POMONA VALLEY TRANSIT NEEDS STUDY

Final Report

Prepared for

Claremont - LaVerne - Pomona - San Dimas
Southern California Rapid Transit District
San Bernardino Association of Governments
Southern California Association of Governments

Prepared by

Schimpeler • Corradino Associates
in association with
The Planning Group
David Abel & Associates
Myra L. Frank & Associates

December, 1983

SUMMARY

The Southern California Rapid Transit District (RTD), in association with the San Bernardino and Southern California Associations of Governments and the cities of Pomona, Claremont, LaVerne, and San Dimas, contracted with Schimpeler•Corradino Associates and subcontracted with The Planning Group, Myra L. Frank & Associates, and David Abel & Associates to conduct a study of the transit needs of Pomona Valley residents and to develop a service plan to satisfy those needs. This study was initiated by the individual Pomona Valley cities and conducted under a joint funding agreement adopted by the RTD Board of Directors.

The area being considered in the study is limited to Pomona Valley. For purposes of this study, Pomona Valley is described as being bounded by the San Gabriel Mountains on the north, the Los Angeles/San Bernardino county line on the east, the Pomona Freeway on the south, with the jurisdictional limits of the cities of Pomona and San Dimas forming the western boundary of the study area.

A Project Management Committee (PMC) was established by RTD for the purpose of administering the study. The Director of Planning at RTD served as Project Manager and Chairman of the PMC. The PMC was composed of representatives from each of the funding cities and agencies. In addition, a representative of the Los Angeles County Transportation Commission served as an ex officio member of the PMC. The PMC actively participated in the decision-making process of the study. The consultant acted as a catalyst to the decision-making process.

EXISTING PUBLIC TRANSPORTATION SERVICES

The existing public transportation services in Pomona Valley consist of fixed-route, paratransit, and ridesharing services.

Fixed-Route Service

Fixed-route service in Pomona Valley is provided exclusively by RTD. RTD serves Pomona Valley with fourteen routes. Service is provided on most routes five days a week; only about one-third of the routes provide Saturday and Sunday service in addition to their regular Monday through Friday service. Hours of service vary among the routes. The earliest service begins at 4:42 a.m. and the latest service extends to 1:50 a.m. at night. Frequency of service during peak hours ranges from thirteen to sixty minutes, with an average of about 34 minutes. Three routes provide night service with service frequencies ranging from forty to sixty minutes. Service frequency or routes with Saturday and Sunday service is thirty and sixty minutes.

Paratransit Services

Paratransit services in Pomona Valley are provided by the Get About Transportation system and Claremont Dial-a-Ride. These are the area's only paratransit systems organized solely to provide paratransit service. All others are residential facilities or colleges that need transportation as a support to their primary mission or taxi service operators.

Get About Transportation serves the elderly and handicapped residents of Pomona Valley with accessible demand-responsive service. Areas served include the cities of San Dimas, LaVerne, Claremont and Pomona. Get About connects with RTD, the East San Gabriel Valley Elderly and Handicapped Transportation System, and OMNITRANS for trips to other cities in the region. Service is available from 7:30 a.m. to 5:30 p.m., Monday through Friday. Weekend service is limited to 8:30 a.m. to 4:00 p.m. on Sundays. All trip purposes are served, with no priorities placed on trip purpose. Advance reservation requirements vary according to trip purpose. Service is requested by telephone.

Claremont Dial-a-Ride operates a many-to-many demand-responsive system for the general public and elderly and handicapped within the city limits of Claremont. Because no accessible vehicles are available, non-ambulatory passengers are referred to Get About Transportation. The service is available 24 hours a day, seven days week. There are no advance reservation requirements for the service. All trip purposes are served, with no priorities placed on trip purposes. Service is requested by telephone. The response time for immediate requests for service is twenty to thirty minutes.

Ridesharing Services

Ridesharing servies in Pomona Valley are provided by Commuter Transportation Services, Inc. (Commuter Computer). Commuter Computer is a private, non-profit corporation organized to provide ridesharing services in the five-county area of Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. It is the nation's oldest and largest ridesharing organization.

TELEPHONE SURVEY

A telephone survey was designed to obtain data on several variables relevant to the Pomona Transit Needs Study:

- Current use of transit in Pomona Valley.
- Preferences and priorities for service characteristics of transit for Pomona Valley.
- Stated intention to use transit.
- Selected socioeconomic characteristics of the individuals and his or her household.

Profile of Pomona Samples

From the responses to the Pomona Valley survey, the average household characteristics show the following profile.

- Household size average 3.1 persons per household with fifty percent of households having three or fewer members.

- An average of 1.6 workers per household.
- An average of 2.0 cars per household, with only 4.1 percent of households having no cars.
- An average of 2.1 licensed drivers per household, indicating that most households have a vehicle for every licensed driver.
- A majority (74%) of households are white, with eleven percent Hispanic and nine percent black.
- A majority of households (68%) own their own homes, while 32 percent rent.
- The average income of households is in the range of $20,000 to $25,000 per annum.
- The average age of respondents to the survey is 31 to forty, with 4.4 percent refusing to provide their age.
- The average educational level of respondents is some college, but no degree.
- A total of 22 percent of the respondents have used transit in the past year and 89 percent of these have used RTD services.

Transit Service and Transit Use

In addition to socioeconomic characteristics of the household, data was obtained on transit use and opinions about the type and characteristics of transit service that should be offered.

Transit nonusers were asked how important various reasons were for not using transit. Based on the percent of nonusers indicating that the reason was "very important," the rank ordering of reasons, with percentages ranking "very important" is:

1. Flexibility of the car (67%)
2. Carry things in the car (43%)
3. No need for transit service (36%)
4. Give rides to others in the car (29%)
5. Inconvenience of schedules and frequency (24%)
6. Ignorant of transit service (17%)
7. No service available (13%).

On the whereabouts of the nearest bus stop, ten percent claimed not to know the location of the stop, while 62 percent indicated that it was not more than three blocks away. Although ignorance of the bus system was not rated very high as a reason for nonuse of the bus system, 45 percent of respondents claim to know very little about service and another 27 percent claim to know nothing.

On the question of whether or not there should be transit service in Pomona Valley, the large majority support transit service; 79 percent indicated "definitely yes" there should be transit service and nineteen percent answered "probably yes." Less than one percent indicated "probably no" and just over one percent answered "definitely no." This last group was not asked any further questions about transit service.

Responses to the groups of people to be served and the types of transit service that should be provided indicated that 99 percent of the population think service should be provided for the elderly, 98 percent think it should be provided for the handicapped and 97 percent for low income residents. Support seems weakest for providing transit service to public grade school students and for everyone in the Valley.

There was a little more variation in responses to type of service. Strongest support was for service to Ontario airport followed by local bus service to park-and-ride lots for express service to downtown Los Angeles and service to LAX airport. Least support was shown for service within Pomona Valley only and for dial-a-ride service for everyone.

When respondents were asked about the type of service that should be provided for them to use it, just over 39 percent indicated they would not use transit service in any instance. Of those who indicated that they might use transit service (including current users), transit service characteristics should be as follows:

Days of service:	Seven days a week (42%) Monday through Friday (40%)
Hours of service:	Daytime (30%) Day and evening (28%)
Frequency of service:	20 to 30 minutes (43%) 30 to 60 minutes (30%)
Distance to bus stop:	1 to 3 blocks (53%) 4 to 6 blocks (29%)
Call-up time for dial-a-ride service:	1 to 4 hours (34%) 30 to 60 minutes (31%).

Of those who currently work outside the home or go to school or college, 71 percent said they would use transit for work/school trips. For shopping trips, 58 percent said they would use transit for such trips and 42 percent of the respondents said they would use transit one or more times a week for shopping. Just over 51 percent said they would use transit for medical-related trips and 27 percent of respondents indicated a frequency of use of one or more times per month. For other travel, 59 percent indicated they would use transit and 44 percent indicated an expected frequency of use of one or more times per month.

SERVICE ALTERNATIVES

A total of five transit service alternatives were reviewed and selected by the PMC for evaluation. The alternatives selected include combinations of fixed-route and demand-responsive service.

Alternative 1

This alternative is the continuation, without modification, of all existing transit services in the Pomona Valley. It is considered the base condition for comparison with the other alternatives. The existing service includes the RTD fixed-route service, the Claremont Dial-a-Ride demand-responsive system for the general public and elderly/handicapped within the city limits of Claremont, and Get About Transportation which provides the elderly and handicapped residents of Pomona Valley with accessible demand-responsibe service.

Alternative 2

Alternative 2 is a modified fixed-route system with areawide demand-responsive service for the elderly and handicapped. The fixed-route service in this alternative includes new routes, as well as modifications and deletions of existing routes. This alternative was designed to provide a somewhat higher level of transit service at a minimum cost.

Alternative 3

This alternative consists of an areawide demand-responsive system for both the general public and elderly and handicapped with regional fixed-route service. The demand-responsive system is designed to serve local trips within the Pomona Valley, while the fixed-route system is designed to serve longer distance trips in the region. The demand-responsive system also would serve as a feeder service for the fixed-route system.

Alternative 4

Alternative 4 is a combination of the fixed-route service of Alternative 2 with demand-responsive service for the general public in the evenings and on Saturdays and Sundays. Service for the elderly and handicapped would be the same as for Alternative 2.

Alternative 5

This alternative is the same as Alternative 3, except that the fixed route service proposed for Alternative 3 would be expanded by two additional routes. This alternative would provide a somewhat higher level of fixed-route service than Alternative 3. Thus, the combination of fixed-route and demand-responsive service under Alternative 5 would be more balanced than any of the other alternatives.

OWNERSHIP/MANAGEMENT ALTERNATIVES

A total of ten ownership/management alternatives were reviewed by the PMC. Each of the alternatives reviewed requires public ownership with either self-

management, contract for management, or brokerage of service through private enterprise. The ownership alternatives include ownership by individual cities, existing authority, new authority, and joint powers agency. The management alternatives include management by governmental units, management by transportation authority, management by the joint powers agency, management by private sector, and brokerage of services through private enterprise.

Of the ten different ownership/management alternatives, the PMC selected three for detailed evaluation. The alternatives that PMC selected include new authority or joint powers agency ownership and either self-management, contract for management, or brokerage of service through private enterprise.

Ownership/Management by New Authority or Joint Powers Agency

This alternative involves the creation of a new authority or joint powers agency by the cities of Pomona, Claremont, San Dimas, and LaVerne. This authority or joint powers agency would be governed by a board of directors consisting of members appointed by elected officials of the cities or made up of the elected officials themselves. This board would have the authority to establish, own, and operate transit services in Pomona Valley. An executive director and professional staff employed by the board would be responsible for day-to-day management and operation of the services.

Major policy decisions concerning fare adjustments, route alignments, expansion or contraction of service, and expenditures (exceeding prescribed amounts) would be made by the board after receiving the advice, guidance, and recommendations of the executive director. In turn, the actions of the board are monitored by the cities represented on the authority.

Ownership by New Authority Joint Powers Agency and Contract for Management

Under this alternative, the authority or joint powers agency would contract for management with a private management firm that specializes in the management of transit systems. The authority or joint powers agency would consist only of a board of directors of which Pomona, Claremont, San Dimas, and LaVerne would be members, responsible for major policy decisions. No executive director and supporting professional staff would be necessary since all management responsibilities would be removed from the agency. The private management firm or agency under contract for management services would be responsible for advising the board of directors on policy decisions.

Ownership by New Authority or Joint Powers Agency and Brokerage Through Private Enterprise

The authority or joint powers agency could enter into a brokerage agreement with a privately controlled enterprise. The private enterprise would be given complete control over operation of equipment (either that owned by the private concern or that leased from the agency). Lease arrangements for the equipment owned by the agency would be defined in a contract or lease agreement with the broker. This contract or agreement would also define the rate and charge for operation of the vehicles by the privately controlled enterprise.

EVALUATION OF THE ALTERNATIVES

The service and ownership/management alternatives selected by the PMC were evaluated using the evaluation criteria and measures adopted by the PMC. The evaluation was concentrated in four impact categories: system form and function, social impacts, efficiency and economics, and organizational/institutional development. The impacts are summarized in Tables S-1, S-2, and S-3.

Fixed-Route Service Alternatives

Alternative 3 is the preferred fixed-route system for Pomona Valley. Of the five service/management alternatives evaluated, Alternative 3 performs best in the category of efficiency and economics. This impact area provides the best insight into selection of an alternative for implementation. This does not mean that the system form and function and social impact areas are less important, however, they do not provide insight into whether the systems are cost effective. In these two impact areas, Alternative 3 is out-performed by the other alternatives.

Demand-Responsive Service Alternatives

Of the thirteen demand-responsive service/management alternatives evaluated, Alternative 3 with brokerage of service through private enterprise is the preferred service/management alternative. This alternative performs best in all three impact categories.

Combined Service Alternatives

Again, Alternative 3 is the preferred service alternative with ownership/management by RTD and new authority or joints powers agency and brokerage of service as the preferred management option. This alternative ranks among the three top performers in the categories of system form and function and social impacts, and out-performs all other alternatives in the impact category of efficiency and economics. Alternative 3 under brokerage of service is clearly the most-effective of the alternatives evaluated.

CONSULTANT'S RECOMMENDATIONS AND SELECTION OF AN ALTERNATIVE

Based on the results of the evaluation of service and management alternatives, the consultant recommended that the PMC adopt Alternative 3 as the preferred service alternative. It was also recommended that the regional fixed-route service of Alternative 3 be operated by RTD and that the local demand-responsive service of Alternative 3 be owned by a joint powers agency and provided through a brokerage of service agreement with private enterprise. In addition, it was recommended that Pomona Valley request status as a Transportation Zone in order to qualify for increased federal and state funding necessary to support the recommended service levels of Alternative 3.

The results of the evaluation and the consultant's recommendations were discussed in a meeting with the PMC. At the meeting, the consultant urged adoption of Alternative 3 as the preferred service plan; however, because of the uncertainty of future Proposition A funds for fare subsidies and the

TABLE S-1
SUMMARY OF EVALUATION OF FIXED ROUTE SERVICE VERSUS MANAGEMENT ALTERNATIVES

EVALUATION CATEGORIES	ALTERNATIVE / EVALUATION MEASURES	1	2 AND 4		3	5	
		OWNERSHIP/MANAGEMENT BY RTD	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY RTD AND PRIVATE FIRM	OWNERSHIP/MANAGEMENT BY RTD	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY RTD AND PRIVATE FIRM
SYSTEM FORM AND FUNCTION	TOTAL PASSENGER BOARDINGS	7,250	8,618	8,618	7,901	9,095	9,095
	SQUARE MILES OF COVERAGE	32	31	31	21	29	29
	POPULATION SERVED	124,288	116,729	116,729	78,276	111,857	111,857
	MAJOR GENERATORS SERVED	91	92	92	74	89	89
SOCIAL IMPACTS	TOTAL HOUSEHOLDS SERVED	41,185	39,075	39,075	26,209	37,316	37,316
	LOW INCOME HOUSEHOLDS SERVED	11,494	10,867	10,867	7,394	10,468	10,468
	ZERO OR ONE AUTO HOUSEHOLDS SERVED	19,042	18,259	18,259	12,489	17,464	17,464
	PERCENTAGE COVERAGE TO HIGH PROPENSITY AREA	93	89	89	61	86	86
EFFICIENCY AND ECONOMICS (DAILY)	TOTAL CAPITAL COSTS	NA	2,929,500	2,929,500	NA	1,877,000	1,877,000
	TOTAL OPERATING COSTS	19,483	22,471	22,584	15,646	19,202	19,322
	TOTAL VEHICLE MILES	5,901	7,190	7,190	4,989	6,134	6,134
	TOTAL VEHICLE HOURS	322	381	381	228	305	305
	TOTAL PASSENGER BOARDINGS	7,250	8,618	8,618	7,901	9,095	9,095
	TOTAL PASSENGER REVENUES	3,750	4,814	4,814	4,346	4,689	4,697
	OPERATING COST/VEHICLE MILE	3.30	3.13	3.14	3.14	3.13	3.15
	OPERATING COST/VEHICLE HOUR	60.57	58.90	59.19	68.59	62.97	63.36
	OPERATING COST/PASSENGER	2.69	2.61	2.62	1.98	2.11	2.12
	PASSENGERS/VEHICLE MILE	1.23	1.20	1.20	1.58	1.48	1.48
	PASSENGERS/VEHICLE HOUR	22.54	22.59	22.59	34.64	29.82	29.82
	REVENUE/COST	0.19	0.21	0.21	0.28	0.24	0.24

