SIX-MONTH
EVALUATION OF SERVICE IN
MID-CITIES

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

Prepared by

SURFACE PLANNING DEPARTMENT

June 1977

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Southern California Rapid Transit District
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JACK R. GILSTRAP
General Manager

June 29, 1977

To: Members of the Board of Directors

From: Jack R. Gilstrap

Subject: Evaluation of New Services --
Mid-Cities Transit Improvement Program

The County of Los Angeles and the Southern California Rapid Transit District entered into an agreement for fiscal year 1976 which required the District to implement new and improved bus services in the Mid-Cities area of the County. As part of the agreement, the District must evaluate and report on the affect of the service improvements by furnishing ridership data, indication of cost effectiveness, specific recommendations regarding continuation of each line, and respective service levels.

The Mid-Cities Transit Improvement Program was implemented on February 22, 1976, and the Phase I evaluation report was transmitted to your Board in June 1976. The data presented in that report reflected early passenger checks taken after eight weeks of operation. That report was intended only to present preliminary ridership information which would afford a base for comparison to the former bus system. Those initial passenger counts revealed a substantial increase in weekday ridership. The total boarding passengers within the sector increased by 6,717 -- from 19,816 to 26,533, a gain of 33.8% Night ridership improved 69% from 722 to 1,219 in response to the extended service with more convenient frequencies.

The Phase II passenger counts have been processed revealing that ridership has remained constant and has only dipped slightly (down 1.5% from the Phase I ridership) from 26,533 to 26,144 daily. Interestingly enough, during the Phase I

evaluation (February - May 1976) four of the 21 lines were over the 20 passengers per vehicle hour criteria established by your Board - (Lines 800/802, 824, 826 and 828). During Phase II (June - December 1976) four lines are above the established criteria, however, the lines are not necessarily the same four as in Phase I. They are: Lines 820, 826, 840 and 846.

It is worth mentioning that although ridership has not increased, the future appears bright from the standpoint of the following: although changes in patronage and general trends have emerged and are continuing to emerge, it is still untimely to draw definite conclusions about this system for five distinct reasons:

(1) Approximately 60 days after the Phase I evaluation was completed, bus operations were curtailed for a period of 36 days due to a work stoppage, thereby retarding trends which were solidifying up to that critical point in time relative to the lines' maturation and growth cycles;

(2) As a result of responding to community requests which were originally slated for implementation shortly after the Phase I evaluation, these recommendations were postponed until the end of the work stoppage. In effect, the post-strike system which operated in the sector became a different operating system than the pre-strike system;

(3) As part of the District-wide Service Economy Program (commencing in this sector November 1976), lines and service have undergone major restructuring in adherence with the goals and objectives of this program;

(4) The majority of the lines were checked approximately 30 - 40 days after the end of the work stoppage and during the system ridership recovery period; and

(5) Some post-strike ridership deflections were still in effect at the time that the data was being collected due to the increase in the basic fare from $.25 to $.35.

Staff will continue to monitor and analyze service improvements in the Mid-Cities Sector and will continue to respond to the changing needs of the communities as service changes become warranted.

Respectfully,

Jack R. Gilstrap

By: George L. McDonald
Manager of Planning
and Marketing

By: Paul C. Taylor
Director of Surface
Planning

Attachment

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BACKGROUND

The Mid-Cities Transit Improvement Program was implemented on February 22, 1976, in an area roughly bounded by the Los Angeles River, East Los Angeles, Montebello, the Puente Hills, the Orange County line and the Pacific Ocean. The plan yielded a significant improvement over existing transit services by the addition of 45 buses, a 29% increase; and 16,213 daily miles traveled - a 74% increase.

The new lines of the Mid-Cities Transit Improvement Program interface with the local systems of Long Beach, La Mirada, Santa Fe Springs and Norwalk. Several lines of this system also interface with another regional system in an adjacent county (Orange County Transit District). A marked increase in frequency, hours of operation and weekend service facilitate convenient use of this system. The 19 new lines create an improved network of surface transit within the 12 municipalities of the Mid-Cities sector.

PURPOSE OF REPORT

This report represents Phase II of the evaluation of the Mid-Cities Transit Improvement Program. The Phase I report was an evaluation of the service after approximately 60 days of operation and was transmitted to your Board in May of 1976.

After 8 to 9 months of service, data has been gathered and further refined in order to assess continued success and effectiveness of the system in accommodating present and expected travel patterns. Specific areas needing refinement have been isolated in response to community requests. Lines have been analyzed and evaluated pursuant to the transit criteria developed by your Board.

