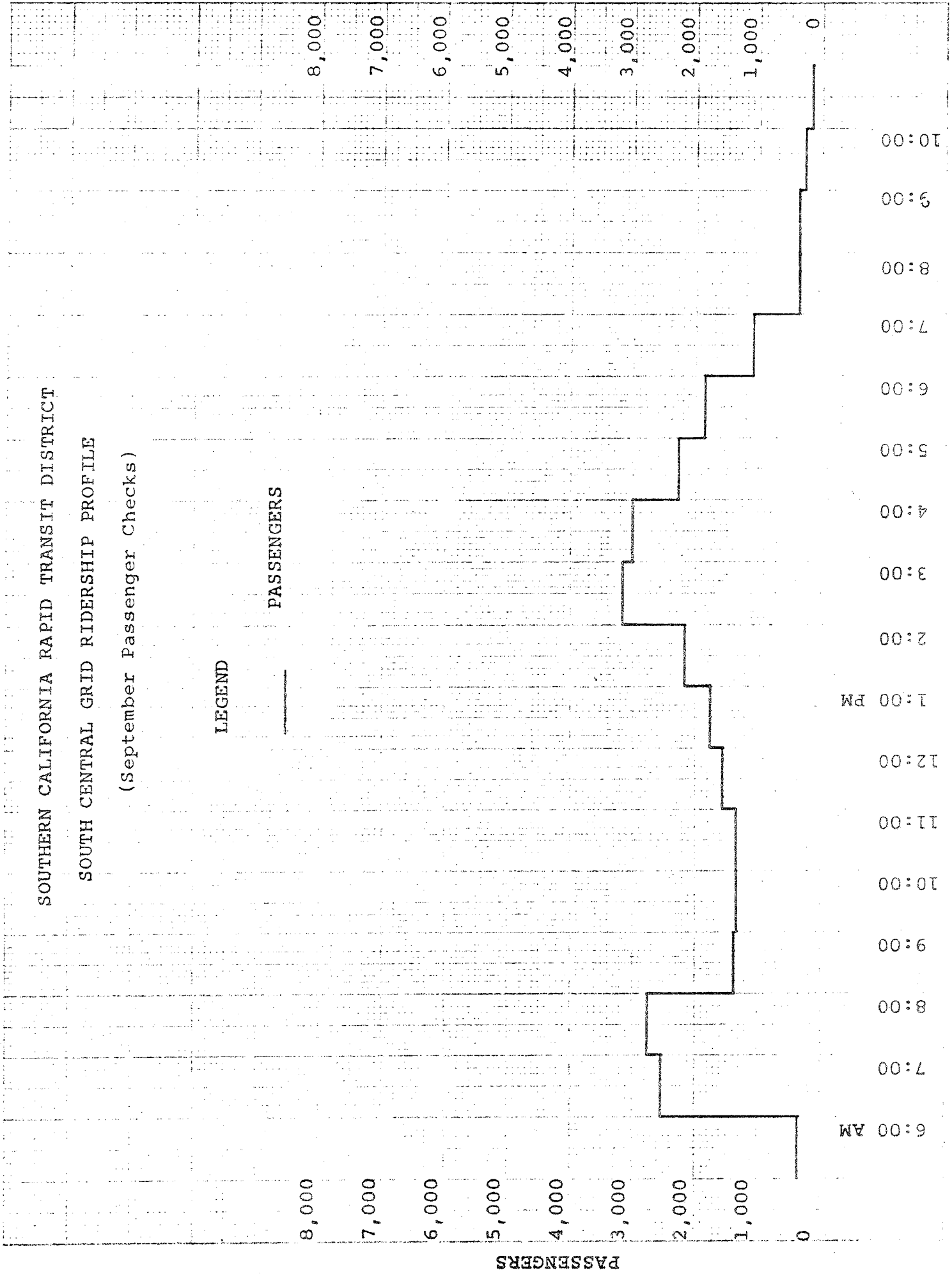
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

SOUTH CENTRAL GRID RIDERSHIP PROFILE

(September Passenger Checks)