NA = NOT APPLICABLE

TABLE S-2
SUMMARY OF EVALUATION OF DEMAND RESPONSIVE SERVICE VERSUS MANAGEMENT ALTERNATIVES

EVALUATION CATEGORIES	EVALUATION MEASURES \ ALTERNATIVE	1	2			3			4			5		
		OWNERSHIP/MANAGEMENT BY EXISTING OPERATORS	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGE-MENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGE-MENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGE-MENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGE-MENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE
SYSTEM FORM AND FUNCTION	TOTAL PASSENGER BOARDINGS	545	759	759	759	4,086	4,086	4,086	1,391	1,391	1,391	3,531	3,531	3,531
	SOUARE MILES OF COVERAGE	5-65	65	65	65	55-65	55-65	55-65	50-65	50-65	50-65	50-65	50-65	50-65
	POPULATION SERVED	22,026 - 19,650	19,650	19,650	19,650	148,584 - 3,057	148,584 - 3,057	148,584 - 3,057	117,695 - 19,650	117,695 - 19,650	117,695 - 19,650	137,007 - 3,057	137,007 - 3,057	137,007 - 3,057
	MAJOR GENERATORS SERVED	All	All	All	All	All	All	All	All	All	All	All	All	All
SOCIAL IMPACTS	TOTAL HOUSEHOLDS SERVED	6,932 - 59,530	59,530	59,530	59,530	46,436 - 59,530	46,436 - 59,530	46,436 - 59,530	31,456 - 59,530	31,456 - 59,530	31,456 - 59,530	40,885 - 59,530	40,885 - 59,530	40,885 - 59,530
	LOW INCOME HOUSEHOLOS SERVED	1,371 - 14,075	14,075	14,075	14,075	10,378 - 14,075	10,378 - 14,075	10,378 - 14,075	6,168 - 14,075	6,168 - 14,075	6,168 - 14,075	8,841 - 14,075	8,841 - 14,075	8,841 - 14,075
	ZERO OR ONE AUTO HOUSEHOLDS SERVED	3,076 - 24,158	24,158	24,158	24,158	17,914 - 24,158	17,914 - 24,158	17,914 - 24,158	10,894 - 24,158	10,894 - 24,158	10,894 - 24,158	15,426 - 24,158	15,426 - 24,158	15,426 - 24,158
	PERCENTAGE OF COVERAGE TO HIGH PROPENSITY AREAS	100	100	100	100	100	100	100	100	100	100	100	100	100
EFFICIENCY AND ECONOMICS (DAILY)	TOTAL CAPITAL COSTS	NA	737,500	737,500	75,000	1,150,000	1,150,000	75,000	1,617,500	1,617,500	75,000	1,260,000	1,260,000	75,000
	TOTAL OPERATING COSTS	2,998	2,691	2,741	2,351	13,355	13,606	11,669	7,094	6,728	5,770	11,301	11,513	9,873
	TOTAL VEHICLE MILES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL VEHICLE HOURS	120	110	110	110	546	546	546	290	290	290	462	462	462
	TOTAL PASSENGER BOARDINGS	545	759	759	759	4,086	4,086	4,086	1,391	1,391	1,391	3,531	3,531	3,531
	TOTAL PASSENGER REVENUES	523	729	729	729	3,923	3,923	3,923	1,335	1,335	1,335	3,390	3,390	3,390
	OPERATING COST/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	OPERATING COST/VEHICLE HOUR	24.98	24.46	24.92	21.37	24.92	24.92	21.37	24.46	24.92	21.37	24.46	24.92	21.37
	OPERATING COST/PASSENGER	5.50	3.54	3.61	3.10	3.27	3.33	2.86	5.10	4.84	4.15	3.20	3.26	2.80
	PASSENGERS/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	PASSENGERS/VEHICLE HOUR	4.54	6.90	6.90	6.90	7.48	7.48	7.48	5.15	5.15	5.15	7.64	7.64	7.64
	REVENUE/COST	0.17	0.27	0.27	0.31	0.29	0.29	0.34	0.19	0.20	0.23	0.30	0.29	0.34

NA = NOT APPLICABLE

TABLE S-3

SUMMARY OF EVALUATION OF COMBINED FIXED ROUTE AND DEMAND RESPONSIVE SERVICE VERSUS MANAGEMENT ALTERNATIVES

EVALUATION CATEGORIES	EVALUATION MEASURES \ ALTERNATIVE	1	2			3			4			5		
		OWNERSHIP/MANAGEMENT BY EXISTING OPERATORS	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF D.R. SERVICE	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF D.R. SERVICE	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF D.R. SERVICE	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE
SYSTEM FORM AND FUNCTION	TOTAL PASSENGER BOARDINGS	7,795	9,377	9,377	9,377	11,987	11,987	11,987	10,009	10,009	10,009	12,626	12,626	12,626
	SQUARE MILES OF COVERAGE	37-65	31-65	31-65	31-65	65	65	65	65	65	65	65	65	65
	POPULATION SERVED	146,314 - 143,938	116,729 - 136,379	116,729 - 136,379	116,729 - 136,379	81,333 - 184,213	81,333 - 184,213	81,333 - 184,213	136,379 - 184,213	136,379 - 184,213	136,379 - 184,213	114,914 - 184,213	114,914 - 184,213	114,914 - 184,213
	MAJOR GENERATORS SERVED	All	All	All	All	All	All	All	All	All	All	All	All	All
SOCIAL IMPACTS	TOTAL HOUSEHOLDS SERVED	48,117 - 59,530	39,075 - 59,530	39,075 - 59,530	39,075 - 59,530	59,530	59,530	59,530	59,530	59,530	59,530	59,530	59,530	59,530
	LOW INCOME HOUSEHOLDS SERVED	12,865 - 14,075	10,867 - 14,075	10,867 - 14,075	10,867 - 14,075	14,075	14,075	14,075	14,075	14,075	14,075	14,075	14,075	14,075
	ZERO OR ONE AUTO HOUSEHOLDS SERVED	22,118 - 24,158	18,259 - 24,158	18,259 - 24,158	18,259 - 24,158	24,158	24,158	24,158	24,158	24,158	24,158	24,158	24,158	24,158
	PERCENTAGE OF COVERAGE TO HIGH PROPENSITY AREAS	100	100	100	100	100	100	100	100	100	100	100	100	100
EFFICIENCY AND ECONOMICS (DAILY)	TOTAL CAPITAL COSTS	NA	3,667,000	3,667,000	2,929,500	1,150,000	1,150,000	75,000	4,547,000	4,547,000	2,929,500	3,137,000	3,137,000	1,877,000
	TOTAL OPERATING COSTS	22,481	25,162	25,325	24,822	29,001	29,252	27,315	29,565	29,312	28,241	30,503	30,835	29,075
	TOTAL VEHICLE MILES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL VEHICLE HOURS	442	491	491	491	774	774	774	671	671	671	767	767	767
	TOTAL PASSENGER BOARDINGS	7,795	9,377	9,377	9,377	11,987	11,987	11,987	10,009	10,009	10,009	12,626	12,626	12,626
	TOTAL PASSENGER REVENUES	4,273	5,543	5,543	5,543	8,269	8,269	8,269	6,149	6,149	6,149	8,079	8,087	8,079
	OPERATING COST/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	OPERATING COST/VEHICLE HOUR	50.86	51.25	51.28	50.55	37.47	37.79	35.29	44.06	43.68	42.09	39.77	40.20	37.91
	OPERATING COST/PASSENGER	2.88	2.68	2.70	2.65	2.42	2.44	2.28	2.95	2.93	2.82	2.42	2.44	2.30
	PASSENGERS/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	PASSENGERS/VEHICLE HOUR	17.64	19.10	19.10	19.10	15.49	15.49	15.49	14.92	14.92	14.92	16.46	16.46	16.46
	REVENUE/COST	0.19	0.22	0.22	0.22	0.28	0.28	0.30	0.21	0.21	0.22	0.26	0.26	0.28

NA = NOT APPLICABLE

possibility of reductions in service, the PMC was hesitant to adopt at this time the reductions in RTD service as proposed by Alternative 3. The PMC did, however, approve a joint powers agency as the preferred organization to own and manage local transit services in Pomona Valley and brokerage of service as the preferred method to provide local demand-responsive services.

As a result of the PMC meeting and consultant sessions with several PMC members, the consultant selected Alternative 4 as the preferred alternative for development of a recommended service plan and implementation program. Alternative 4 represents a modification of the existing fixed-route service with areawide demand-responsive service for the general public in the evenings and on weekends and expanded demand-responsive service for the elderly and handicapped. Unlike Alternative 3, Alternative 4 provides for no reductions in existing RTD fixed-route service levels and offers only a limited expansion of general public demand-responsive service.

Alternative 4 was subsequently presented to the Technical Advisory Committee (TAC) established by the PMC to review the consultant's recommendations. After considerable debate, the TAC unanimously agreed to support an incremental approach to service improvements in Pomona Valley. A modified Alternative 4 was approved by the TAC subject to the condition that a pilot demonstration project for general public demand-responsive service be included in the Implementation Plan. The PMC reviewed the conditions recommended by the TAC and approved Alternative 4, as modified.

RECOMMENDED SERVICE PLAN

A recommended service plan was developed specifically for Pomona Valley. The plan provides for an improved local and regional fixed-route system with an expanded demand-responsive system for the elderly and handicapped.

The recommended fixed-route system is shown in Figure S-1. Under this system, several existing routes are modified and new service is added to provide better fixed-route coverage to areas with a relatively high potential for transit use. The system contains a total of twelve routes. Ten of these routes are regional or inter-area routes providing service to Los Angeles and cities in the San Gabriel Valley. The remaining two routes are local routes operating exclusively within Pomona Valley. The system also provides for service to the neighboring cities in San Bernardino County. In addition, the recommended service plan also includes an expanded demand-responsive service for the elderly and handicapped. The recommended demand-responsive system for the elderly and handicapped is an areawide many-to-many system with expanded hours and days of service.

Modifications to Existing Service

In an effort to improve transit service and to promote additional ridership, modifications are recommended to four existing RTD lines. These include:

- Modify Line 187, which operates between Pasadena and Pomona, to serve the planned Transcenter in Montclair.
- Extend Line 480 to the Transcenter via Indian Hill Boulevard and Sixth Street in Pomona Valley.

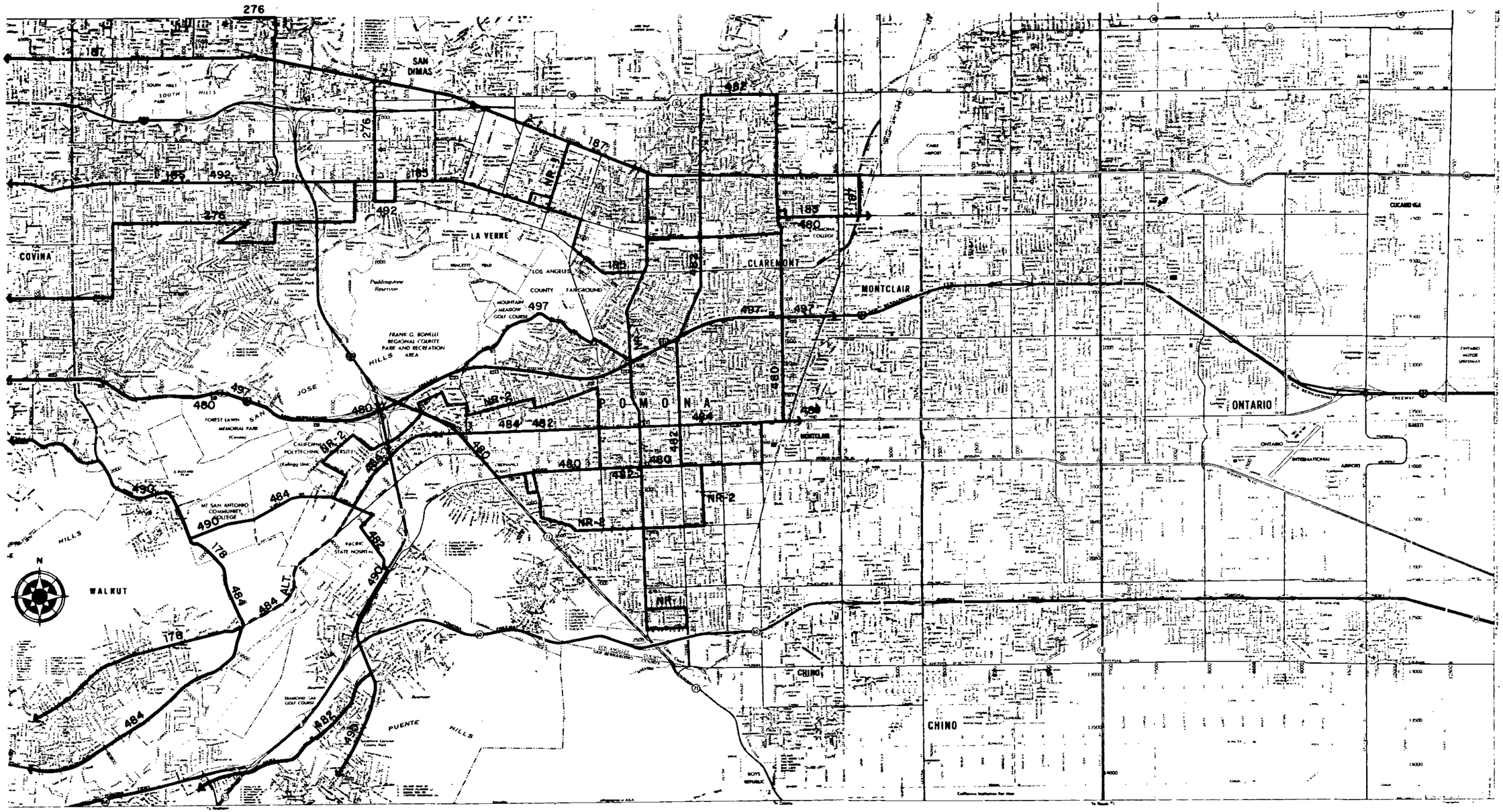


Figure S-1

RECOMMENDED FIXED ROUTE SYSTEM

- Modify Line 482 to serve Towne Avenue and northern Claremont.

- Discontinue Lines 291/293 and 192/194. Under the recommended plan, these lines would be discontinued and replaced by new routes or modifications to existing routes. Only the service on unproductive portions of the lines in areas with low transit ridership would not be replaced by new routes or modifications to existing routes.

New Service

In addition to the route structure modifications, the service plan recommends the implementation of new fixed-route and demand-responsive service.

The recommended service plan includes the following two new fixed routes.

- NR-1 would provide north-south service along Garey Avenue between Foothill Boulevard and County Road.

- NR-2 is a new route that would connect the California Polytechnical Institute at Pomona and the residential areas near Ganesha High School and between Mission and Phillips Boulevards with downtown Pomona.

The service plan also recommends the implementation of an improved areawide demand-responsive system for the elderly and handicapped with expanded service hours and days of service. The system would continue to operate on a many-to-many basis and connect with RTD lines which are accessible to the handicapped and with other demand-responsive systems in the region.

Level of Service

The recommended level of service of the recommended fixed-route system would remain almost unchanged from the existing system. The only changes recommended in the level of service are on Lines 480 and 482. Under the recommended system, Line 480 would be extended from the Indian Hill Shopping Center to the Transcenter. Service during the base period (i.e., 9:00 a.m. to 3:00 p.m. and 6:00 p.m. to 8:00 p.m.) would be half the frequency as on the existing line. Line 482 would be modified to serve Towne Avenue and northern Claremont. The frequency of service on the new routing would be the same as on the existing route. However, unlike the existing route, no night or weekend service would be provided on the portion of the new route between downtown Pomona and northern Claremont. Service on the two new routes would be operated at thirty-minute frequencies between the hours of 6:00 a.m. and 7:00 p.m., Monday through Friday with no service on Saturdays and Sundays.

Demand-responsive service for the elderly and handicapped would be expanded from six to seven days a week. Hours and service would be from 6:00 a.m. to 7:30 p.m., Monday through Friday. This is an increase of two hours daily over the Get-About Service. Service hours on Saturday and Sunday would be the same as on weekdays.

Capital Costs

Capital costs were estimated based on the assumption that the joint powers agency would own the demand-responsive fleet and that RTD would provide the fixed-route service with the existing fleet and facilities. If the agency decides to contract for both provision of service and vehicles by the broker, no capital costs for vehicles and supporting maintenance facilities would be borne by the joint powers agency.

The estimated total capital cost of the recommended system is $748,500 including $246,000 in vehicles, maintenance and office facilities at a cost of $465,000; $13,000 in maintenance equipment and parts, and $24,500 in communications equipment.

Operating Costs

Operating costs of the recommended system varied by type of service. Current RTD operating costs per vehicle mile were used to calculate the cost of the fixed-route system. Operating costs of the demand-responsive system were estimated using the cost per vehicle hour rate for brokerage of service through private enterprise.

The total annual operating cost of the recommended system is estimated to be about $6,501,000. Based on 147,000 vehicle hours operated annually by both the fixed-route and demand-responsive system, this equates to a cost per vehicle hour of $44.33. Vehicle miles were not estimated for the demand-responsive system, therefore, no estimate of total system miles and cost per mile could be developed.

Annual operating costs of the fixed-route system are estimated to total about $5,343,000. It would operate for a total of approximately 92,000 vehicle hours and 1,700,000 vehicle miles annually at a cost per hour of $57.80 and a cost per mile of $3.19.

The demand-responsive system is estimated to have an annual operating cost of about $1,158,000. Approximately 54,000 vehicle hours of service would be operated annually at a cost per hour of $21.37.

Ridership and Revenue

An analysis of ridership and passenger revenues was also conducted for the recommended system.

Passenger boardings for the recommended system are estimated to total about 2,694,000 annually over 147,000 vehicle hours. This translates into 18.37 passengers per vehicle hour.

Annual passenger boardings for the fixed-route system are estimated to total approximately 2,377,000. Passengers per vehicle hour are estimated to average 25.72 systemwide over 92,000 vehicle hours annually. The number of passengers per vehicle mile is estimated to average 1.42 systemwide over 1,672,000 vehicle miles annually.

The demand-responsive system is estimated to have an annual ridership of about 317,000. Passengers per hour are estimated to average 5.84 over 54,000 vehicle hours annually.

The recommended system is estimated to generate approximately $1,601,000 in annual farebox revenues compared to annual operating costs of $6,501,000, yielding an operating ratio of 0.25. This estimate of farebox revenues is based on the existing base fare of $0.50 for fixed-route service and $1.00 for demand-responsive service. This latter fare represents the fare charged by the Get About System. A breakdown of the recommended system by type of service provided reveals that the fixed-route system would generate about $1,285,000 in annual passenger revenues compared to annual operating costs of $5,343,000, this resulting in a revenue to cost ratio of 0.24.