Although changes in patronage and general trends have emerged and are continuing to emerge, it is still untimely to draw definite conclusions about this system for three distinct reasons:

(1) Approximately 60 days after the May 1976 evaluation report was completed, bus operations were curtailed for a period of 36 days due to a work stoppage, thereby retarding trends which were solidifying up to that critical point in time relative to any discernible analysis of the new lines' maturation and growth cycles;

(2) As a result of responding to community requests which were originally slated for implementation shortly after the May 1976 report, these recommendations were postponed until the end of the operators' work stoppage. In effect, the post-strike system which operated in the sector became a different operating system than the pre-strike system; and

(3) As part of the District-wide Service Economy Program (commencing in November 1976) lines and service in this sector have undergone major restructuring in adherence with the goals and objectives of this program.

In contrast to the District's responsiveness to external comments and judgments presented by the community, our service evaluation program has focused on internally generated information gathered from analysis of individual lines to determine the effectiveness. However, community comments and judgments are included to present external reaction to the program. Many modifications have been executed as a direct result of these comments, as approved by your Board.

CHARACTERISTICS OF THE AREA

To properly consider the development of the new system, the topographic socio-economic and demographic characteristics of the area must be placed in perspective. The Mid-Cities area of Southeast Los Angeles County encompasses approximately 105 square miles with a population of over 625,000 people -- a density of 6,000 per square mile. The predominantly level topography is interrupted by the Puente Hills area in Whittier and the Los Coyotes Hills in La Mirada, and is separated by Imperial Highway into two grid-line street patterns. While the Mid-Cities population has grown dramatically in the last 25 years, downtown Los Angeles has ceased to be a major work-trip destination. Employment, shopping and other institutions have sprouted within the area. According to the 1970 Census, only 4% of the Mid-Cities work trips were destined to Los Angeles, and only a few census tracts within Mid-Cities attracted more than 2% of the daily work trips made by public transportation. This characteristically dispersed travel pattern was fostered and is sustained by the many new shopping centers, employment generators, civic centers, the extensive street grid pattern and readily accessible freeways. The new Mid-Cities Transit Program was designed to serve the street arterials and still conveniently link the major transit generators with residential centers.

Another contribution to this diffusion of trip destinations is the demographic homogeneity of the area. There is a narrow distribution of income in which 80% of the population falls within the $10,000 to $15,000 family income range (1970 dollars). The poor and elderly which form a major part of the transit dependent population comprise a small segment of the total population. The relatively high proportion of 1.6 autos per household correlates with the population income level and represents an added factor in the general mobility and lack of transit dependency. The area's middle income population, most of whom have access to, and make most of their trips by auto, presents a dramatic challenge to the Mid-Cities Transit Improvement Program.

COMMUNITY INVOLVEMENT & SYSTEM REFINEMENTS

Community Involvement

In order to consider public transit needs, District staff visited municipal governments and civic associations and held community meetings well before the plan was completed in order to apprise the public of the planned system, to solicit their requests, and to acquire approval. This program has continued subsequent to implementation and has proved a valuable tool in assessing and adjusting to the transit necessities of the public. The District's Customer Relations Department, public communications such as newspapers, letters and petitions, and especially our Community Relations and Planning Field Representatives have solicited public opinion and have already initiated significant modifications in District service.

Since the Phase I evaluation report, the continued system refinements and service modifications have been predicated by one of three activities -- either via community requests, internally generated improvement, or as a result of service economy program recommendations. The following is a summation of the system refinements and service modifications that have been implemented since the Phase I report of May 1976.

Community Requests

Date	Line #	Service Modification
6/13/76	802	Changed route in Knott's Berry Farm area to operate via Beach Blvd. in lieu of Knott's Berry Farm grounds (requested by Knott's Berry Farm management).
9/12/76	821	Changed route to operate via Carmenita Rd., Painter Ave. to Whittier Blvd. (requested by residents of South Whittier).

Date	Line #	Service Modification
9/12/76	824/826	Combined lines into one operation (Director request); and, changed route in Downey via Scout Ave., Florence Ave., to Downey Ave. (requested by the City of Downey).
9/12/76	830	Changed routing via Santa Gertrudes Ave., Leffingwell Rd., and Telegraph Rd., (requested by residents of Whittier); and changed route via Florence Ave., Lakewood Blvd. to Bellflower Blvd., (requested by the City of Downey).
11/7/76	842	Established new line on Compton Blvd. (requested by the City of Compton of Compton).
1/16/77	821	Changed route via Mulberry Dr., Greenleaf Ave. to Whittier Blvd., (requested by the City of Whittier).
1/16/77	822, 820 844	Changed terminal loop operation (requested by the City of La Mirada).
1/16/77	827	Changed route to operate via Studebaker Rd. in the City of Norwalk (requested by the Cities of Cerritos, Bellflower and Downey).