LEGEND

PASSENGERS

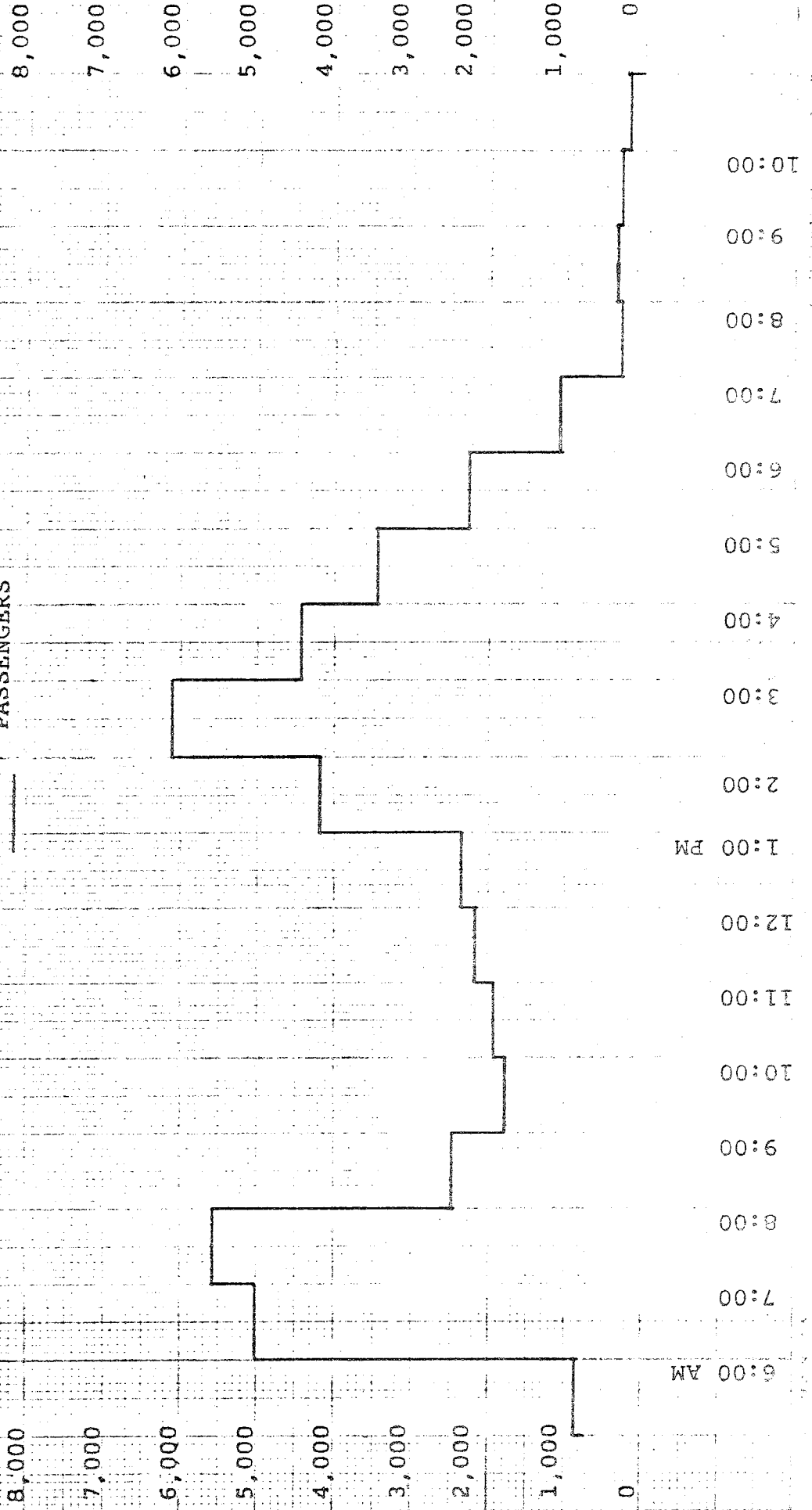


SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
SAN FERNANDO VALLEY GRID
INTRA-VALLEY TRANSIT RIDERSHIP PROFILE

(September Passenger Checks)

LEGEND

PASSENGERS



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
 SOUTH-CENTRAL LOS ANGELES
 DIVISIONS 4, 5 AND 18 CASH FAREBOX REVENUE