Passenger revenues for the demand-responsive system are estimated to total about $317,000 annually. This yields an operating ratio of 0.27 when compared to operating costs of $1,158,000.

Comparison of Recommended System With Existing Service

A summary of the major elements of the recommended service plan and comparison with existing service is presented in Table S-4. The recommended plan calls for improvements to local and regional RTD fixed-route service, as well as improvements to the local demand-responsive system for the elderly and handicapped. In short, the improvements in the recommended service plan will provide for an improved fixed-route system at a lower cost, however, the expanded demand-responsive system will result in a higher overall operating deficit which must be offset by additional subsidies from federal, state, and local sources. Available subsidies from these sources will be identified in the implementation plan.

IMPLEMENTATION PLAN

The implementation includes a five-year program for implementation and financing of the recommended service plan along with projections of annual ridership, passenger revenues, capital and operating costs, and operating deficits.

Implementation Considerations

Implementation of the recommended service plan will depend on four critical factors which should be considered in development of an implementation plan and strategy. First, the 1984 Summer Olympic Games are scheduled to occur in the Los Angeles area in August, 1984. Because of the Games, RTD is hesitant to make any route or schedule modifications to the system after January of next year.

The second factor affecting the implementation of the recommended plan is the end of the Proposition A Reduced Fare Program on July 1, 1985. It is expected that even with projected sizeable allocations of funds by LACTC for fare stabilization, a fare increase is projected after the program ends on July 1, 1985. It is also likely that there may be some cutbacks in service provided by RTD. Because of the prospect of cutbacks in service to Pomona Valley in July, 1985, it would be undesirable to make any modifications to the fixed-

TABLE S-4

COMPARISON OF RECOMMENDED SYSTEM
TO EXISTING SERVICE
(FY 1983)

Element	Existing Service[1]	Recommended Plan	Percent Change
Annual Vehicle Hours			
- Fixed-Route	98,768	92,432	-6.42
- Demand-Responsive	31,343	54,202	+7.29
TOTAL	130,111	146,634	+12.70
Annual Vehicle Miles			
- Fixed-Route	1,691,231	1,672,443	-1.11
- Demand-Responsive	N.A.	N.A.	N.A.
TOTAL	1,691,231	1,672,443	-1.11
Annual Passenger Boardings			
- Fixed-Route	2,077,592	2,377,047	+14.41
- Demand-Responsive	100,000	316,602	+216.60
TOTAL	2,177,592	2,693,649	+23.70
Annual Operating Costs			
- Fixed-Route	$5,493,670	5,342,609	-2.75
- Demand-Responsive	782,948	1,158,296	+47.94
TOTAL	$6,276,618	6,500,905	+ 3.57
Annual Passenger Revenue			
- Fixed-Route	$1,074,498	1,284,596	+19.55
- Demand-Responsive	100,000	316,602	+216.60
TOTAL	$1,174,498	1,601,198	+36.33
Annual Operating Deficits[2]			
- Fixed Route	$4,419,172	4,058,013	-8.17
- Demand-Responsive	682,948	841,694	+23.24
TOTAL	$5,102,120	4,899,707	+3.97

[1]Excludes Claremont dial-a-ride service.
[2]Excludes local, state, and federal subsidies.

Source: Schimpeler-Corradino Associates.

route system after the Olympic Games in August and then, ten months later when the fare reduction program ends, make further modifications in service. This would severely jeopardize the transit user's perception of service. Consequently, if the recommended fixed-route improvements are not implemented by January of 1984, it will be July, 1985 before the implementation of the improvements can begin.

Third, the prospect of any increase in paratransit funding for demand-responsive service in Pomona Valley is uncertain at this time. There is a maximum limit on funds apportioned to paratransit operators. The limit is currently 0.25 percent of total Section 9, Transportation Development Act, and State Transit Assistance Act allocations. Unfortunately, paratransit funding in Los Angeles County is already at the limit and Pomona Valley under the current limit cannot expect any increase in the amount of funds that it currently receives. This could seriously jeopardize the implementation of the recommended service plan's expanded demand-responsive services for the elderly and handicapped.

The final factor is whether Pomona Valley will be declared a separate Transportation Zone. With transportation zone status, the area may be able to qualify for federal and state funds to support expanded transit services in Pomona Valley. Without such status, it is unlikely that the area could qualify for federal and state funds. Hence, the recommended service plan could not be implemented since no increase in overall service levels would be possible, only the fixed-route service portion of the plan could be implemented.

Staging of Improvements

Full implementation of the improvements in the recommended service plan is planned over a multi-year period beginning FY 1983/1984 and ending FY 1987/1988. However, primary emphasis of the implementation program has been placed on the two-year period from FY 1983/1984 through FY 1984/1985. During this period, existing RTD fixed-route service in Pomona Valley would be redeployed and the existing elderly and handicapped demand-responsive service would be expanded.

Five-Year Financing Plans for Capital and Operating Costs

Based on the estimated capital and operating costs of the recommended service plan, five-year plans for financing the capital and operating costs of the recommended plan were developed.

Capital Cost Financial Plan

Table S-5 presents the proposed financing plan for capital costs. The total cumulative capital outlay over the five-year program is estimated at approximately $867,000. This cost was then amortized at a ten percent interest rate assuming a loan period of four years. Amortization of capital costs and loan interest amounts to approximately $273,000 annually.

Sources of capital assistance include UMTA Section 9 and TDA program funds. Assistance from the Section 9 program can be used to fund up to eighty percent of the cost of capital improvements. The estimates of annual Section

TABLE S-5

FINANCIAL PLAN FOR CAPITAL COSTS OF RECOMMENDED SERVICE PLAN
(ESCALATED DOLLARS)

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Total Capital Outlay	$ 0[1]	$866,763	$ 0	$ 0	$ 0
Loan Interest and Amortization of Capital Costs[2]	$ 0	$273,438	$273,438	$273,438	$273,438
Potential Annual Capital Assistance					
• UMTA Section 9[3]	$ 0	$218,990	$218,990	$218,990	$218,990
• Transportation Development Act[4]	0	54,448	54,448	54,448	54,448
• Total	$ 0	$273,438	$273,438	$273,438	$273,438
Estimated Annual Local Cost	$ 0	$ 0	$ 0	$ 0	$ 0

[1]Does not include current outlays by Get About Transportation.

[2]Based on an annual interest rate of ten percent with all facilities and equipment amortized over four years.

[3]Assumes Section 9 funds can be used to fund eighty percent of annual costs.

[4]Assumes fifteen percent of TDA funds can be used for capital outlays.

Source: Schimpeler·Corradino Associates.

9 capital assistance shown in the financial plan represent eighty percent of the estimated annual cost of loan interest and amortization.

Assistance from the TDA program can be used to fund both capital and operating expenditures. Of the total TDA apportionment for transit services in Pomona Valley, at least fifteen percent must be allocated for capital assistance, while the remaining 85 percent can be used for operating assistance. However, the capital improvements programmed for implementation are not great enough to utilize the allocated fifteen percent of the total TDA apportionment. The TDA assistance shown in the financial plan represents the balance of assistance required after Section 9 capital assistance is subtracted from the amortized cost and loan interest. The excess TDA capital funds available would be diverted back to the region. The estimates of TDA capital assistance shown in the financial plan represent fifteen percent of the total annual apportionment for demand-responsive transit service in Pomona Valley.

Total capital assistance from both the Section 9 and TDA programs is estimated to amount to $273,000 annually between FY 1984/1985 and 1987/1988. No estimate of capital assistance is provided in the financial plan for FY 1983/1984 because no capital improvements are planned. The estimated annual assistance is expected to fund the entire cost of loan interest and amortization of capital costs. The outcome of this financial plan is that the capital improvements included in the recommended service plan will result in no local cost to Pomona Valley residents.

Operating Costs Financial Plan

Financial plans for operating costs were developed for each of three assumed fare scenarios (i.e., no fare increases, moderate fare increases, and steep fare increases). This was necessary because the operating deficit to be financed using federal, state, and local assistance would vary under each scenario.

The financing plan for operating costs under the assumption that fares would remain unchanged over the next five years is presented in Table S-6. It is estimated under this assumption that the total annual operating deficit would increase from about $5.5 million in FY 1983/1984 to $7.5 million in FY 1987/1988. Total annual operating assistance over the same period is estimated to increase from $3.4 million in FY 1983/1984 to $4.6 million in FY 1987/1988. This yields a total net annual operating deficit ranging from about $2 million in FY 1983/1984 to $2.7 million in FY 1987/1988. A breakdown of this last statistic by service type indicates that the net annual operating deficit of the RTD fixed-route system is estimated to increase from $3.1 million to $4.2 million over the five-year period if fares are not increased. Unlike the fixed-route system, the local demand-responsive system is expected to incur a net operating surplus after available assistance is subtracted from operating deficits. The surplus is expected to increase from $1.1 million in FY 1983/1984 to $1.3 million in FY 1987/1988.

Table S-7 presents the financing plan for operating costs under the assumed scenario of moderate fare increases. It is estimated that under this scenario the total annual operating deficit would increase from $5.5 million

TABLE S-6

FINANCIAL PLAN FOR OPERATING COSTS OF RECOMMENDED SERVICE PLAN WITH NO FARE INCREASES

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Annual Operating Costs					
• RTD Fixed-Route Service	$5,987,340	$6,321,835	$6,689,772	$7,191,505	$7,559,442
• Local Demand-Responsive Service	807,949	1,348,004	1,424,971	1,533,375	1,611,425
• Total	$6,795,289	$7,669,839	$8,114,743	$8,724,880	$9,170,867
Potential Annual Passenger Revenues					
• RTD Fixed-Route Service	$1,224,346	$1,245,160	$1,260,102	$1,275,223	$1,290,525
• Local Demand-Responsive Service	101,700	321,984	325,848	329,758	333,715
• Total	$1,326,046	$1,567,144	$1,585,950	$1,604,981	$1,624,240
Estimated Annual Operating Deficit					
• RTD Fixed-Route Service	$4,762,994	$5,076,675	$5,429,670	$5,916,282	$6,268,917
• Local Demand-Responsive Service	706,249	1,026,020	1,099,123	1,203,617	1,277,710
• Total	$5,469,243	$6,102,695	$6,528,793	$7,119,899	$7,546,627
Potential Annual Operating Assistance					
• RTD Fixed-Route Service					
- UMTA Section 9	$ 460,130	$ 450,175	$ 450,175	$ 450,175	$ 450,175
- Transportation Development Act	981,332	1,043,587	1,134,032	1,224,476	1,301,006
- State Transit Assistance	192,418	204,625	204,625	229,180	245,550
- Subtotal Federal and State Assistance	$1,633,880	$1,698,387	$1,788,832	$1,903,831	$1,996,731
• Local Demand-Responsive Service					
- UMTA Section 9	$ 113,080	$ 203,445	$ 203,445	$ 203,445	$ 203,445
- Transportation Development Act	241,169	471,622	512,498	553,370	587,956
- State Transit Assistance	47,288	92,475	92,475	103,572	110,970
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Subtotal Federal and State Assistance	$ 489,115	$ 860,594	$ 907,275	$ 964,967	$1,011,097
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Subtotal Local Funds	$1,799,115	$2,240,594	$2,357,275	$2,498,967	$2,606,097
• Total RTD and Local Funds					
- UMTA Section 9	$ 573,210	$ 653,620	$ 653,620	$ 653,620	$ 653,620
- Transportation Development Act	1,222,501	1,515,209	1,646,530	1,777,846	1,888,962
- State Transit Assistance	239,706	297,100	297,100	332,752	356,520
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Total Federal and State Assistance	$2,122,995	$2,558,981	$2,696,107	$2,868,798	$3,007,828
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Total	$3,432,995	$3,938,981	$4,146,107	$4,402,798	$4,602,828
Estimated Net Annual Operating Deficit (Surplus)					
• RTD Fixed-Route Service	$3,129,114	$3,378,288	$3,640,838	$4,012,451	$4,272,186
• Local Demand-Responsive Service	(1,092,866)	(1,214,574)	(1,258,152)	(1,295,350)	(1,328,387)
• Total	$2,036,248	$2,163,714	$2,382,686	$2,717,101	$2,943,799

Source: Schimpeler-Corradino Associates.

TABLE S-7

FINANCIAL PLAN FOR OPERATING COSTS OF RECOMMENDED SERVICE PLAN WITH MODERATE FARE INCREASES

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Annual Operating Costs					
• RTD Fixed-Route Service	$5,987,340	$6,321,835	$6,689,772	$7,191,505	$7,559,442
• Local Demand-Responsive Service	807,949	1,348,004	1,424,971	1,533,375	1,611,425
• Total	$6,795,289	$7,669,839	$8,114,743	$8,724,880	$9,170,867
Potential Annual Passenger Revenues					
• RTD Fixed-Route Service	$1,224,346	$1,245,160	$1,701,138	$1,902,548	$2,103,853
• Local Demand-Responsive Service	101,700	321,984	439,894	479,898	520,270
• Total	$1,326,046	$1,567,144	$2,141,032	$2,382,446	$2,624,123
Estimated Annual Operating Deficit					
• RTD Fixed-Route Service	$4,762,994	$5,076,675	$4,988,634	$5,288,957	$5,455,589
• Local Demand-Responsive Service	706,249	1,026,020	985,077	1,053,477	1,091,155
• Total	$5,469,243	$6,102,695	$5,973,711	$6,342,434	$6,546,744
Potential Annual Operating Assistance					
• RTD Fixed-Route Service					
- UMTA Section 9	$ 460,130	$ 450,175	$ 450,175	$ 450,175	$ 450,175
- Transportation Development Act	981,332	1,043,587	1,134,032	1,224,476	1,301,006
- State Transit Assistance	192,418	204,625	204,625	229,180	245,550
- Subtotal Federal and State Assistance	$1,633,880	$1,698,387	$1,788,832	$1,903,831	$1,996,731
• Local Demand-Responsive Service					
- UMTA Section 9	$ 113,080	$ 203,445	$ 203,445	$ 203,445	$ 203,445
- Transportation Development Act	241,169	471,622	512,498	553,370	587,956
- State Transit Assistance	47,288	92,475	92,475	103,572	110,970
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Subtotal Federal and State Assistance	$ 489,115	$ 860,594	$ 907,275	$ 964,967	$1,011,097
- Proposition A	1,310,000	$1,380,000	$1,450,000	$1,534,000	$1,595,000
- Subtotal Local Funds	$1,799,115	$2,240,594	$2,357,275	$2,498,967	$2,606,097
• Total RTD and Local Funds					
- UMTA Section 9	$ 573,210	$ 653,620	$ 653,620	$ 653,620	$ 653,620
- Transportation Development Act	1,222,501	1,515,209	1,646,530	1,777,846	1,888,962
- State Transit Assistance	239,706	297,100	297,100	332,752	356,520
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Total Federal and State Assistance	$2,122,995	$2,558,981	$2,696,107	$2,868,798	$3,007,828
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Total	$3,432,995	$3,938,981	$4,146,107	$4,402,798	$4,602,828
Estimated Net Annual Operating Deficit (Surplus)					
• RTD Fixed-Route Service	$3,129,114	$3,378,288	$3,199,802	$3,385,126	$3,458,858
• Local Demand-Responsive Service	(1,092,866)	(1,214,574)	(1,372,198)	(1,445,490)	(1,514,942)
• Total	$2,036,248	$2,163,714	$1,827,604	$1,939,636	$1,943,916

Source: Schimpeler-Corradino Associates.

in FY 1983/1984 to $6.5 million in FY 1987/1988. Over the same period, transit operating assistance and Proposition A funds are estimated to increase from $3.4 million to $4.6 million. Therefore, with moderate fare increases, the net annual operating deficit after outside assistance is subtracted will decline from about $2 million in FY 1983/1984 to $1.9 million in FY 1987. The net annual operating deficit of the RTD fixed-route service will instead show an increase from $3.1 to $3.5 million over the five-year period. Nevertheless, this increase is well below that projected for the system with no change in fares. Again, the local demand-responsive system is expected to incur a net operating surplus. This surplus is expected to increase by $400,000 over the five-year period, or from $1.1 million in FY 1983/1984 to $1.5 million in FY 1987/1988.

The financing plan for operating costs under the assumed steep fare increase scenario is presented in Table S-8. Total annual operating deficits under this scenario would increase from $5.5 million in FY 1983/1984 to $6.1 million in FY 1987/1988, compared to an increase in operating assistance from $3.4 million to $4.6 million over the same period. The net deficit after assistance is subtracted from the operating deficit would decline from $2 million in FY 1983/1984 to $1.5 million in FY 1987/1988. RTD would still incur a net operating deficit each year of the five-year period. However, the deficit would be less than under the previous two fare scenarios. In fact, the deficit is estimated to decrease from $3.1 million to $3 million. The local demand-responsive system would realize the same surplus as projected under the moderate fare increase scenarios since the fares would not change.

OPTIONAL OPERATING PLAN

The five-year program for implementation of the recommended service plan assumes that all of the improvements would have been implemented by the second program year. The remaining three years of the program calls for a continuation of the level of service implemented during the previous program years. However, the continuation of the fixed-route system will depend upon what occurs after the expiration of the Proposition A Fare Reduction Program in July, 1985, or the beginning of FY 1985/1986. With the increases in fares expected at the end of the program, RTD may have to cut back service in Pomona Valley unless LACTC continues to provide fare subsidies. The financial plan developed for the recommended service plan assuming a $0.75 base fare identified a $3.2 million net deficit in FY 1985/1986 after farebox revenues and federal, state, and local assistance had been subtracted from operating costs. Even with a $1.00 base fare, the net deficit would be $2.9 million in FY 1985/1986. These deficits must be offset with fare subsidies or service will have to be cut in Pomona Valley.