Internally Generated Improvements

6/27/76	846	Extended from South Bay Shopping Center via Pacific Coast Highway to Redondo Beach (implemented as part of the South Bay Transit Improvement Program).
7/23/76	800/802	Implemented summer season schedule (Schedule Department).
7/23/76	820	Schedule refinement (Schedule Department).
7/23/76	832.	Schedule refinement (Schedule Department).
9/12/76	829	Schedule refinement (Schedule Department).
1/2/77	820	Changed terminal loop operation in the City of La Habra (Supervision Department).
1/16/77	842	Extended route to Downey (Surface Planning Department).

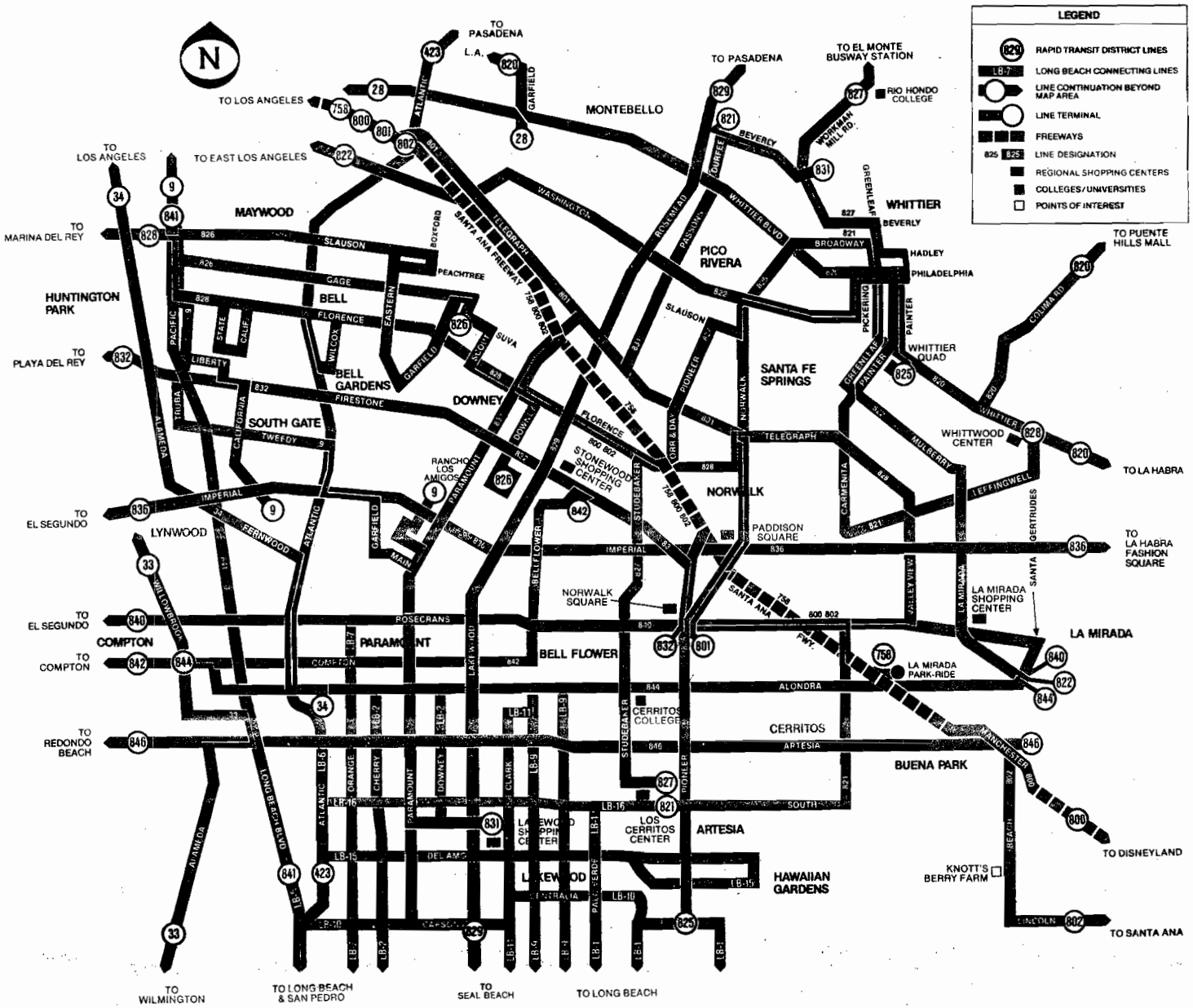
Service Economy Program

Date	Line #	Service Modification
11/7/76	822	New Schedule.
11/7/76	823	Service suspended until such time that reinstatement is warranted.
1/16/77	828	Curtailed a portion of the route and combined with Line 830.
1/16/77	832	Curtailed route from Hawaiian Gardens to Norwalk.
3/27/77	827	New Schedule.
3/27/77	829	New weekend schedule.
3/27/77	844	New Schedule.
3/27/77	846	New Schedule.