360TH DAY OF OPERATION

270TH DAY OF OPERATION

180TH DAY OF OPERATION

90TH DAY OF OPERATION

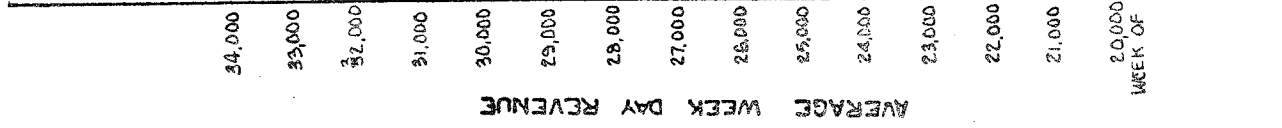


EXHIBIT X

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
 SAN FERNANDO VALLEY
 DIVISIONS 8 AND 15 CASH FAREBOX REVENUE

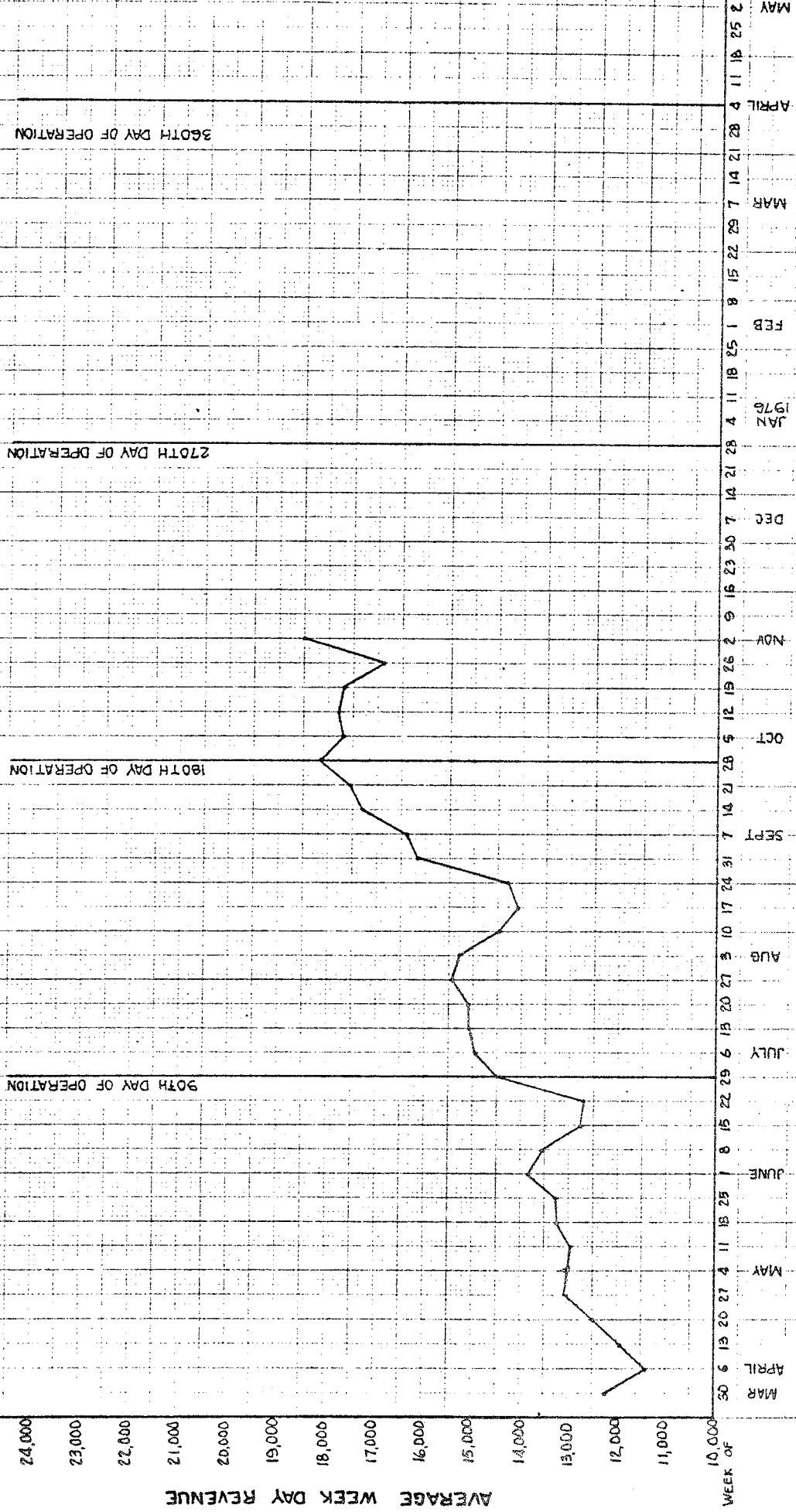


EXHIBIT XI

1975 - WEEK OF
 APRIL 30 6 13 20 27 4 11 18 25
 MAY 2 9 16 23 30
 JUNE 6 13 20 27 4 11 18 25
 JULY 1 8 15 22 29 6 13 20 27 4 11 18 25
 AUG 1 8 15 22 29 5 12 19 26 2 9 16 23 30 7
 SEPT 1 8 15 22 29 5 12 19 26 2 9 16 23 30 7 14 21 28
 OCT 5 12 19 26 2 9 16 23 30 7 14 21 28
 NOV 2 9 16 23 30 7 14 21 28 5 12 19 26 2 9 16 23 30 7
 DEC 3 10 17 24 31 7 14 21 28 4 11 18 25 1 8 15 22 29 6 13 20 27 4 11 18 25
 JAN 1976 1 8 15 22 29 7 14 21 28 4 11 18 25 2 9 16 23 30 7 14 21 28
 FEB 6 13 20 27 4 11 18 25 3 10 17 24 31 7 14 21 28 5 12 19 26 2 9 16 23 30 7
 MAR 6 13 20 27 4 11 18 25 3 10 17 24 31 7 14 21 28 5 12 19 26 2 9 16 23 30 7
 APR 6 13 20 27 4 11 18 25 3 10 17 24 31 7 14 21 28 5 12 19 26 2 9 16 23 30 7
 MAY 6 13 20 27 4 11 18 25 3 10 17 24 31 7 14 21 28 5 12 19 26 2 9 16 23 30 7