During the development of service alternatives, an alternative was developed with a provision to cut back service provided by RTD. This alternative should be the basis for improvements if RTD is required to reduce service in Pomona Valley. At such time, RTD and the joint powers agency would jointly decide on the new fixed-route system to be operated in Pomona Valley. The joint powers agency would also have to decide on some form of local service to substitute for the service cut by RTC. This new local service could be an areawide demand-responsive system, a hybrid type of demand-responsive service with vehicles following fixed-route service patterns during peak

TABLE S-8

FINANCIAL PLAN FOR OPERATING COSTS OF RECOMMENDED SERVICE PLAN WITH STEEP FARE INCREASES

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Annual Operating Costs					
• RTD Fixed-Route Service	$5,987,340	$6,321,835	$6,689,772	$7,191,505	$7,559,442
• Local Demand-Responsive Service	807,949	1,348,004	1,424,971	1,533,375	1,611,425
• Total	$6,795,289	$7,669,839	$8,114,743	$8,724,880	$9,170,867
Potential Annual Passenger Revenues					
• RTD Fixed-Route Service	$1,224,346	$1,245,160	$2,016,163	$2,272,353	$2,528,841
• Local Demand-Responsive Service	101,700	321,984	439,894	479,898	520,270
• Total	$1,326,046	$1,567,144	$2,456,057	$2,752,251	$3,049,111
Estimated Annual Operating Deficit					
• RTD Fixed-Route Service	$4,762,994	$5,076,675	$4,673,609	$4,919,152	$5,030,601
• Local Demand-Responsive Service	706,249	1,026,020	985,077	1,053,477	1,091,155
• Total	$5,469,243	$6,102,695	$5,658,686	$5,972,629	$6,121,756
Potential Annual Operating Assistance					
• RTD Fixed-Route Service					
- UMTA Section 9	$ 460,130	$ 450,175	$ 450,175	$ 450,175	$ 450,175
- Transportation Development Act	981,332	1,043,587	1,134,032	1,224,476	1,301,006
- State Transit Assistance	192,418	204,625	204,625	229,180	245,550
- Subtotal Federal and State Assistance	$1,633,880	$1,698,387	$1,788,832	$1,903,831	$1,996,731
• Local Demand-Responsive Service					
- UMTA Section 9	$ 113,080	$ 203,445	$ 203,445	$ 203,445	$ 203,445
- Transportation Development Act	241,169	471,622	512,498	553,370	587,956
- State Transit Assistance	47,288	92,475	92,475	103,572	110,970
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Subtotal Federal and State Assistance	$ 489,115	$ 860,594	$ 907,275	$ 964,967	$1,011,097
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Subtotal Local Funds	$1,799,115	$2,240,594	$2,357,275	$2,498,967	$2,606,097
• Total RTD and Local Funds					
- UMTA Section 9	$ 573,210	$ 653,620	$ 653,620	$ 653,620	$ 653,620
- Transportation Development Act	1,222,501	1,515,209	1,646,530	1,777,846	1,888,962
- State Transit Assistance	239,706	297,100	297,100	332,752	356,520
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Total Federal and State Assistance	$2,122,995	$2,558,981	$2,696,107	$2,868,798	$3,007,828
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Total	$3,432,995	$3,938,981	$4,146,107	$4,402,798	$1,602,828
Estimated Net Annual Operating Deficit (Surplus)					
• RTD Fixed-Route Service	$3,129,114	$3,378,288	$2,884,777	$3,015,321	$3,033,870
• Local Demand-Responsive Service	(1,092,866)	(1,214,574)	(1,372,198)	(1,445,490)	(1,514,942)
• Total	$2,036,248	$2,163,714	$1,512,579	$1,569,831	$1,518,928

Source: Schimpeler-Corradino Associates.

hours and conventional demand-responsive service during off-peak hours, or a continuation of fixed-route service with ownership by the joint powers agency rather than RTD. The new local service could be operated either by the joint powers agency or by contract through the private sector or RTD.

Pilot Demonstration Project

The PMC elected to include in the implementation plan a pilot demonstration project for a demand-responsive system for the general public. This course of action was taken because the PMC was reluctant to endorse any service plan that includes general public demand-responsive service without a test of its effectiveness in meeting the travel needs of the general public. Although the project is not included in the recommended service plan, it is recommended for implementation. Depending on a decision by local policymakers, the pilot demonstration project could be implemented instead of expanding the elderly and handicapped demand-responsive system.

The general public demand-responsive system recommended as a pilot demonstration project would be a multizonal system with a combination many-to-many and many-to-few service (Figure S-2).

Service would be provided six days a week from 7:00 a.m. to 8:00 p.m. A total of fifteen vehicles would operate Monday through Friday, thirteen vehicles would operate on Saturday. No Sunday service would be provided. These vehicles would operate for a total of 195 hours each weekday and 169 hours on Saturday.

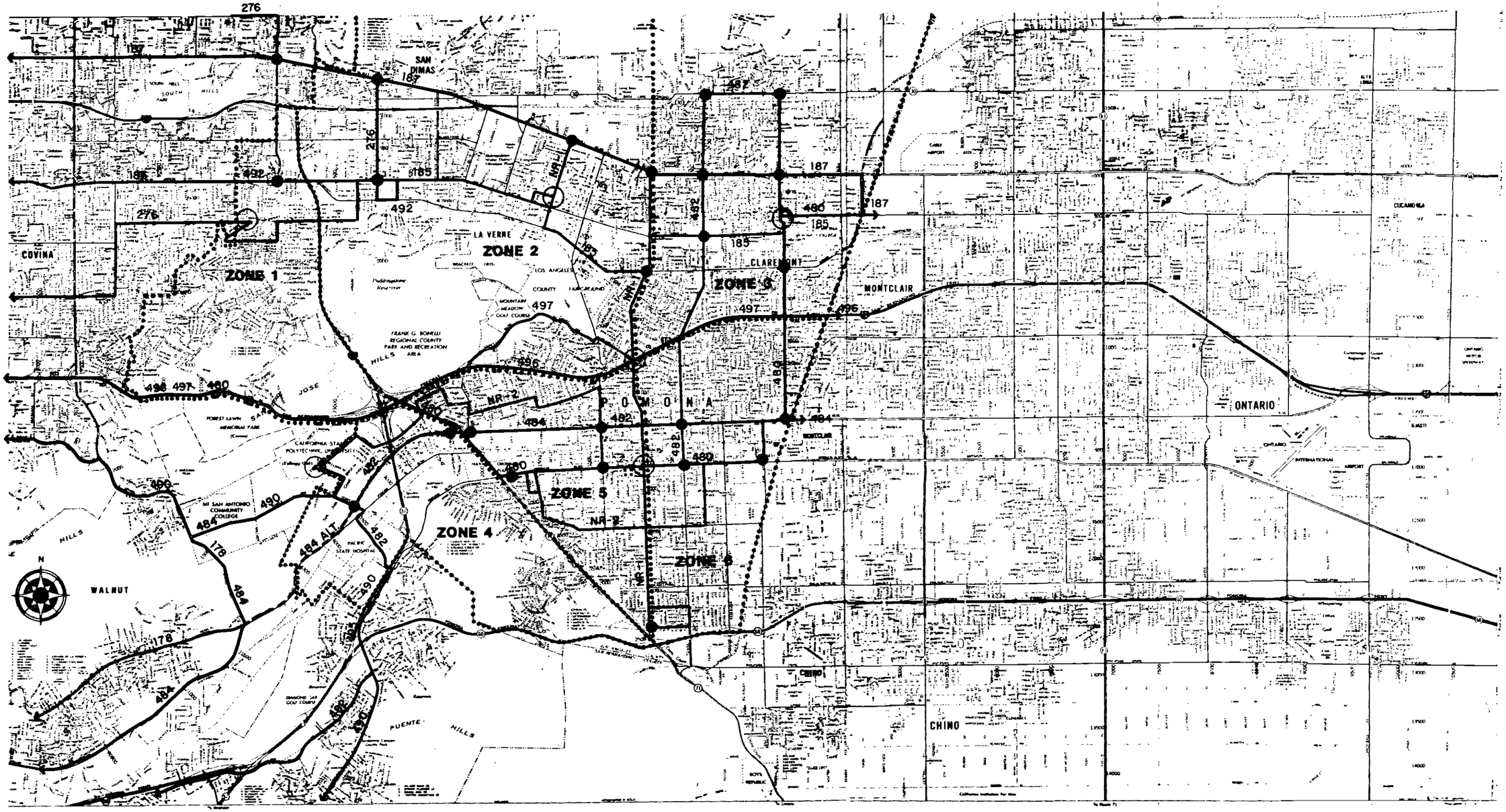
Implementation of the pilot demonstration project will depend on whether LACTC removes the limit on paratransit funding in Los Angeles County. Assuming that LACTC does increase paratransit funding, the project could be implemented as early as FY 1984/1985.

The new joint powers agency would implement the pilot demonstration project. However, the individual Pomona Valley cities would have to commit a portion of their Proposition A funds for subsidization of the service. The agency would have to contract with a private broker for provision of service under the demonstration project. The broker would be responsible for providing the vehicles and drivers necessary to operate the service.

The cost of operating the demand-responsive system under the demonstration project for one year is estimated to total about $1.5 million. This cost estimate is based on 58,513 annual vehicle hours of operation at a cost per hour of $24.87.

The system is estimated to attract about 530,000 passengers annually and to generate about $357,000 in farebox revenues. These estimates are based on a fare of $0.75 per passenger, which is the current fare for the Claremont Dial-a-Ride System.

Based on estimated costs of $1.5 million and passenger revenues of $357,000, the demonstration project would incur an operating deficit of approximately $1.1 million during its one year of operations. The plan developed for financing the operating costs of the recommended service plan identified a net surplus of about $1.2 million, consisting entirely of Proposition A



- Fixed Route Transfer Point
- Zonal Transfer Point
- ····· Zonal Boundary

Figure S-2

GENERAL PUBLIC DEMAND-RESPONSIVE SERVICE PILOT DEMONSTRATION PROJECT

funds. If this proves to be correct, then the $1.2 million would theoretically be available for funding the pilot demonstration project. This would be more than enough to fund the $1.1 million deficit incurred by the demonstration project. The remaining $117,000 could remain with the individual Pomona Valley cities or be available to the joint powers agency to invest or use for capital improvements.

Other Service Improvements

In addition to the pilot demonstration project, the PMC elected to include in the implementation plan a new park-and-ride line which would provide park-and-ride non-stop service between Pasadena and Pomona Valley. This improvement is recommended for implementation even though it is not included in the recommended service plan. This new park-and-ride route would be operated either by the joint powers agency or by the contract through the private sector or RTD.

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

TABLE OF CONTENTS (CONTINUED)

LIST OF FIGURES

LIST OF TABLES

LIST OF TABLES (CONTINUED)

LIST OF TABLES (CONTINUED)

1. INTRODUCTION

1. INTRODUCTION

The Southern California Rapid Transit District (RTD), in association with the San Bernardino and Southern California Associations of Governments and the cities of Pomona, Claremont, LaVerne, and San Dimas, contracted with Schimpeler•Corradino Associates and subcontracted with The Planning Group, Myra L. Frank & Associates, and David Abel & Associates to conduct a study of the travel needs of Pomona Valley residents and to develop a service plan to satisfy those needs. This study was initiated by the individual Pomona Valley cities and conducted under a joint funding agreement adopted by the RTD Board of Directors.

1.1 STUDY OBJECTIVES

The Pomona Valley Transit Needs Study has the following objectives:

- To identify and assess the travel needs of Pomona Valley residents.
- To develop and evaluate alternative transit systems designed to meet the needs of the residents as efficiently and effectively as possible.
- To develop and recommend a plan of service which best satisfies those needs.

The tasks involved in accomplishing these objectives are as follows:

- Task 1--Define Goals and Objectives
- Task 2--Collect Information and Define Needs
- Task 3--Develop Service/Management Alternatives
- Task 4--Evaluate Service Alternatives
- Task 5--Evaluate Management Alternatives
- Task 6--Prepare Implementation Plan
- Task 7--Prepare Final Report and Assist in Program Adoption

This report documents the results of these tasks.

1.2 STUDY AREA

The area under study is limited to Pomona Valley. For purposes of this study, Pomona Valley is described as being bounded by the San Gabriel Mountains on the north, the Los Angeles/San Bernardino county line on the east, the Pomona Freeway on the south, with the jurisdictional limits of the cities of Pomona and San Dimas forming the western boundary of the study

area. Included in the boundaries of Pomona Valley are the cities of Pomona, Claremont, San Dimas, and LaVerne. The study area is illustrated in Figure 1-1.

1.3 STUDY MANAGEMENT

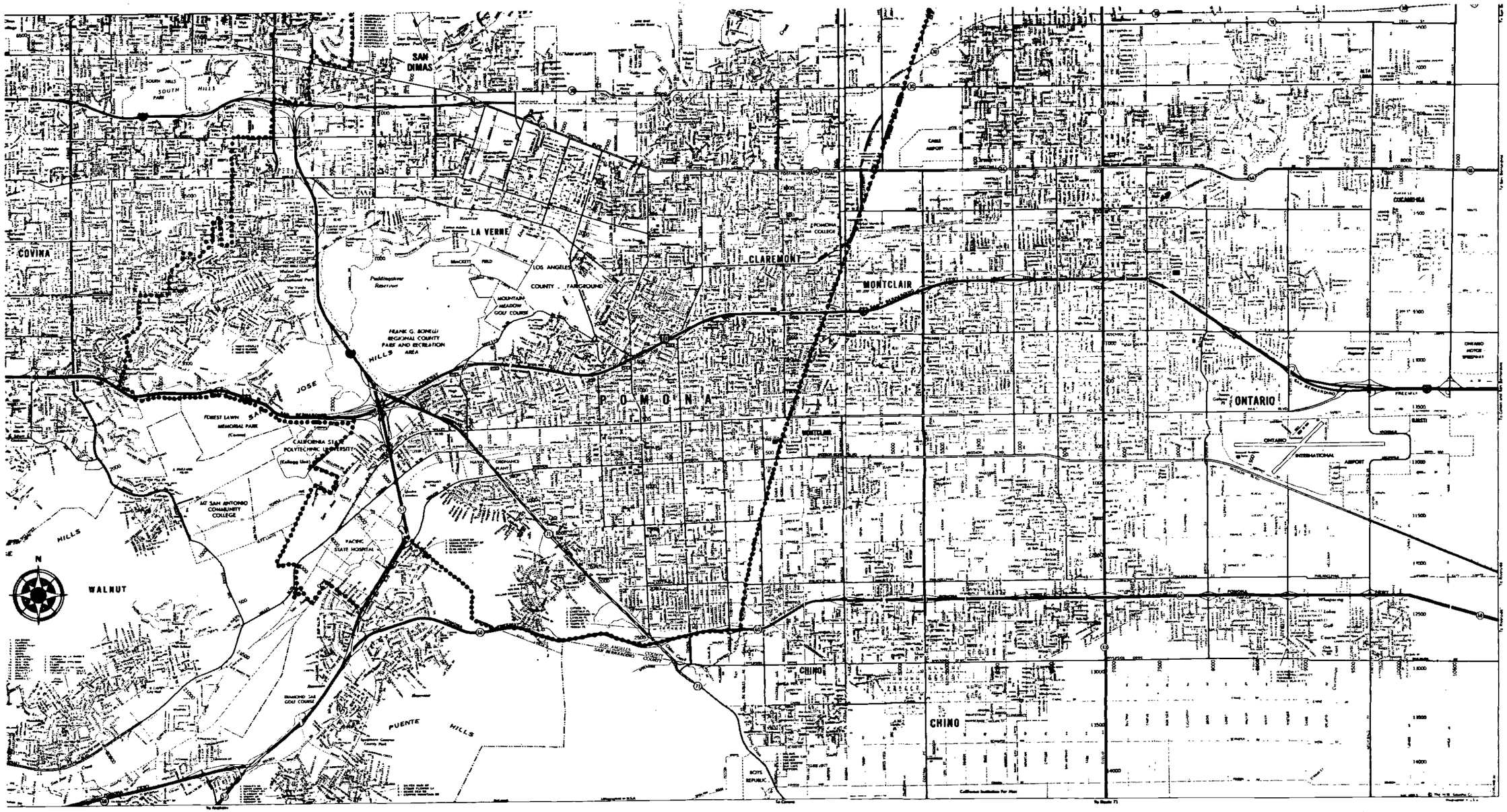
The Project Management Committee (PMC) was established by RTD for the purpose of administering the tasks of the work program. The Director of Planning at RTD served as Project Manager and Chairman of the PMC. The PMC was composed of representatives from each of the funding cities and agencies. In addition, a representative of the Los Angeles County Transportation Commission served as an ex officio member of the PMC. The membership of the PMC is presented in Table 1-1. Eleven meetings of the PMC were held during the course of this study. At these meetings, the PMC actively participated in the decision-making process of the study. The consultant acted as a catalyst to the decision-making process.

1.4 REPORT ORGANIZATION

The final report is the culmination of the seven-task work program designed to develop a service plan to meet the transit needs of the residents of the Pomona Valley. During the course of this study, twelve technical memoranda were submitted to the PMC. These documents were:

- TM1: Workshop Results
- TM2: Existing Public Transportation
- TM3: Service Barriers
- TM4: Survey Results
- TM5: Service Standards
- TM6: Service Alternatives
- TM7: Management Alternatives
- TM8: Financial Resources
- TM9: Evaluation of Service Alternatives
- TM10: Evaluation of Management Alternatives
- TM11: Recommended Service Plan
- TM12: Implementation Plan.