(Board approved modifications through the end of this FY 1976-77).

6/19/77	800/802	Re-tie present schedule.
6/19/77	801	Re-tie present schedule.
6/19/77	820	Re-tie present schedule.
6/19/77	821	Cancel night service.
6/19/77	825	Cancel night service.
6/19/77	831, 836	Reduce weekend service.
6/19/77	840	Cancel night service.

RTD MID-CITIES BUS SERVICE



Southern California Rapid Transit District
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COMMUNITY RELATIONS PROGRAM

The Community Relations Program which the District has continued to administer has been successful in responding to public requests by providing the means for isolating problem areas, airing conflicting opinions and assisting in deriving solutions mutually acceptable to all parties. Although many refinements have been implemented, no doubt in the future new problems will arise. The planning and evaluation process utilizing community feedback has not only alleviated trouble areas and mitigated inconvenience to interested parties, but also has led to positive improvements over many routes originally planned and formulated under the consultant's recommendation. The District is confident that this aspect of the overall review process will continue to yield significant positive adjustments in the development of a Mid-Cities Transit System which is truly responsive to community needs and potential public transit patterns.

Over the past 18 months major changes, as performed in this sector's implementation, are expected to cause strain on some of the regular riders. By far the most notable achievement of such a program is the pragmatic attitude of the public in responding to change and allowing the District to modify routes as necessary. The system implementation has created a closer relationship between the District and the riding public; however, in light of the fact that budgetary assurances for this agency are readily undeterminal as they are, the planning/community relations process will be of even more significance in the future due to the type of planning that will be undertaken pursuant to fiscal circumstances.

EVALUATION

During the planning of the Mid-Cities Service Improvements arrangements were made to evaluate the improvements by comparing original conditions with those of the new system. This was accomplished as a result of the May 1976 Phase I Evaluation. During these preparations, it was found that with four contiguous transit improvement projects being implemented between January 25, 1976 and June 27, 1976, plus, the substantial number of major service modifications which were subsequent to these implementations, very careful data collection, reduction, and analysis would be required.

A major element of staff efforts has been to determine the objectives of the evaluation process and to develop criteria for measuring their accomplishment. The objectives developed and criteria for measurement are presented in Table I.

Table 1

Evaluation of New Services in
Mid-Cities
Objectives and Criteria

Objective	Criteria
To determine if the new service has attracted more riders than the previous service.	Passenger totals, day and night, by line, by sector, pre and post.
To determine if new service is as productive as previous service.	Passengers in the Sector per vehicle hour assigned to lines or portions of lines in the project sector, day and night, pre and post.
To determine if productivity is adequate to continue service.	Productivity of the line at maturity should exceed 20 passengers per vehicle hour, day and night, by sector and by line. Transit dependency and system integrity are considered on a subjective basis.

Methodology

In designing the service evaluation program for projects implemented in 1976, it was felt that all improvement projects should be evaluated the same way so that any one could be compared with another. Project evaluations for recently implemented service in East Los Angeles, Mid-Cities, San Gabriel Valley and the South Bay are comparable to the San Fernando Valley and South Central Grid evaluations.

Sector Boundaries

To satisfy this requirement the improvement project sectors would be concisely defined so that projects would be mutually exclusive and passengers would be counted only within the sector regardless of whether the line lay within the sector or partly outside it.

The Mid-Cities Study Sector, for the purpose of evaluation, is bounded by:

- The Pacific Ocean in Long Beach
- Atlantic Avenue from Long Beach to Rosecrans Avenue
- Garfield Avenue from Rosecrans Avenue to Firestone Boulevard
- Southern limits of Cudahy and Huntington Park
- Wilmington Avenue from Florence Avenue to Slauson Avenue
- Slauson Avenue from Wilmington Avenue to the Rio Hondo River
- Rio Hondo River from Slauson Avenue to Durfee Avenue
- A line from the Whittier Narrows Dam to Rio Hondo College to Colima Road and Hacienda Boulevard
- Hacienda Boulevard from Colima Road to the Orange County line
- The Orange County line to the Pacific Ocean (including also the Seal Beach terminal of Line 829).

The portions of lines included in the Mid-Cities Sector Phase I and II evaluation are contained in Table 2.

The evaluation excluded Orange and Riverside County passengers. Service to these Counties has been changed drastically and remains essentially on a contract basis and thereby beyond the scope of the agreement between the District and Los Angeles County. For information, the passenger counts for Orange and Riverside Counties for Phase I and II are shown in Table 3.