This final report consolidates the previous technical memoranda into a concise review of the entire study, which was conducted over a twelve-month period beginning on November 11, 1982. The report has been organized into twelve chapters. This chapter introduces the report. Chapter 2 provides a description of existing public transportation services in Pomona Valley, including fixed-route paratransit, and ridesharing services. In Chapter 3,



••••••• Boundary

Figure 1-1
STUDY AREA

TABLE 1-1

PROJECT MANAGEMENT COMMITTEE MEMBERSHIP

Member	Representative City/Agency	Title
Gary S. Spivack, Chairman	Southern California Rapid Transit District	Director of Planning
Eleanor Cohen	City of Claremont	Councilwoman
Robert Poff	City of San Dimas	City Manager
Martin Lomeli	City of LaVerne	City Manager
Ora Lampman	City of Pomona	City Manager
Peter Behrman	Southern California Association of Governments	Transportation Analyst
David Coury	Los Angeles County Transportation Commission	Program Analyst
Harold Hayes	City of Montclair	Mayor
Betty Rose	City of Claremont	Administrative Assistant
John Hoffmeister	Southern California Association of Governments	Transportation Analyst
Michael Bair	San Bernardino Association of Governments	Senior Transportation Analyst
Michael Dutton	City of San Dimas	Deputy City Manager
Robert Neher	City of LaVerne	Councilman

Source: Southern California Rapid Transit District.

the goals and objectives for the design of transit system alternatives and the criteria used in evaluating the alternatives are presented. Chapter 4 presents the results of the telephone survey of Pomona Valley and West Valley residents. Federal, state, and local sources of financial assistance are identified in Chapter 5. Chapter 6 describes the transit service alternatives developed for Pomona Valley, and Chapter 7 describes the alternatives for ownership and management of transit service in Pomona Valley. The results of the evaluation of the service and ownership/management alternatives are presented in Chapter 8. Chapter 9 describes the recommended service plan developed for Pomona Valley. In Chapter 10, the plan developed for implementation and financing of the recommended service plan is presented. Chapter 11 describes the program developed for monitoring the implementation of the recommended plan. The final chapter discusses the community participation efforts of the study.

2. EXISTING PUBLIC TRANSPORTATION SERVICES

2. EXISTING PUBLIC TRANSPORTATION SERVICES

The existing public transportation services in Pomona Valley consist of fixed-route, paratransit, and ridesharing. This chapter provides a description of each of these services.

2.1 FIXED-ROUTE SERVICES

Fixed-route service in Pomona Valley is provided exclusively by the Southern California Rapid Transit District. RTD provides service to all four cities in Pomona Valley: Pomona, Claremont, San Dimas, and LaVerne. This section describes the existing fixed-route services provided by RTD in Pomona Valley. This description of RTD services includes information on organizational structure, service area, service characteristics, fare structure, facilities and equipment, ridership, costs and revenue, and funding. No attempt is made to evaluate the services provided by RTD. The evaluation of existing services will be presented in Chapter 8. This section also describes the fixed-route services provided by OMNITRANS to the West Valley area of San Bernardino County east of Pomona Valley. Although OMNITRANS does not provide service in Pomona Valley, it is important to describe the services provided by OMNITRANS in the West Valley area because of the proximity and availability of the services to Pomona Valley residents and the coordination that exists between OMNITRANS and RTD. The description of OMNITRANS fixed-route services presented in this chapter is limited to information on service area, service characteristics, equipment and facilities, and fares.

2.1.1 Southern California Rapid Transit District

The Southern California Rapid Transit District was established by the California state legislature in 1964 as a public agency of the state of California. Because the District operates under state law, it is directly responsible to the legislature.

At the time of its establishment, the District was given two primary responsibilities. The first was to maintain, operate, and improve the existing bus system, and the second was to design, engineer, build, and operate a regionwide rapid transit system. These two responsibilities remain a continuing and integral part of the legislative guidance for operation of the District.

2.1.1.1 Organization

RTD is governed by an eleven-member Board of Directors. The Board has the responsibility of establishing district policy and is the body through which all powers and duties vested in the district are exercised.

Members of the Board are appointed as follows: two members are appointed by the Mayor of Los Angeles, one is appointed from each of the five supervisory districts by the Board of Supervisors of the County of Los Angeles, and four members are appointed by the city selection committee representing communities within each of the four transit corridors connecting outlying areas with Los Angeles. A president and vice president are elected from this membership to one-year terms.

A District Executive Staff implements policies as directed by the Board, and is charged with the responsibility of the day-to-day operations of RTD. As the top executives within the organization, their duties encompass the management of all activities necessary to the efficient function of RTD services. The Executive Staff consists of a General Manager and eleven other executives. Bus planning in Los Angeles County is the responsibility of the Manager of Planning and Marketing; this individual reports to the General Manager.

2.1.1.2 Service Area

RTD serves the Pomona Valley area with fourteen bus lines. The lines operated by RTD in Pomona Valley can be classified into three types of service: local, express, and contract service. Local service operates on surface streets, while express service operates on both surface streets and freeways. Intercounty contract service is made up of those lines which travel into adjacent counties. The portion of the service outside of Los Angeles County is funded by the neighboring county. The existing RTD lines serving Pomona Valley, their areas of service, and service type are listed in Table 2-1. The geographic structure of the lines is presented in Figure 2-1. Following is a brief description of each of the lines listed in Table 2-1.

- Line 187 is a local service route operating between Pomona and Pasadena. Northbound buses travel through Pomona via Garez, Mission, Main, Third, and Towne to Foothill Boulevard. The buses follow Foothill Boulevard in LaVerne and San Dimas west out of Pomona Valley and return along the same route.

- Line 276 is a local service route that provides service from San Dimas to Glendora and Bassett. It also provides service to the Eastland Shopping Center and West Covina Plaza in West Covina. In San Dimas, the route follows Foothill Boulevard to San Dimas Avenue. The route turns south on San Dimas to Bonita Avenue and then west on Bonita to Cataract Avenue. The route follows Cataract south to Covina Boulevard, where it turns west out of Pomona Valley. The route follows the same streets in the return direction.

- Line 185 is a local service route serving San Dimas, LaVerne, and Claremont in Pomona Valley. It is one of four routes that provide intercounty service between Los Angeles and San Bernardino Counties. The route originates west of the study area. Within Pomona Valley, buses travel east on Bonita Avenue, then south on White Avenue, east on Arrow Highway, north on Garey Avenue, east on Bonita, north on Indian Hill Boulevard, and east along Sixth Street past the San Bernardino County line into the city of Montclair. In Montclair, the route serves Montclair Plaza. Buses return along the same route.

- Line 178 is a local service route that operates between the El Monte Bus Station and the California State Polytechnic University at Pomona. Service in Pomona Valley is provided to Temple Avenue, South Campus Drive, and Kellog Drive on the university campus. The campus is located south of the San Bernardino Freeway and west of the Route 57 Freeway.

TABLE 2-1

EXISTING RTD LINES SERVING POMONA VALLEY

Line Number	Service Area	Service Type
187	Pasadena - Pomona	Local
276	Sunset Avenue - Covina Avenue - San Dimas Avenue	Local
185	Hacienda Avenue - Irwindale Avenue - Arrow Highway	Local
178	El Monte - Baldwin Park - West Covina - Valinda - Walnut	Local
291	Garey Avenue - Foothill Boulevard	Local
192	Arroyo Avenue - North White Avenue - San Bernardino Avenue	Local
293	Indian Hill Boulevard - Reservoir Street	Local
194	West Ninth Street - South Towne Avenue - Arrow Highway	Local
480	Los Angeles - El Monte - West Covina - Pomona	Express
482	Los Angeles - Hacienda Heights - Pomona	Express
484	Los Angeles - El Monte - LaPuente - Pomona - Ontario Airport	Express
490	Los Angeles - Covina - Walnut - CalPoly Pomona	Express
492	Los Angeles - South Arcadia - San Dimas	Express
496	Los Angeles - Pomona - Riverside - San Bernardino	Contract
497	Los Angeles - Montclair - Pomona	Park-and-Ride

Source: SCRTD Timetables.

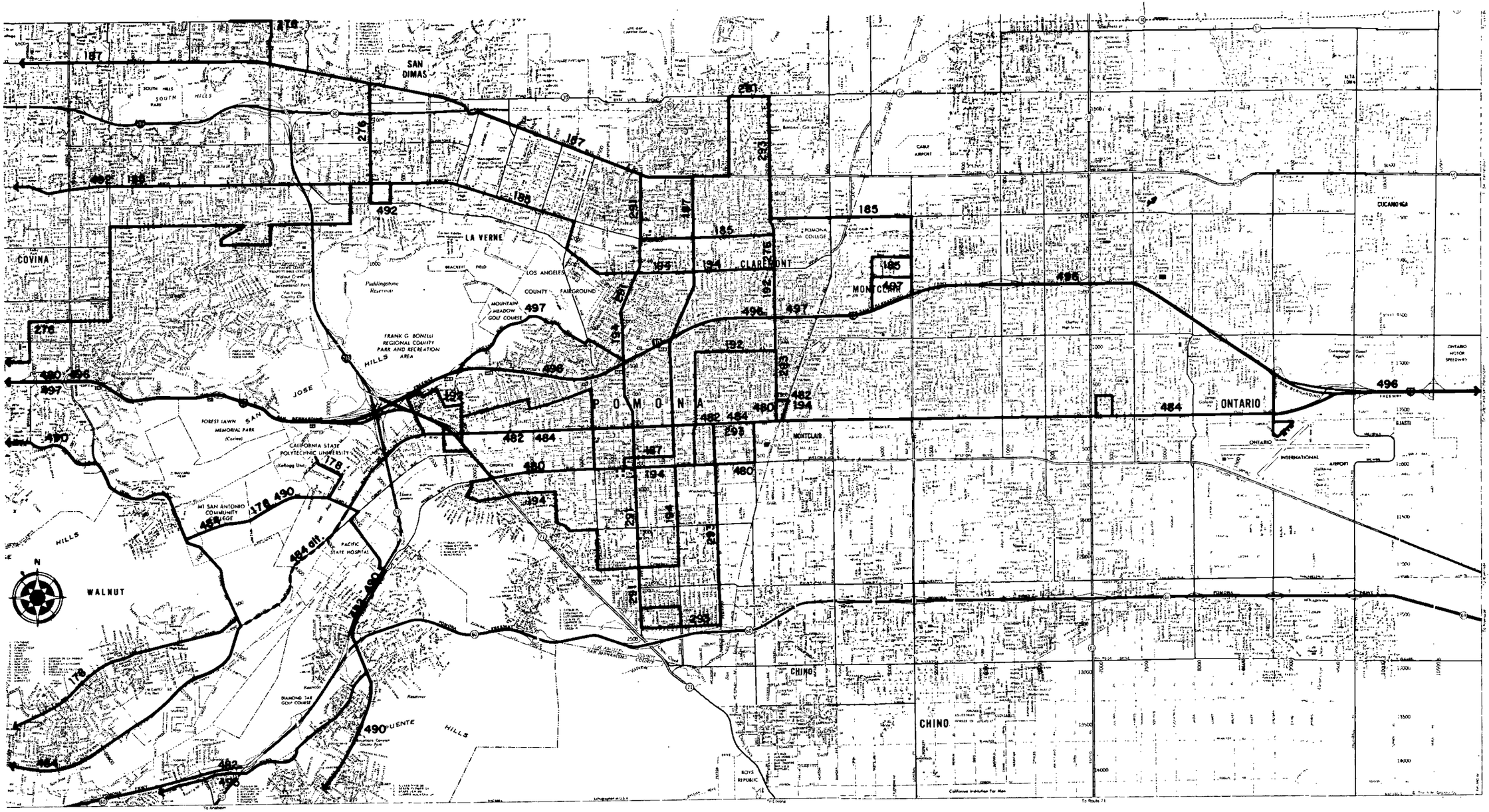


Figure 2-1

EXISTING RTD LINES SERVING POMONA VALLEY

- Line 291 is a local service route operating exclusively within the cities of Pomona and Claremont. The southern terminus of the route is a loop around Olive Street, Towne Avenue, County Road, and Garey Avenue. From the loop, buses travel on Garey Avenue north to Foothill Boulevard, east to Mountain Avenue, north to Base Line Road, and then east to Indian Hill Boulevard. At this point, the route connects with Line 293. The Pomona CBD and Pomona Valley Hospital are served by Line 291.

- Line 192 is another local service route operating exclusively within the cities of Pomona and Claremont. It operates primarily in an east-west direction. The eastern terminus of the route is located at Ridgeway Street and Valley Boulevard. Buses travel north on Ridgeway Street to Murchison Avenue. Buses then follow an easterly route on Augusta Street, Academy Avenue, Cromwell Street, Avalon Avenue, Gonesha Boulevard, Arroyo Avenue, Weber Street, and Orange Grove Avenue. From Orange Avenue, buses turn south on White Avenue to Mission Boulevard, east to San Antonio Avenue, north to San Bernardino Avenue, west to Indian Hill Boulevard, and then north to its eastern terminus at Arrow Highway. At this point, the route connects with Line 194.

- Line 293 is a local service route that is interconnected with Line 291. Like Lines 291 and 192, this line is a local service route operating exclusively within the cities of Pomona and Claremont. From Base Line Road, buses travel south on Indian Hill Boulevard to Holt Avenue, east to Reservoir, south to County Road, and then west to Towne Avenue. A loop is then made by way of Towne Avenue, Olive Street, and Garey Avenue before buses return along the same route.

- Line 194 is a local service route connecting with Line 192 at its eastern terminus at Arrow Highway and Indian Hill Boulevard and at its western terminus at Valley Boulevard and Ridgeway Street. This route also operates exclusively within the cities of Pomona and Claremont. At the eastern end of the route in Claremont, buses travel west on Arrow Highway to Garey Avenue, south on Garey past the Pomona Valley Hospital to Mission Boulevard, east to Towne Avenue, and south to Lexington Street. Buses then follow a westerly circuitous route along White Avenue, Phillips Boulevard, Buena Vista Avenue, Ninth Street, Vermont Avenue, Mission Boulevard, and Valley Boulevard to the western terminus at Ridgeway Street and Vally Boulevard.

- Line 480 is an express service route connecting Pomona with downtown Los Angeles via West Covina and El Monte. Within Pomona Valley, buses travel east along the San Bernardino and Corona Freeways to Mission Boulevard. The buses then travel east to East End Avenue, north to Holt Avenue, and east to Indian Hill Boulevard. A loop is made at Indian Hill Boulevard via Keystone Avenue, Mills Avenue, and Holt Avenue, before returning to Los Angeles along the same route. The Indian Hill Mall is located at the eastern terminus of the route.

- Line 482 is an express service route between Los Angeles and Pomona. The eastern terminus of the route is a loop near the Indian Hill Mall in Pomona around Indian Hill Boulevard, Keystone Avenue, and Mills Avenue to Holt Avenue. Buses follow Holt Avenue and Valley Boulevard west to Temple Avenue. At Temple, buses travel south to Pomona Boulevard, west

to Hospital Road, east to Diamond Bar Boulevard, and south to Golden Springs Road before continuing out of Pomona Valley. Buses return along the same route.

- Line 484 is an express route providing intercounty service between downtown Los Angeles and the Ontario Airport in San Bernardino County. Westbound buses travel through Pomona via Holt Avenue, Valley Boulevard, and Temple Avenue. Eastbound buses return along the same route.

- Line 490 is an express service route between Los Angeles and Brea that provides some service to Pomona Valley. Service in Pomona Valley is limited to Temple Avenue, Pomona Boulevard, Hospital Boulevard, and Diamond Bar Boulevard.

- Line 492 is an express service route connecting San Dimas with Los Angeles and other cities in the San Gabriel Valley. In San Dimas, eastbound buses follow Bonita Avenue to San Dimas Avenue before looping back to Bonita Avenue by way of San Dimas Avenue, Arrow Highway, and Walnut Avenue.

- Line 497 is a park-and-ride route serving Pomona Valley. This route operates between Los Angeles and Montclair with stops at the Pomona and Pomona Fair park-and-ride lots in Pomona. Within Pomona Valley, the route follows the San Bernardino Freeway, Ganesha Boulevard, McKinley Boulevard, and the San Bernardino Freeway to Montclair.

In addition to the services described above, RTD operates a special service to the Pomona Fair at the Los Angeles County Fairgrounds in Pomona during September.

2.1.1.3 Service Characteristics

The service characteristics of the RTD fixed routes serving Pomona Valley, including their days of service, hours of service, and morning peak hour, afternoon peak hour, midday base, night, and weekend service frequencies, are presented in Table 2-2. As can be seen from the table, only about one-third of the routes provide Saturday and Sunday service in addition to their regular Monday through Friday service. Routes with Saturday and Sunday service include Lines 187, 480, 482, 484, and 490. Hours of service vary among the routes. The earliest route begins service at 4:42 a.m. and the latest service extends to 1:55 a.m. at night. Frequency of service during peak hours (6:00 - 9:00 a.m. and 3:00 - 6:00 p.m.) ranges from thirteen minutes on Line 497 to sixty minutes on Lines 276, 185, and 178, with an average of about 34 minutes. Lines 492 and 497 operate only during peak hours. The former is an express service route and the latter is a park-and-ride route. Frequency of service on these routes averages seventeen minutes during the a.m. peak and 25 minutes in the p.m. peak. Three routes provide night service (Lines 480, 482, and 484). Service ranges from forty minutes on Line 482 to sixty minutes on Line 484. Line 480 operates at a 45 minute frequency. Service frequency on routes with Saturday and Sunday service is sixty minutes, with two exceptions. Line 480 operates at thirty-minute frequencies both Saturday and Sunday, while Line 484 operates at thirty-minute frequencies on Saturday and sixty minutes on Sunday.