EVALUATION OF NEW SERVICE IN
MID CITIES
PHASE I & II IMPLEMENTATION LINE BOUNDARIES

Table 2

Line No.	Segment of Line in Sector From	To
34	Terminal	Terminal
800/802	Terminal	Terminal
801	Terminal	Terminal
820	Terminal	Terminal
821	Terminal	Terminal
822	Washington & Garfield	East Terminal
823	Terminal	Terminal
824	Terminal	Terminal
825	Terminal	Terminal
826	Terminal	Terminal
827	South Terminal	Workman Mill & Peck
828	Slauson & Wilmington	East Terminal
829	South Terminal	Rosemead & Durfee
830	Terminal	Terminal
831	Terminal	Terminal
832	Firestone & Garfield	East Terminal
836	Imperial & Garfield	East Terminal
840	Rosecrans & Atlantic	East Terminal
844	Alondra & Atlantic	East Terminal
846	Artesia & Central	East Terminal
860	Terminal	Terminal

Table 3

EVALUATION OF NEW SERVICE IN MID-CITIES
PHASE I & II RIDERSHIP, FOREIGN COUNTIES

ORANGE COUNTY

Line No.	Phase I Day	Phase I Night	Phase I Total	Phase II Day	Phase II Night	Phase II Total
800/802	876	109	985	759	126	885
820	(No Data)			140	11	151
829	(No Data)			30	-0-	30
836	(No Data)			14	-0-	14
846	(No Data)			24	4	28
860	229	13	242	127	25	152

RIVERSIDE COUNTY

Line No.	Phase I Day	Phase I Night	Phase I Total	Phase II Day	Phase II Night	Phase II Total
860	147	13	160	141	-0-	141

Ridership Growth With Time

Previous evaluation of the South Central and San Fernando Valley Grid Systems by staff and the Joint Agency Transit Advisory Committee indicated that line ridership of new service increases for some time after implementation. The point at which this growth levels off cannot be specified, because of the demographic variations of areas served by the lines under study and differences in the extent of changes made to different lines. At present, we can say that line growth may level off between eighteen and twenty-four months after implementation.

Rider Checks

Passengers are counted by District checkers who ride each trip on a line from end to end. In what is known as a 100% check, the checker counts the passengers boarding and alighting at each stop and records the type of fare paid. The 100% check is widely accepted as presentative of annual ridership on a line but has limitations because of daily ridership fluctuations of up to 5%. Inclement weather can cause variations of up to 10%. The 100% check is, in reality, a sample and is subject to normal sampling errors when it is used to draw conclusions about the total annual ridership of a line.

RESULTS

Ridership

The passenger counts for the lines existing at the time of Phase I of the evaluation are shown in Table 4. During the day there were 25,322 passengers boarding in the sector while night ridership increased to 1,219. Total passengers were 26,533.

The Phase II line riders in the sector are shown in Table 5. During the day there were 24,745 passengers boarding in the sector while night ridership was 1,399 passengers.

In assessing the trends in ridership growth and line maturation, it is important to identify three elements which affect both the level and rate of passenger utilization of the Mid-Cities system. These elements are 1) service modifications; 2) the work stoppage of 1976; and 3) line maturation criteria relative to elements 1 and 2.

1) Since implementation of the Mid-Cities Transit System, numerous service modifications have taken place during the course of the first 11 months of operation. Some of the service modifications were initiated shortly after implementation, however, the vast majority of service changes were implemented after the Phase I evaluation report. Between the months of June 1976 through December 1976, a total of 14 major service modifications were implemented in the Mid-Cities system (these changes are identified in the "Community Involvement & System Refinements" section of this report). Such a significant number of service modifications tends to have an unsettling effect on a bus line's growth rate and maturity. As a result of the numerous system changes that have been implemented, constant ridership growth was slow to come to fruition.

2) Approximately 2½ months after the Phase I report, the 36-day work stoppage of our bus operators scaled down subsequent ridership after a settlement was reached. Concurrent with the end of the work stoppage was the implementation of four more service modifications which changed the system configuration from what it was originally. Shortly afterwards, service economy measures commenced and again ridership had to adjust to the new changes.

3) There is an industry-wide "rule-of-thumb" that a new bus line normally takes 12 - 24 months to mature. Although close to sixteen months have passed since implementation, it should be noted that due to the vast number of service modifications, and coupled with the work stoppage and subsequent ridership recovery time that had to be allowed for relative to analysis, the system is now approaching a 12-month level of operations - characteristically speaking. Short of continued major service changes in the Mid-Cities sector, the next six months of operation will indicate concrete findings on ridership and operations of this system.