TABLE 2-2

RTD EXISTING FIXED ROUTE SERVICE CHARACTERISTICS

Line Number/ Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
187 - Pasadena - Pomona	Monday - Friday Saturday Sunday	5:00 a.m. - 8:36 p.m. 5:00 a.m. - 8:23 p.m. 6:45 a.m. - 8:28 p.m.	30	30	30	0	60
276 - Sunset Avenue - Covina Avenue - San Dimas Avenue	Monday - Friday	5:30 a.m. - 8:02 p.m.	60	60	60	0	0
185 - Hacienda Avenue - Irwindale Avenue - Arrow Highway	Monday - Friday	6:03 a.m. - 8:22 p.m.	60	60	60	0	0
178 - El Monte - Baldwin Park - West Covina - Valinda - Walnut	Monday - Friday	6:08 a.m. - 8:19 p.m.	60	60	60	0	0
291 - Garey Avenue - Foothill Boulevard	Monday - Friday	6:00 a.m. - 7:37 p.m.	40	40	40	0	0
192 - Arroya Avenue - North White Avenue - San Bernardino Avenue	Monday - Friday	6:19 a.m. - 7:51 p.m.	40	40	40	0	0
293 - Indian Hill Boulevard - Reservoir Street	Monday - Friday	6:00 a.m. - 7:37 p.m.	40	40	40	0	0
194 - West Ninth Street - South Towne Avenue - Arrow Highway	Monday - Friday	5:58 a.m. - 7:51 p.m.	40	40	40	0	0
480 - Los Angeles - El Monte - West Covina - Pomona	Monday - Friday Saturday Sunday	4:42 a.m. - 1:55 a.m. 5:50 a.m. - 1:55 a.m. 5:50 a.m. - 1:55 a.m.	17	51	20	45	30

--Continued

TABLE 2-2 (CONTINUED)

RTD EXISTING FIXED ROUTE SERVICE CHARACTERISTICS

Line Number/ Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
482 - Los Angeles - Hacienda Heights - Pomona	Monday - Friday Saturday Sunday	5:05 a.m. - 11:46 p.m. 5:05 a.m. - 11:44 p.m. 5:05 a.m. - 8:22 p.m.	28	21	65	40	60
484 - Los Angeles - El Monte - La Puente - Pomona - Ontario Airport	Monday - Friday	5:00 a.m. - 1:50 a.m.	15	16	30	60	30/60
490 - Los Angeles - Covina - Walnut - CalPoly Pomona	Monday - Friday Saturday Sunday	6:02 a.m. - 8:51 p.m. 6:20 a.m. - 8:03 p.m. 6:20 a.m. - 8:03 p.m.	42	32	60	0	60
492 - Los Angeles - South Arcadia - San Dimas	Monday - Friday	5:47 a.m. - 7:52 a.m.	25[3]	40[3]	0	0	0
497/Montclair - Pomona Park-and-Ride	Monday - Friday	5:26 a.m. - 8:06 a.m. 4:08 p.m. - 6:54 p.m.	13[3]	16[3]	0	0	0

[1]Represents headways inbound to Los Angeles.
[2]Represents headways outbound from Los Angeles.
[3]Represents scheduled headway rather than average headway.

Source: RTD Route Timetables.
1982 Base Bus Network, UNET Daily Line Summary.

2.1.1.4 Fare Structure

The existing RTD fare structure is shown in Table 2-3. The base fare is fifty cents, which is good for all local trips completed on one bus. Monthly passes for local service lines cost $20.00 and are good for unlimited travel. Transfers are ten cents.

Certain services, such as freeway express and park-and-ride, have fares calculated on the base fare plus incremental charges of 25 cents per distance step of freeway travel. Up to five distance steps can be charged depending upon the line. Express charges for Pomona Valley lines range from $1.25 to $1.75. These charges include the base fare of fifty cents. Monthly passes for freeway express and park-and-ride lines range from $41.00 to $55.00 in express charges including the regular pass charge of $20.00. Monthly distance steps are $7.00 each.

Intercounty fares for lines to San Bernardino County have express charges of $1.75 for Line 484 and $2.25 for Line 497. These charges include the base fare of fifty cents.

Reduced fares and monthly passes are available to senior citizens, handicapped persons, and students. Senior citizens and handicapped persons with an identification card and students pay a reduced cash fare of twenty cents. There is no additional charge for freeway express service. Monthly passes for senior citizens and handicapped persons are $4.00. Transfers are ten cents. Special services, such as the service to the Pomona Fair, have special service fares. For the Los Angeles to Pomona Fair line, the fare is $2.85. Monthly passes can be applied toward a portion of the price of the fare. Regular monthly passes have a value of fifty cents, and senior citizen, handicapped, and student passes have a value of twenty cents.

RTD fares can be paid by cash, by pass, or with tickets. Cash and tickets are deposited in the farebox at the time of boarding; the pass is shown to the driver as the patron enters the bus. Tickets are sold in booklets of ten. Patrons must have the exact fare when boarding.

Passes can be purchased on a monthly basis, either at one of RTD's Customer Service Centers or at a commercial pass outlet. The closest Customer Service Center for Pomona Valley residents is at the El Monte Station. Both monthly passes and ticket booklets are available at this center. Commercial pass outlets are located at seven different locations in Pomona Valley. One outlet is located in Claremont and the remaining six are located in Pomona. Ticket booklets can be purchased at only one of the outlets. The outlet at the California State Polytechnic University sells only college passes. The remaining outlets sell all types of passes.

2.1.1.5 Facilities and Equipment

RTD's main office is located at 425 South Main Street in Los Angeles. Operating facilities for the RTD vehicle fleet are located at eleven sites or divisions in Los Angeles County. Vehicles on the Pomona Valley RTD lines currently operate from the Division 9 operating facility in El Monte. All vehicles on Pomona Valley lines are currently maintained and stored at this facility except for the vehicles operating on Lines 291, 192, 293, and 194.

TABLE 2-3

EXISTING RTD FARE STRUCTURE

Base local fare	$ 0.50	
Regular local monthly pass	20.00	
Transfers	0.10	
Express fare	0.50	+ additional express charge

Additional express charges by line:[1]

480	$ 1.50
482	1.25
484	1.25
490	1.25
492	1.25
497	1.75

Express monthly pass $20.00 + additional express charge

Additional monthly express charges by line:[1]

480	$48.00
482	41.00
484	41.00
490	41.00
492	41.00
497	55.00

Intercounty fares between Los Angeles and San Bernardino County

484	$ 1.75
497	2.25

Senior citizen and handicapped reduced fare: $0.20
Senior citizen and handicapped reduced monthly pass: $4.00
Senior citizen and handicapped express fare and monthly pass: No additional charge
Student fare (18 and under): $0.20
Student monthly pass (18 and under): $4.00
Student express fare and monthly pass (18 and under): No additional charge

[1]Fares shown are for riders traveling between Pomona Valley inside Los Angeles County and downtown Los Angeles, except for Line 496 which is for trips between downtown Los Angeles and Montclair.

Source: RTD Fares, brochure dated July 1, 1982.

These routes operate exclusively within Pomona Valley and the vehicles are stored in a terminal at 1555 Mission Boulevard in Pomona. Maintenance for these vehicles is provided at the El Monte facility.

The El Monte operating facility is located at Santa Anita Boulevard and Route 10 in El Monte. The facility occupies thirteen acres and has a shop capacity of 220 vehicles and storage capacity of 300 vehicles. Currently, this facility is the base for 341 scheduled service and spare vehicles. Additional vehicles are expected to be based at the El Monte facility due to Proposition A service expansion requirements. It is estimated that this will increase the fleet based at the El Monte facility to about 380 vehicles.

Recently, a new division was created in Pomona Valley. This division will have its operating facility at East End Avenue and Holt Boulevard in Pomona. The new facility is expected to alleviate the overcrowding at the El Monte facility. The site for the facility has already been acquired. Located on the site is a building that was previously used as a truck facility. It will be modified as necessary for RTD bus maintenance operations. The site has a storage capacity for 95 vehicles. However, 106 vehicles are expected to be based at the facility. Because of this deficiency in capacity, RTD plans to expand the site by acquiring additional property.

The equipment assigned for scheduled service on the Pomona Valley RTD lines consist of General Motors, Flxible, American General, and Neoplan buses. Table 2-4 lists the number and type of buses used for base and peak service on each of the RTD lines serving Pomona Valley by year of manufacture, manufacturer, and model number. Also listed is the operating facility the buses are assigned to.

As shown in Table 2-4, a total of 103 buses are assigned to the Pomona Valley RTD lines during the a.m. peak and 113 buses during the p.m. peak. Midday and night service requires 62 and eleven buses, respectively.

Existing park-and-ride lots for RTD lines are located at two different sites in Pomona Valley. Table 2-5 lists these lots by RTD line, type of lot, location, ownership, and parking capacity. The Los Angeles County Fairgrounds park-and-ride lot in Pomona serves Line 497 and has a parking capacity for 500 cars. Another lot in Pomona is located at McKinley and Garey Avenues. This lot serves Line 497 and can accommodate sixty cars. It is owned and operated by Caltrans.

TABLE 2-4

EXISTING EQUIPMENT FOR RTD LINES SERVING POMONA VALLEY

Line Number	Buses Assigned: a.m. Peak	Mid-day	p.m. Peak	Night	Vehicle Type (Year, Manufacturer, Model Number): Base Service (Midday and Night)	Peak Service (a.m. and p.m. Peaks)	Assigned Operating Facility for Buses
187	7	8	8	0	1981 GMC RTS T80-204	1981 GMC RTS T80-204	Pomona
276	5	5	5	0	1981 GMC RTS T80-204	1981 GMC RTS T80-204	El Monte
185	3	3	3	0	1981 GMC RTS T80-204	1981 GMC RTS T80-204	El Monte
178	3	3	3	0	1981 GMC RTS T80-204	1981 GMC RTS T80-204	El Monte
291	5	5	6	0	1966 Flxible 411-GD-C2	1966 Flxible 411-GD-C2	Pomona
192	5	5	5	0	1966 Flxible 411-GD-C2	1966 Flxible 411-GD-C2	Pomona
293	Included in Line 451				1966 Flxible 411-GD-C	1966 Flxible 411-GD-C2	Pomona
194	Included in Line 452				1966 Flxible 411-GD-C	1966 Flxible 411-GD-C2	Pomona
480	23	11	25	6	1977 American General 10240-B-8	1975 Flxible 53102-8-1	El Monte/Pomona
482	13	4	12	3	1981 GMC RTS T80-204	1975 Flxible 53102-8-1	El Monte/Pomona
484	18	10	18	0	1977 American General 10240-B-8	1975 Flxible 411-GD-C2	El Monte/Pomona
490	12	8	15	2	1977 American General 10240-B-8	1975 Flxible 411-GD-C2	El Monte/Pomona
492	13	0	3	0	Not applicable[1]	1973 GMC TAH-53074	El Monte
497	6	0	6	0	Not applicable[1]	1973 GMC TAH-5307A	Pomona
	103	62	113	11			

[1]Not applicable since these lines operate only during peak hours.

[2]Although the Pomona facility is the basis for vehicles on this line, they will also operate from two other facilities not specified.

Source: Interview with RTD Maintenance Division representative, January 14, 1983.

TABLE 2-5

EXISTING PARK-AND-RIDE FACILITIES IN POMONA VALLEY

Line Number(s)	Type of Lot	Location	Ownership	Parking Capacity
497	Company Fairgrounds	McKinley/White	Los Angeles	500
497	Caltrans Park-and-Ride	McKinley/Garey	Caltrans	60

Source: SCRTD, Five-Year Short-Range Transit Plan, Fiscal Years 1983-1987, February, 1982.

2.1.1.6 Ridership

Existing ridership on RTD lines serving Pomona Valley was obtained from ridership profile reports maintained by RTD for each line. The reports are based on line counts made at various points along each line. The points represent street intersections where passengers board and alight the buses serving the line. All line counts used for this study were conducted during 1982 except for Line 497. The counts for this line were conducted in 1980.

Table 2-6 shows average weekday ridership by line and for the Pomona Valley segment of each line. The ridership figures represent total weekday boardings for the week the line counts were conducted. The figures for Pomona Valley were obtained from RTD area profile reports. These reports contain total boardings/alightings and boardings by type of fare for each census tract the line traverses. The Pomona Valley census tracts were identified and total boardings for each tract were summed by line. The table shows there were 6,291 boardings in Pomona Valley on an average weekday on all the RTD lines. These boardings represent approximately 23 percent of the 27,606 total boardings. Of the existing lines, the highest number of boardings occur on Lines 291 and 293, which operate exclusively within Pomona Valley. These two lines are tied together at their ends. Therefore, the ridership statistics for the lines are combined. Excluding these two lines, the line with the highest number of boardings is Line 484 with over 1,000 passengers boarding daily in Pomona. This line also has the highest total boardings of any of the RTD lines serving Pomona Valley. It runs between downtown Los Angeles and the Ontario Airport via Holt Avenue in Pomona.

TABLE 2-6

AVERAGE WEEKDAY RIDERSHIP FOR RTD LINES
SERVING POMONA VALLEY

Line Number	Total Daily Boardings for Line	Pomona Valley Total Daily Boardings Number	Percent
187	3,926	557	14.2
276	798	74	9.3
187	882	238	27.0
178	930	62	6.7
291/293	1,152	1,152	100.0
192/194	529	529	100.0
480	4,367	933	21.4
482	2,652	560	21.1
484	6,184	1,053	17.0
490	4,339	80	1.8
492	226	22	9.7
497	737	737	100.0
TOTAL	26,722	5,997	22.4

Source: RTD Ridership Profiles.

Average weekday ridership for the RTD Pomona Valley lines by type of fare used is shown in Table 2-7. This table lists the number of boardings using cash fares, monthly passes, tickets, and transfers by line. Boardings by cash fare and passes are further broken down into regular, senior citizen, and student passengers. This information is useful in determining the type of ridership on Pomona Valley lines. It also serves as a basis for calculating farebox revenues. Review of the table reveals that most of the passengers boarding RTD lines in Pomona Valley are regular passengers using a cash fare. Forty-one percent of the ridership uses this type of fare compared to senior citizen cash fares of about four percent and student cash fares of less than one percent. Collectively, cash fares make up about 45 percent of total boardings. Passengers using monthly passes represent about forty percent of total boardings. About half of the passengers using passes are senior citizens and students. Three percent of the boardings in Pomona Valley are passengers using tickets and about ten percent are transfers from other lines.

TABLE 2-7

POMONA VALLEY AVERAGE WEEKDAY RIDERSHIP BY TYPE OF FARE

Line	Boardings	Cash Fares			Passes			Tickets	Transfers Received
		Regular	Senior Citizens	Students	Regular	Senior Citizens	Students		
187	557	297	31	2	70	44	38	11	64
443	74	29	8	1	12	8	9	0	7
185	238	99	26	0	21	35	25	7	25
178	62	32	1	0	2	0	23	0	4
291/293	1,152	495	72	1	139	129	135	55	126
192/194	529	239	27	2	87	50	47	9	68
480	933	363	32	4	286	82	59	20	87
482	560	228	15	2	94	78	58	23	62
484	1,053	462	27	1	105	45	225	39	149
490	80	25	0	1	13	14	16	0	11
492	22	6	0	0	14	1	0	1	0
497	737	218	5	0	472	12	12	10	8
TOTAL	5,997	2,493	244	14	1,315	498	647	175	611

Numbers in parentheses indicate percentages.

Source: RTD Ridership Profiles.

A breakdown of average weekday ridership for the RTD Pomona Valley lines by time period is presented in Table 2-8. The a.m. peak period covers the hours between 6:00 and 9:00 a.m. The midday base period begins at 9:00 a.m. and ends at 3:00 p.m. The p.m. peak runs from 3:00 to 6:00 p.m. It should be noted that these hours are approximate and could vary among the lines. Overall, approximately 23 percent of the Pomona Valley ridership occurs during the a.m. peak period, 42 percent during the midday base period, thirty percent during the p.m. peak period, and five percent at night.

TABLE 2-8

POMONA VALLEY AVERAGE WEEKDAY RIDERSHIP BY TIME PERIOD

Line Number	Percent Ridership a.m. Peak	Mid-day	p.m. Peak	Night	Percent of All Pomona Valley Lines
440	22.38	46.79	30.83	0.00	9.29
276	31.47	54.55	13.99	0.00	1.23
185	25.00	47.41	27.59	0.00	3.97
178	9.33	61.33	26.67	2.67	1.03
291/293	22.83	36.20	40.80	0.17	19.21
192/194	13.23	56.52	27.98	2.27	8.82
480	12.50	37.20	28.35	21.95	15.56
482	26.40	49.14	18.78	5.69	9.34
484	16.59	53.93	18.64	10.84	17.56
490	21.72	42.42	35.86	0.00	1.33
492	78.57	0.00	21.43	0.00	0.37
497	55.52	0.00	44.48	0.00	12.29
TOTAL	22.87	42.21	29.90	5.02	100.00

Source: RTD Ridership Profiles.

Table 2-9 lists major boarding/alighting locations in Pomona Valley (stops with 50 or more boardings/alightings). Indian Hill Boulevard, at Holt Avenue, has the highest number of boardings/alightings, with 505 daily.

TABLE 2-9

MAJOR BOARDING/ALIGHTING LOCATIONS IN POMONA VALLEY
(50 OR MORE DAILY)

Line Number		Total Alightings/Boardings
187	Foothill - Garey	77
	Foothill - Towne	70
	Towne - Arrow	55
	Towne - La Verne	70
	Towne - Holt	146
	Main - Mission	116
443	None	--
185	Garey - Arrow Highway	50
178	Kellogg - Info Building	77
291/293	Indian Hill - San Jose	73
	Indian Hill - Bonita	64
	Indian Hill - Via Zurita	66
	Garey - Arrow	113
	Garey - Holt	236
	Garey - Third	71
	Garey - Mission	146
	Garey - Grand	45
	Garey - Philadelphia	41
	Garey - Olive	41
192/194	Garey - Holt	57
	Mission - Garey	76
480	Freeway - Via Verde	51
	Valley - Roselawn	96
	Mission - Corona Freeway	57
	Mission - Dudley	74
	Mission - Buena Vista	88
	Mission - Hamilton	103
	Mission - Park	81
	Mission - Main	86
	Mission - Garey	203
	Mission - Palomares	58
	Mission - Towne	66
	Mission - San Anton	53
	Mission - Reservoir	50
	Holt - East End	77
	Holt - St. Paul	47
	Indian Hill - Holt	310
	Keystone - Indian Hill	46
	Valley -Ganesha	115

--Continued

TABLE 2-9 (CONTINUED)

MAJOR BOARDING/ALIGHTING LOCATIONS IN POMONA VALLEY
(50 OR MORE DAILY)

Line Number	Location	Total Alightings/Boardings
482	State - Center	130
	Holt - Park	51
	Holt - Garey	121
	Holt - Indian Hill	56
484	Kellogg - Info Building	300
	Holt - Ganesha	64
	Holt - Erie	51
	Holt - Dudley	92
	Holt - Hamilton	65
	Holt - White	58
	Holt - Park	74
	Holt - Garey	267
	Holt - Palomares	166
	Holt - Towne	100
	Holt - San Anton	122
	Holt - Reservoir	55
	Holt - East End	66
	Holt - St. Paul	54
	Holt - Indian Hill	139
	Holt - Mills	129
490	None	--
492	None	--
497	Pomona	706

Source: RTD Ridership Profiles.

2.1.1.7 Costs and Revenues

Average weekday costs and revenues for the Pomona Valley RTD lines are presented in Table 2-10. The costs for the lines are presented for the entire line rather than the portion of the line within Pomona Valley. However, bus miles and bus hours of scheduled operation are shown for the entire line and the Pomona Valley portion of the line. These statistics are the primary determinants of costs of operation. Overall, Pomona Valley accounts for approximately 21 percent of total bus miles and bus hours of operation.

Passenger revenues for Pomona Valley were estimated using average weekday ridership by type of fare used and RTD system values for each fare category except express cash fares for regular passengers. For passengers using cash fares for local service, the appropriate fares for this type of service were used. For lines with freeway express service, express passengers were assumed to pay a cash fare of $1.75, which represents the fare for a trip from Pomona Valley to Los Angeles. The only lines with express passenger boardings in Pomona Valley are Lines 496 and 497. Both of these lines operate express only in Pomona Valley with pick-ups limited to park-and-ride lots. Average fares used for passengers with passes were 22.5 cents for local service regular passengers, 39.5 cents for express service regular passengers, 6.5 cents for senior citizen passengers, and 7.2 cents for student passengers. The values were obtained from RTD.

Review of the Pomona Valley passenger revenues by line reveals that revenues for the local service routes (Lines 440 - 454) have percentage revenues that are approximately the same as the percentage of total boardings that occurs in Pomona Valley. On the other hand, percentage revenues for the express service routes (Lines 480 - 497) are significantly lower than the percentage of boardings that occurs in Pomona. This is due to the fact that most of the passengers boarding the express service lines ride the local portion of the lines only. Overall, passenger revenues in Pomona Valley amount to approximately twelve percent of total revenues, while passenger boardings in Pomona Valley represent approximately 21 percent of total boardings.

2.1.1.8 Funding

RTD has a proposed operating budget of $410,536,000 in fiscal year 1983 (Table 2-11). This is an increase of $45,536,000 (12.5%) over the fiscal year 1982 budget of $365 million. The primary sources of revenues for RTD operations are farebox revenues, sales tax receipts, and federal (UMTA) funds. Farebox revenues are expected to total $103 million, 25.1 percent of all revenue. Farebox revenues in FY 1983 are predicted to be approximately 36 percent less than those received in FY 1982 due to the implementation of the fifty cent base fare under Proposition A. In FY 1982 (before Proposition A) farebox revenues expected for FY 1983 total $242,621,000 (59 percent of all revenues). Sales tax receipts for transit are from three sources: Transportation Development Act (TDA), State Transit Assistance Program (STA), and Proposition A. STA and TDA programs will be discussed in greater detail later in this report. RTD's Proposition A funding totals $129,096,000 for FY 1983 (31.4 percent of revenues). Proposition A funding in the FY 1983 budget more than made up for the loss in farebox receipts of $86,850,000 between FY 1982 and FY 1983. Federal funds for FY 1983 are $41,575,000 for

TABLE 2-10

AVERAGE WEEKDAY COSTS AND REVENUES FOR RTD LINES SERVING POMONA VALLEY

Line Number	Bus Miles			Bus Hours			Total Operating Cost	Passenger Boardings			Passenger Revenues		
		Pomona Valley			Pomona Valley				Pomona Valley			Pomona Valley	
	Total	Number	Percent	Total	Number	Percent		Total	Number	Percent	Total	Number	Percent
187	1,726	503	29.1	93	24	25.8	$ 5,366	3,926	557	14.2	$ 1,165	$ 180	15.4
441/276	1,085	101	9.3	59	6	10.2	3,457	798	74	9.3	220	20	9.1
185	721	271	37.6	33	12	36.4	2,033	882	238	27.0	271	66	24.3
178	701	57	8.1	35	3	8.6	2,003	930	62	6.7	270	18	6.7
291/293	887	887	100.0	52	52	100.0	3,540	1,152	1,152	100.0	345	345	100.0
192/194	1,071	1,071	100.0	58	58	100.0	3,324	529	529	100.0	159	159	100.0
480	5,069	887	17.5	189	34	18.0	15,002	4,367	933	21.4	3,113	266	8.5
482	2,191	445	20.3	89	21	23.6	7,266	2,652	560	21.1	1,038	156	15.0
484	4,080	653	16.0	178	30	16.9	12,243	6,184	1,053	17.0	2,825	293	10.4
490	2,885	82	2.0	121	6	4.1	8,827	4,339	80	1.8	1,967	17	0.9
492	207	9	4.3	8	.6	7.5	1,406	226	22	9.7	127	6	4.7
497	586	586	100.0	19	19	100.0	2,790	737	737	100.0	1,083	1,083	100.0
TOTAL	21,209	5,552	26.2	934	265.6	28.4	67,287	26,722	5,997	22.4	12,583	2,609	20.7

Source: RTD.

operations (10.2 percent of total revenues). This amount is more than $23 million less than the FY 1982 level. The primary source of federal funds is the Section 5 program of operating assistance.

TABLE 2-11

PROPOSED OPERATING BUDGET
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
FY 1982/1983
(THOUSANDS OF DOLLARS)

Operating Costs	$410,536
Revenue:	
• Farebox	$103,000 (25.1%)
• Sales Tax	
- Transportation Development Act	95,800 (23.3%)
- State Transit Assistance	17,725 (4.3%)
- Proposition A	129,096 (31.4%)
• UMTA Funds	
- Section 5, Operating Assistance	39,725 (9.7%)
- Other UMTA Funds	1,858 (0.5%)
• Interest Earnings	16,000 (3.9%)
• Other Income	7,340 (1.8%)
TOTAL	$410,536 (100.0%)

Source: RTD Annual Budget, FY 1983.

The FY 1983 RTD capital budget is $79,275,000 (Table 2-12). Expenditures are for maintenance/operating facilities, purchase of small buses, and continuing preliminary engineering for Metro Rail. UMTA capital assistance funds are expected to provide more than seventy percent of the needed funds.

TABLE 2-12

PROPOSED CAPITAL BUDGET
SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
FY 1982/1983
(THOUSANDS OF DOLLARS)

Requirements		
Small Buses	$10,100	(12.7%)
Maintenance/Operations Facilities	38,000	(47.9%)
Computer Facilities and Other Miscellaneous Items	9,900	(19.7%)
Metro Rail Preliminary Engineering	15,600	(19.7%)
Debt Service	5,675	(7.2%)
TOTAL	$79,275	(100.0%)
Sources of Funds		
UMTA Funds	$57,720	(72.8%)
Sales Tax	16,440	(20.7%)
Gasoline Tax	2,340	(3.0%)
Farebox Revenue	2,775	(3.5%)
TOTAL	$79,275	(100.0%)

Source: RTD Annual Operating Budget, FY 1983.

2.1.2 OMNITRANS

Fixed route services in the West Valley area are operated and administered by OMNITRANS. OMNITRANS is a joint powers agency created in 1976 by the cities and the county of San Bernardino. OMNITRANS is divided into a Metro and West Valley Division. The latter division comprises the West Valley service area and includes the cities of Chino, Montclair, Ontario, Rancho Cucamonga, Upland, and the unincorporated communities of Los Serranos and San Antonio Heights. Transit services in the West Valley service area are administered by the West Valley Transit Service Authority. This authority is also a joint powers agency. Membership of the agency consists of elected or appointed officials from the jurisdictions cited above plus the cities of Claremont and Pomona.

OMNITRANS operates ten fixed routes in the West Valley area. The geographic structure of these routes is presented in Figure 2-2. All routes operate exclusively within the West Valley area except for Route 14, which provides service between Montclair and Yucaipa in the Metro Division via San Bernardino. Montclair Plaza serves as the western terminus for all routes

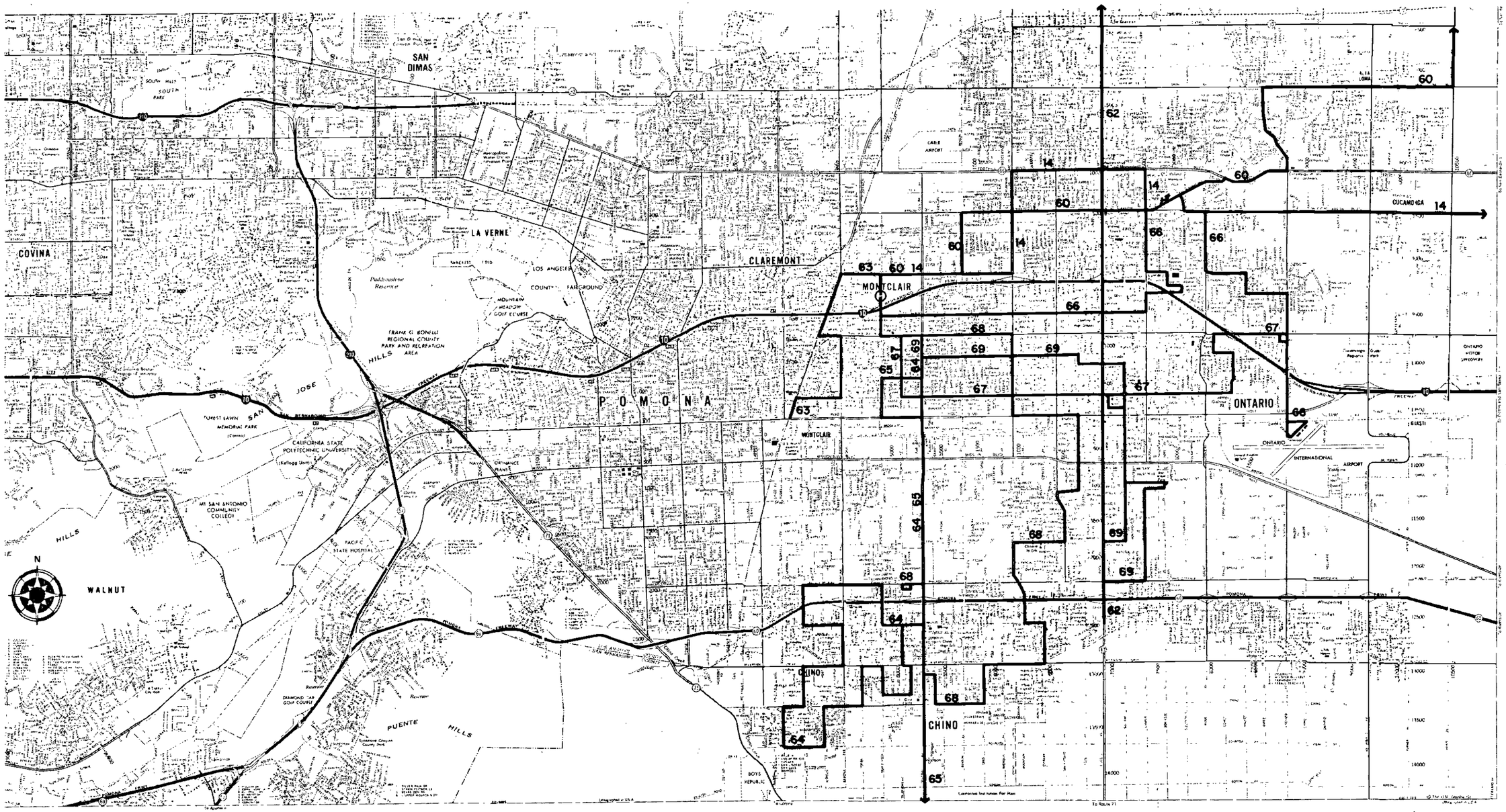


Figure 2-2

EXISTING OMNITRANS ROUTES SERVING THE WEST VALLEY

except Route 62 (Euclid Avenue - North Upland). Two RTD routes also serve Montclair Plaza. Patrons who wish to transfer from RTD to OMNITRANS buses can do so at this location. No intercounty service between Los Angeles and San Bernardino Counties is operated by OMNITRANS.

The service characteristics of OMNITRANS fixed-route service in the West Valley area are shown in Table 2-13. Service is provided six days a week on all routes except Route 62 (Euclid Avenue - North Upland). There is no service on Sundays and generally observed holidays. The earliest service begins at 5:25 a.m. on Route 65 (Los Serranos) and the latest extends to 8:20 p.m. on Route 14 (Yucaipa-Montclair Plaza). The frequencies of service are forty and sixty minutes in both peak and off-peak periods for all routes. On Saturdays, service is provided at sixty-minute frequencies.

The base fare for fixed-route service is fifty cents. Elderly (sixty years of age and older) and handicapped persons can ride for 25 cents. The fare for students is 35 cents. Transfers are five cents. Monthly passes for regular passengers sell for $20. Elderly and handicapped passes cost $10.

The OMNITRANS fixed-route fleet consists of 82 vehicles in the active fleet and fifteen vehicles in the reserve fleet. The active fleet consists of Flxible, American Motors, General, Chance, and General Motors coaches, ranging in age from 1975 to 1980. All buses in the reserve fleet are 1967 Flxible coaches. Twenty-three buses are assigned to the West Valley area fixed-routes for weekday service. Saturday service requires 21 buses.

The office and maintenance facilities of OMNITRANS West Valley Division are currently located at 5050 Arrow Highway in Montclair. The facilities at this location include office space for maintenance and operations supervisors, a dispatch office, recreational rooms and restrooms, a bus storage area, employee parking with thirty spaces, and a maintenance work area for two buses. A total of twenty buses are assigned to this division. This number includes all buses operating in the West Valley service area except for Route 14 (Yucaipa-Montclair Plaza) buses which are assigned to the Metro Division. The facilities at Arrow Highway are being used only on an interim basis until construction of the new facilities is completed.

Although OMNITRANS does not own or operate any park-and-ride lots, Caltrans currently has three park-and-ride locations in the West Valley area which are used by OMNITRANS. Approximately 200 spaces are at the Montclair Plaza, thirty spaces at the Thunderbird Bowling Lanes on the west side of Mountain Avenue between San Bernardino Freeway and Sixth Street in Ontario, and thirty spaces at the K-Mart Store on the west side of Euclid Avenue between the Pomona Freeway and Walnut Avenue off the San Bernardino Freeway in Ontario.

The OMNITRANS operating budget for FY 1982/83 is $12,513,195 (Table 2-14), which is five percent less than for FY 1981/82. Operations are being subsidized by local, state, and federal funds; the farebox provides only 22.1 percent of total operating expenses. Like RTD, OMNITRANS is dependent upon UMTA Section 5 operating assistance. The OMNITRANS capital budget for FY 1982/83 is $1,337,860. State and federal funds are used to finance the capital improvements.