Table 4

Evaluation of New Service in Mid-Cities
Phase I Implementation Ridership

Line No.	Line Name	Total One-Way Route Miles	Passengers Boarding In Sector		
			Day	Night	Total
34	Los Angeles-Lynwood-Paramount	13.4	721	73	794*
800/802	Los Angeles-Disneyland-Santa Ana	35.9	1595	111	1706**
801	Los Angeles-Norwalk via Santa Fe Springs	16.7	1569	96	1665
820	Los Angeles-Whittier- La Habra-Puente Hills	28.4	5912	266	6178*
821	Pico Rivera-Whittwood Ctr.-Cerritos	20.3	502	24	526
822	Los Angeles-La Mirada via E. Washington Blvd.	19.5	426	6	432
823	Norwalk-Hawaiian Gardens-Bloomfield Ave.	7.9	46	1	47
824	Huntington Pk.-Bell Gardens	9.9	2651	138	2789*
825	Hawaiian Gardens-Norwalk-Whittier	14.8	760	22	782
826	Huntington Park-Downey-Paramount	13.5	2376	129	2505*
827	El Monte-Cerritos Center	25.6	458	34	492
828	Marina Del Rey-Huntington Park-Paramount	30.6	3398	123	3521
829	Lakewood-Rosecrans Blvd.	32.8	1240	62	1302
830	Whittwood Ctr.-Bellflower	13.5	173	--	173
831	Passons Blvd.-Paramount Blvd.	17.2	881	8	889
832	Manchester Ave.-Firestone Blvd-Norwalk Blvd.	20.3	461	5	466
836	El Segundo-La Habra	27.2	570	30	600

Table 4
Continued

Line No.	Line Name	Total One-Way Route Miles	Passengers Boarding In Sector		
			Day	Night	Total
840	Rosecrans Ave.	26.3	612	18	630
844	Alondra Blvd.	12.7	451	36	487*
846	Redondo Beach-Buena Park	21.3	364	25	389*
860	Long Beach-Disneyland-Riverside	61.8	148	12	160
		519.6	25,314	1,219	26,533

* Complete Line Total

** Los Angeles County Boardings Only.

Table 5

Evaluation of New Service in Mid-Cities
Phase II Implementation Ridership

Line No.	Line Name	Total One Way Route Miles	Passengers Boarding In Sector Day	Night	Total
34	Los Angeles-Lynwood-Paramount	13.4	682	77	759
800/802	Los Angeles-Disneyland-Santa Ana	36.5	1482	155	1637**
801	Los Angeles-Norwalk via Santa Fe Springs	16.7	1470	60	1530
820	Los Angeles-Whittier-La Habra-Puente Hills	28.3	6028	292	6320*
821	Pico Rivera-Whittier-Cerritos	19.1	406	14	420
822	Los Angeles-La Mirada via Washington Blvd.	20.9	300	10	310
825	Hawaiian Gardens-Norwalk-Whittier	14.8	619	31	650
826	Alondra-Huntington Park-Downey-Paramount-Loveland	23.7	4196	384	4580*
827	El Monte-Cerritos	25.9	668	55	723
828	Marina Del Rey-Huntington Park Paramount	30.6	3784	91	3875
829	Lakewood-Rosemead Blvd.	32.8	1160	60	1220
831	Passons Blvd-Paramount Blvd.	17.2	830	(None)	830
832	Manchester Blvd.-Firestone Bl.	20.3	529	27	556
836	El Segundo - La Habra	27.2	510	30	540
840	Rosecrans Ave.	27.5	896	11	907
844	Alondra Blvd.	14.1	287	20	307
846	Artesia Blvd.	26.8	792	68	860*
860	Long-Beach-Disneyland-Riverside	61.8	106	14	120
		457.6	24,745	1,399	26,144

Productivity

Individual line ratios during Phase I ranged from a high of 41.1 passengers per vehicle hour to 3.3. Table 6 displays the productivity for the Mid-Cities lines during Phase I. Corresponding productivity during Phase II ranged from a high of 38.2 passengers to 4.9. Overall productivity was up 2.4% from 16.6 passengers per vehicle hour to 17.0.

Table 7 illustrates the ridership, vehicle hours, and productivity of the lines during the Phase II period with Table 8 indicating the difference in ridership between Phase I and Phase II. It is interesting to note that during Phase II, ridership fell only slightly by 1.5%. This is a very important statistic inasmuch as a majority of the lines were checked between 30 - 40 days after the work stoppage ended. Ridership was expected to decline at a much higher rate since all of the District's lines were in a passenger recovery period at that time due to the effects that the work stoppage had upon the public. This particular notation may well indicate that at this point in time, the Mid-Cities lines may well be beginning to reach a level of line maturity that has ultimately been expected and anticipated from this program.

Table 6

EVALUATION OF NEW SERVICE IN MID CITIES
PHASE I IMPLEMENTATION PRODUCTIVITY

Line No.	Passengers by Sector Day	Passengers by Sector Night	Passengers by Sector Total	Vehicle Hrs. by Sector Day	Vehicle Hrs. by Sector Night	Vehicle Hrs. by Sector Total	Passengers Per Vehicle Hour Day	Passengers Per Vehicle Hour Night	Passengers Per Vehicle Hour Total
34	721	73	794	41.29	9.00	50.29	17.5	8.1	15.2
** 800/802	1595	111	1706	65.41	6.69	72.10	25.4	16.6	23.7
801	1569	96	1665	104.63	10.36	114.99	15.0	9.3	14.5
820	5912	266	6178	253.65	16.4	270.05	15.9	9.0	15.5
821	502	24	526	71.90	10.13	82.03	7.0	2.4	6.4
822	426	6	432	29.41	1.62	31.03	14.5	3.7	13.9
* 823	46	1	47	14.01	.38	14.39	3.3	2.6	3.3
824	2651	138	2789	70.78	5.35	76.13	37.5	25.8	36.7
825	760	22	782	57.02	7.45	64.47	13.3	3.0	12.1
826	2376	129	2505	63.55	6.87	70.42	37.4	18.8	35.6
* 827	458	34	492	110.16	12.37	122.53	4.2	2.8	4.0
* 828	3398	123	3521	78.98	6.61	85.59	43.0	18.7	41.1
* 829	1240	62	1302	140.03	13.66	153.69	8.9	4.5	8.5
830	173	0	173	28.75	.78	29.53	6.0	0	5.9
831	889	0	889	69.17	0	69.17	12.9	0	12.9
* 832	461	5	466	50.39	4.97	55.36	9.1	1.0	8.4
* 836	570	30	600	51.65	3.83	55.48	11.0	7.8	10.8
* 840	612	18	630	46.61	4.29	50.90	13.1	4.2	12.4
* 844	451	36	487	47.06	12.65	59.71	9.6	2.8	8.2
* 846	364	25	389	47.92	8.66	56.58	7.6	2.9	6.9
* 860	148	12	160	8.81	3.12	11.93	16.8	3.8	13.4
	25,322	1,211	26,533	1451.18	145.19	1596.37	17.4	8.4	16.6

* Includes Mid-Cities Sector figures only.

** Los Angeles County figures only.

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

Table 7 EVALUATION OF MID-CITIES TRANSIT IMPROVEMENT PROGRAM

PHASE II CHECKS

Line No.	PASSENGERS BOARDING			VEHICLE HOURS			PASSENGERS PER VEHICLE HOUR		
	Day	Night	Total	Day*	Night*	Total	Day	Night	Total
34	682	77	759	41.3	9.0	50.3	16.5	8.5	15.1
**800/802	1482	155	1637	94.1	26.9	121.1	15.7	8.5	14.5
801	1470	60	1530	88.0	12.0	100.0	16.5	5.0	15.3
820	6028	292	6320	251.9	35.6	287.5	23.9	9.0	21.9
821	406	14	420	54.4	9.6	64.0	7.5	1.5	6.6
*822	300	10	310	21.7	3.2	24.9	13.8	3.1	12.5
825	619	31	650	54.8	9.6	64.5	11.2	3.2	10.0
826	4196	384	4580	119.2	13.2	132.4	35.2	29.1	34.6
*827	668	55	723	90.2	28.7	118.9	7.4	1.9	6.1
*828	3784	91	3875	88.5	12.9	101.4	42.8	7.1	38.2
*829	1160	60	1220	89.7	12.1	101.8	12.9	5.0	12.0
831	830	--	830	69.2	--	69.2	11.9	--	11.9
*832	529	27	556	52.2	3.9	56.1	10.1	6.9	9.9
*836	510	30	540	51.6	3.8	55.4	9.9	7.9	9.8
*840	896	11	907	38.4	6.2	44.6	23.3	1.8	20.3
*842	356	--	356	27.4	--	27.4	13.0	--	13.0
*844	287	20	307	50.1	12.4	62.5	5.7	1.6	4.9
*846	792	68	860	31.5	5.6	37.1	25.1	12.1	23.2
**860	106	14	120	15.9	7.3	23.2	6.6	1.9	5.2
	24,745	1,399	26,144	1330.1	212.1	1542.2	18.6	6.6	17.0

* Sector data only
** L.A. County Boardings

ATH/cor
7-6-77

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

EVALUATION OF MID-CITIES TRANSIT IMPROVEMENT PROGRAM

DIFFERENCE BETWEEN PHASE I AND PHASE II CHECKS

	PASSENGERS				PASSENGERS/BUS HOUR								
	PHASE I	PHASE II	DIFF.	% DIFF.	PHASE I			PHASE II			DIFFERENCE (No. %)		
					DAY	NIGHT	TOTAL	DAY	NIGHT	TOTAL	DAY	NIGHT	TOTAL
34	794	759	- 35	- 4.4	17.5	8.1	15.2	16.5	8.5	15.1	- 5.7	+ 4.9	- 0.6
800/2	1706	1637	- 69	- 4.0	25.4	16.6	23.7	15.7	8.5	14.6	-38.2	-48.8	-38.4
801	1665	1530	-135	- 8.1	15.0	9.3	14.5	16.5	5.0	15.3	+10.0	-46.2	+ 5.5
820	6178	6320	+142	+ 2.3	15.9	9.0	15.5	23.9	9.0	21.9	+50.3	0	+41.3
821	526	420	-106	-20.1	7.0	2.4	6.4	7.5	1.5	6.6	+ 7.1	-37.5	+ 3.1
822	432	310	-122	-28.2	14.5	3.7	13.9	13.8	3.1	12.5	- 4.8	-16.2	-10.1
823	47	(Service Suspended)			3.3	2.6	3.3	--	--	--	N/A	N/A	N/A
824	2789	(Line combined w/826)			37.5	25.8	36.7	--	--	--	N/A	N/A	N/A
825	782	650	-132	-16.9	13.3	3.0	12.1	11.3	3.2	10.1	-15.0	+ 6.7	-16.5
826	2505	4580	-714	-13.5	37.4	21.8	36.1	35.2	29.1	34.6	- 5.9	+54.7	- 2.8
827	492	723	+231	+47.0	4.2	2.8	4.0	7.4	1.9	6.1	+76.2	-32.1	+52.5
828	3521	3875	+354	+10.1	43.0	18.7	41.1	42.8	7.1	38.2	- .5	-62.0	- 7.1
829	1302	1220	- 82	- 6.3	8.9	4.5	8.5	12.9	5.0	12.0	+44.9	+11.1	+41.2
830	173	(Line Discontinued)			6.0	0	5.9	N/A	N/A	N/A	N/A	N/A	N/A
831	889	830	- 59	- 6.6	12.9	0	12.9	11.9	None	11.9	- 7.8	None	- 7.8
832	466	556	+ 90	+19.3	9.1	1.0	8.4	10.1	6.9	9.9	+ 9.9	+ 590%	+ 17.8
836	600	540	- 60	-10.0	11.0	7.8	10.8	9.9	7.9	9.8	-10.0	+ 1.3	- 9.3
840	630	907	+277	+44.0	13.1	4.2	12.4	23.3	1.8	20.3	+77.9	-57.1	+63.7
842	---	356	N/A	N/A	N/A	N/A	N/A	13.0	None	13.0	N/A	N/A	N/A
844	487	307	-180	-37.0	9.6	2.8	8.2	5.7	1.6	4.9	-40.1	-42.9	-40.2
846	389	860	+471	+121.0	7.6	2.9	6.9	25.1	12.1	23.2	+230.3	+317.2	+236.2
860	160	120	- 40	- 25.0	16.8	3.8	13.4	6.6	1.9	5.2	- 60.7	-50.0	-61.2
Totals	26,533	26,144	-389	- 1.5	17.4	8.4	16.6	18.6	6.6	17.0	+ 6.9	-21.4	+ 2.4

Conclusions

The Mid-Cities Transit Improvement Program has been well received by previous transit patrons and has attracted new riders by virtue of a significantly new system. Under the previous service in Mid-Cities, the lack of major trans-sector lines and the discouraging inconvenience in transferring between two lines on hourly frequencies, hindered optimal passenger utilization of the transit network. The new system, however, with significantly improved headways on local lines and the addition of new and improved coverage offers more transit opportunities.

The partial grid pattern of the Mid-Cities sector created an expanded range of origin and destination choices for the residents of the area. There is some evidence that a change to the transit mode of travel is now the choice of many who previously used automobiles. Regular riders of the original system appear to have made the transition from the previous system to the new system without major difficulty.

In summary, operating division revenues, sector pass sales and overall pass sales are up. These factors support the observed 6,300 daily passenger increase over the original system, and, attest to the effectiveness of improved service and better routings in developing an integrated and convenient transit network. Nearly 1/3 of the lines showed significant increases (15% or more) in productivity between Phase I and Phase II. These lines were 840 (+64%), 827 (+52%), 820 (+41%), 829 (+40%), 846 (236%) and 832 (+18%). Twenty-five percent of the lines showed significant increases (15% or more) in ridership between Phase I and Phase II. These lines were 846 (121%), 827 (47%), 840 (44%), 832 (19.3%).

Acknowledgements

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