TABLE 2-13

OMNITRANS EXISTING FIXED-ROUTE SERVICE CHARACTERISTICS

Route Number	Route Name	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak	Base	Saturday
14	Yucaipa - Montclair Plaza	Monday - Friday Saturday	6:00 a.m. - 8:20 p.m. 6:05 a.m. - 8:20 p.m.	60	60	60
60	Montclair Plaza - Chaffey College	Monday - Friday Saturday	5:25 a.m. - 7:50 p.m. 8:00 a.m. - 8:10 p.m.	40	40	60
62	Euclid Avenue - North Upland	Monday - Friday	6:55 a.m. - 4:30 p.m.	60	60	0
63	Montclair Plaza - Indian Hill Mall	Monday - Friday Saturday	5:40 a.m. - 7:40 p.m. 7:30 a.m. - 6:00 p.m.	40	40	60
64	Chino	Monday - Saturday	6:00 a.m. - 8:10 p.m.	60	60	60
65	Los Serranos	Monday - Saturday	5:25 a.m. - 7:55 p.m.	60	60	60
66	Northeast Ontario - Airport	Monday - Friday Saturday	6:20 a.m. - 7:30 p.m. 7:00 a.m. - 6:15 p.m.	40	40	60
67	East Ontario	Monday - Friday Saturday	6:30 a.m. - 7:05 p.m. 7:20 a.m. - 6:15 p.m.	40	40	60
68	Southwest Ontario - Chino	Monday - Friday Saturday	6:20 a.m. - 7:25 p.m. 7:20 a.m. - 6:50 p.m.	40	40	60
69	Southeast Ontario	Monday - Friday Saturday	6:00 a.m. - 7:40 p.m. 7:00 a.m. - 5:55 p.m.	40	40	60

TABLE 2-14

OMNITRANS BUDGET SUMMARY
FY 1982/1983

Operations		
Costs:		
• Demand Responsive	$ 2,072,295	(16.6%)
• Fixed-Route	8,882,736	(71.0%)
• Regional Transportation	1,558,163	(12.4%)
TOTAL	$12,513,195	(100.0%)
Source of Funds:		
• UMTA Section 8	$ 43,060	(0.3%)
• UMTA Section 5	2,920,000	(23.3%)
• Farebox	2,487,226	(19.9%)
• State Transportation Assistance	2,760,996	(22.1%)
• Transportation Development Act	4,301,913	(34.4%)
TOTAL	$12,513,195	(100.0%)
Capital		
Costs:		
• Vehicles	$ 641,250	(46.5%)
• Support Equipment	662,890	(48.1%)
• Contingencies	73,720	(5.4%)
TOTAL	$ 1,337,860	(100.0%)
Source of Funds:		
• State Transportation Assistance	$ 682,280	(49.5%)
• UMTA Section 5	695,580	(50.5%)
TOTAL	$ 1,337,860	(100.0%)

Source: OMNITRANS 1982-1983 Budget (November 18, 1982).

2.2 PARATRANSIT SERVICES

Paratransit services in Pomona Valley are provided by the Get About Transportation system and Claremont Dial-a-Ride. These are the area's only paratransit systems organized solely to provide paratransit service. All others are residential facilities or colleges that need transportation as a support to their primary mission or taxi service operators. The existing paratransit services provided by the Get About system and Claremont Dial-a-Ride are described in this section. The description of services includes information on organizational structure, service area, service characteristics, fare structure, facilities and equipment, ridership, costs

and revenues, and funding. No attempt is made to evaluate the services provided by Get About Transportation or Claremont Dial-a-Ride. The analysis of existing services is presented in Chapter 8. This chapter also describes the paratransit services provided by OMNITRANS to the West Valley area of San Bernardino County. The description of OMNITRANS paratransit services presented in this section is limited to information on service area, service characteristics, equipment and facilities, and fares.

2.2.1 Get About Transportation

Get About Transportation was established in 1975 by four local retirement homes to meet the transportation needs of isolated low income and elderly residents of the Pomona Valley cities of Claremont, La Verne, Pomona, and San Dimas. Funding for the system was obtained through a grant from the Los Angeles County Area Agency on Aging under the non-profit corporate entity of Pomona Valley Community Services (PVCS). In 1977, the governments of the four Pomona Valley cities elected to form a joint powers agency for provision of door-to-door transportation to all low income and elderly residents in the valley. The PVCS was subsequently appointed to administer the program.

2.2.1.1 Organization

The overall authority for Get About is the joint powers agreement between the cities of Claremont, LaVerne, Pomona, and San Dimas. The joint powers agency is made up of one elected official from each city with the power to seek outside funding and to contract for administration and operation of the program, to own vehicles, and to establish long-range policy and review. The Director of PVCS reports to the agency and is responsible for the day-to-day administration of Get About. Services are provided through a contract with the for-profit private operator Community Transit Services, Inc.

2.2.1.2 Service Area

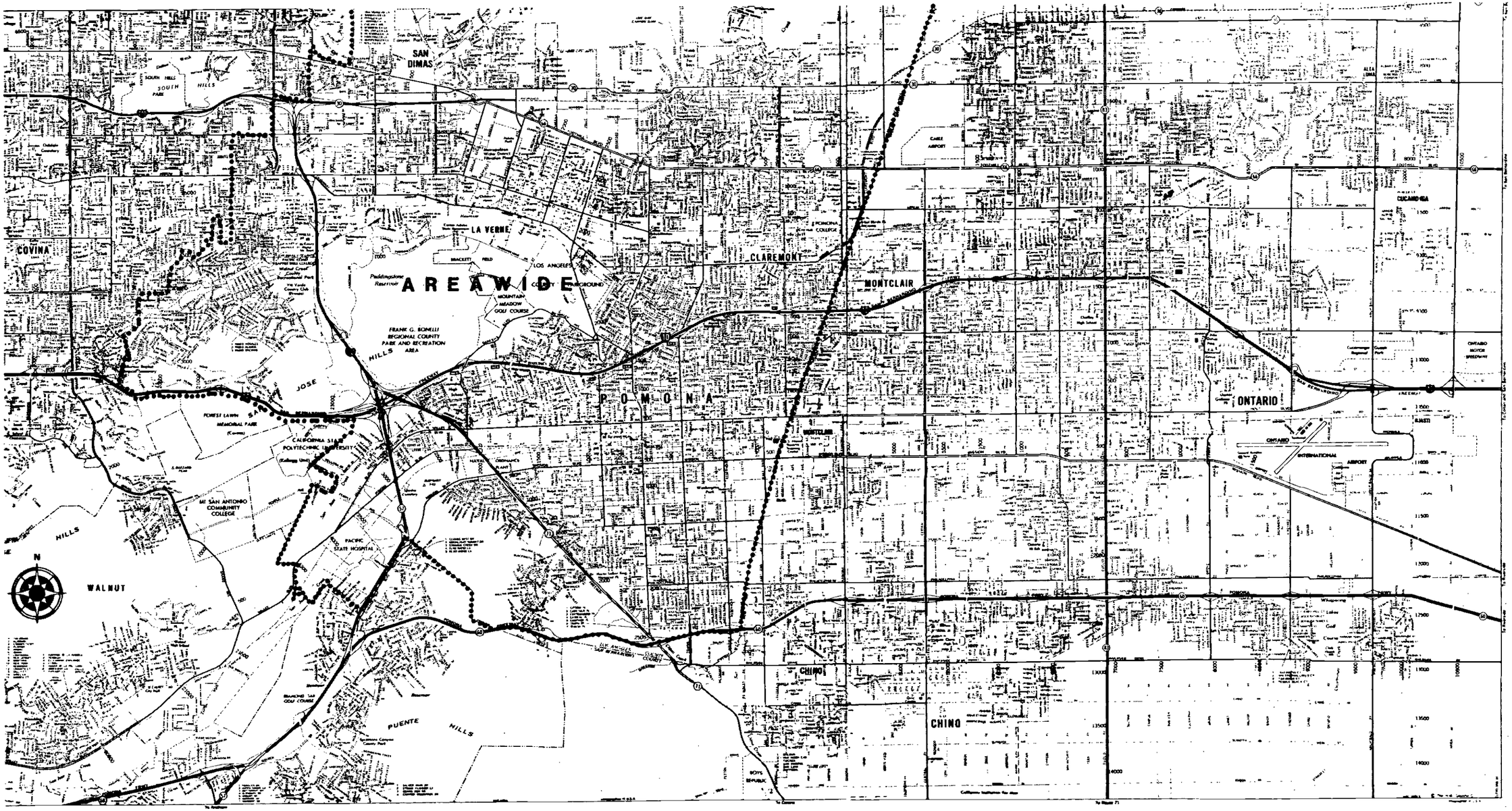
Get About Transportation provides the elderly and handicapped residents of Pomona, LaVerne, San Dimas, and Claremont and immediately adjacent unincorporated areas with demand-responsive service (Figure 2-3). Advance reservation requirements vary according to trip purpose. All trip purposes are served, with no priorities placed on trip purpose. Approximately 400,000 vehicle miles and 32,000 vehicle hours of service are provided annually.

2.2.1.3 Service Characteristics

Demand-responsive service is available from 7:30 a.m. to 5:30 p.m., Monday through Friday, and from 8:30 a.m. to 4:00 p.m. on Sundays. No service is provided on Saturdays. Patrons request service by telephone.

2.2.1.4 Fare Structure

Get About Transportation charges a fare of $1.00. Fares may be paid in cash or by ticket. Ticket booklets good for twelve rides may be purchased for $10.00 through the administrative officer of Get About. Rides to nutritional sites are free with tickets obtained from the nutritional sites or the administrative office. Donations are accepted for nutritional riders.



••••••••• Service Area

Figure 2-3
SERVICE AREA FOR
GET ABOUT TRANSPORTATION

2.2.1.5 Facilites and Equipment

The offices of Get About Transportation are located at 2025 Bonita Avenue in LaVerne. A total of 22 vehicles are contained in the fleet. Five vehicles are used as spares. A fleet inventory is shown in Table 2-15.

2.2.1.6 Ridership

Ridership for the system is approximately 100,000 annually or 450 daily. Of this total, approximately 59 percent are elderly and 41 percent are handicapped.

2.2.1.7 Costs and Revenues

The FY 1982/83 budget indicates total expenditures of $1,196,334. This includes $152,752 in administration and dispatching costs, $365,114 in capital costs, $543,570 in contracted service costs, and $134,898 in overhead costs. A total of $84,500 is expected in farebox revenues and donations.

2.2.1.8 Funding

The sources of outside funding used to finance Get About Transportation include Proposition A, Area Agency and Aging, TDA, and UMTA. Collectively, funds from these sources are expected to total $1,111,834 in FY 1982/83. The largest single source of funds is Proposition A at $379,000. TDA funds are expected to amount to $313,000, while UMTA and Area Agency on Aging funds are expected to total $256,800 and $163,034, respectively.

2.2.2 Claremont Dial-A-Ride

Claremont Dial-a-Ride is Pomona Valley's other major paratransit operator. The service has been in operation since 1974.

2.2.2.1 Organization

Claremont Dial-A-Ride is owned by the City of Claremont and operated by Paul's Yellow Cab under contract to the City. Management of the system is the responsibility of the City's administrative assistant.

2.2.2.2 Service Area

Demand-responsive service is provided by the system within the city limits of Claremont (Figure 2-4). The service is available to the general public as well as to the elderly and handicapped. Handicapped transportation is limited to ambulatory patrons. Requests for service by non-ambulatory patrons are referred to the Get About System. There are no advance reservation requirements for the service. All trip purposes are served, with no priorities placed on trip purposes. During FY 1981-1982, approximately 41,000 vehicle miles of service were provided.

TABLE 2-15

GET-ABOUT TRANSPORTATION EXISTING FLEET INVENTORY

Model Year and Type	Type of Vehicle (Van, Station Wagon, Bus)	Seating Capacity Seated/Wheelchair	Approximate Mileage	Equipped With Wheelchair Lift, Ramp Tie Downs
1976-Plymouth	Van	14-passenger	133,000	
1977-Chevy	Van	10-passenger	121,000	✓
1977-Chevy	Van	10-passenger	134,000	✓
1977-Chevy	Van	10-passenger	111,000	✓
1978-Checker	Sedan	8-passenger	127,000	
1978-Checker	Sedan	8-passenger	126,000	
1978-GMC	Bus	6-passenger, 3wc	78,000	✓
1980-Plymouth	Van	14-passenger	61,000	
1980-Plymouth	Van	14-passenger	60,000	
1975-Checker	Sedan	7-passenger	171,000	
1981-GMC	Bus	10-passenger, 2 WC	45,000	✓
1981-GMC	Bus	10-passenger, 2 WC	37,000	✓
1981-Chevy	Bus	12-passenger, 2 WC	46,000	✓
1981-GMC	Bus	10-passenger, 2 WC	14,000	✓
1981-Chevy	Bus	12-passenger, 2 WC	16,000	✓
1981-Chevy	Bus	12-passenger, 2 WC	9,900	✓
1982-Mercury	Wagon	4-passenger	4,100	
1982-Mercury	Wagon	4-passenger	3,300	
1982-Mercury	Wagon	4-passenger	4,900	
1982-Dodge	Bus	12-passenger, 2 WC	900	✓
1982-Dodge	Bus	12-passenger, 2 WC	1,425	✓
1982-Dodge	Bus	12-passenger, 2 WC	2,000	✓

Source: Get-About Transportation.

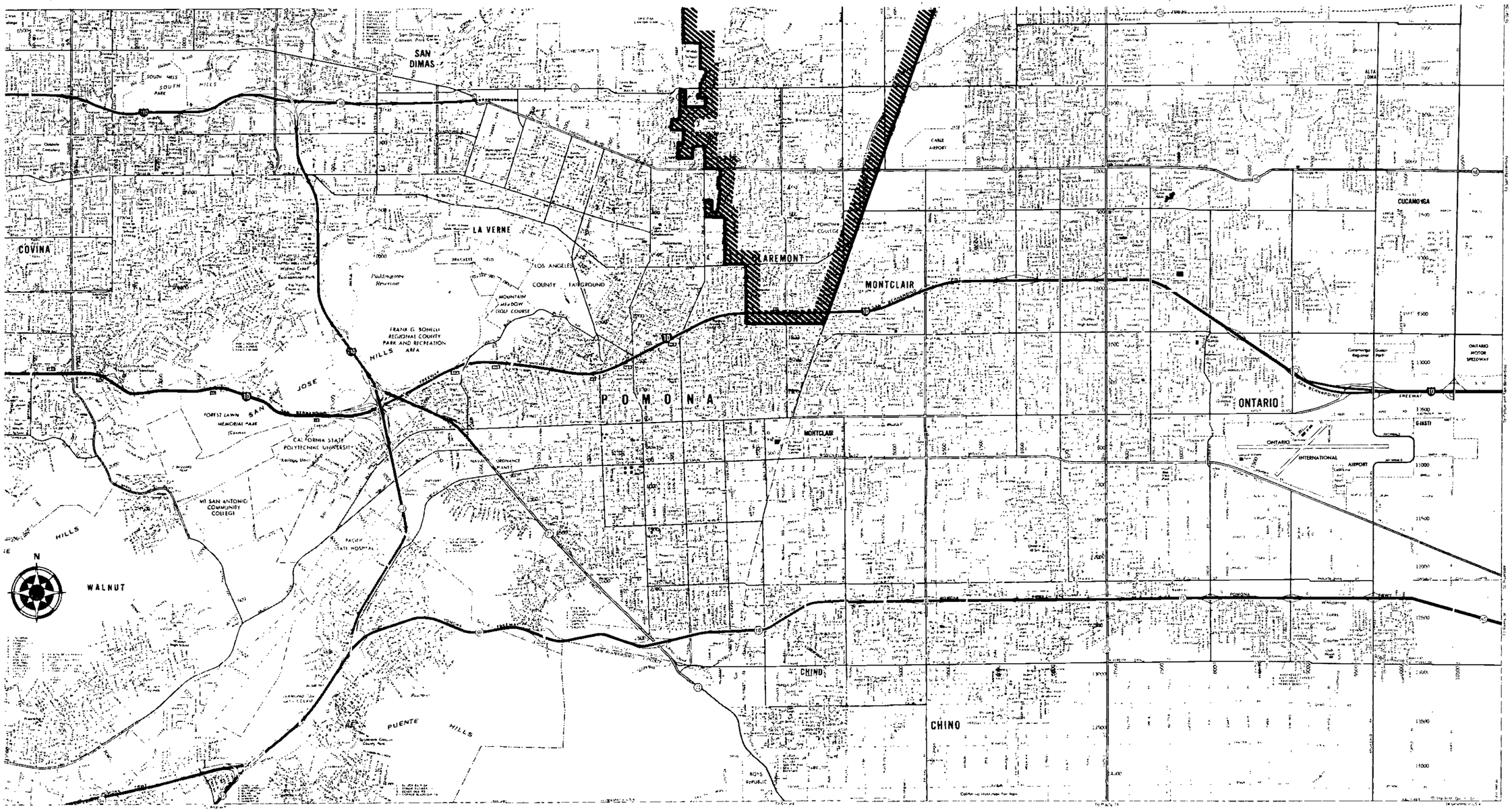


Figure 2-4

SERVICE AREA FOR CLAREMONT DIAL-A-RIDE

2.2.2.3 Service Characteristics

Dial-a-ride service is available 24 hours a day, seven days a week. Patrons request service by telephone. The response time for immediate requests for service is twenty to thirty minutes..

2.2.2.4 Fare Structure

Fares for the general public are 75 cents between 9:00 a.m. and 4:00 p.m., Monday through Friday and $2.25 for all other times. Senior citizens and handicapped persons can ride for 75 cents at all times. Transfers to and from RTD buses are twenty cents under a cooperative agreement with RTD. These fares apply to all trips within the city of Claremont.

Fares are paid by ticket at the time of pick-up. No cash is accepted by the driver. Tickets can be purchased at the Claremont City Hall, Pilgrim Place Retirement Home, Claremont Manor Retirement Home, and Mt. San Antonio Gardens.

2.2.2.5 Facilities and Equipment

The offices of Claremont Dial-a-Ride are in the Claremont City Hall at 207 Harvard Avenue. All of the vehicles used to operate the system are owned by Paul's Yellow Cab, which contracts with the city for the service. This operator has a total of 93 vehicles which are used for a variety of services.

2.2.2.6 Ridership

In FY 1981 - 1982, ridership for Claremont dial-a-ride totaled 28,184 passengers (Table 2-16). Of this total, 10,812 (38 percent) were passengers from the general public. The number of senior citizen passengers represented about sixty percent of the total ridership, or 16,637 passengers. Handicapped passengers totaled 734 (two percent) for the year. Total weekday riderships averaged 95 passengers per day, while ridership on Saturdays and Sundays averaged 22 passengers per day.

2.2.2.7 Costs and Revenues

Actual expenditures for FY 1981 - 1982 amounted to $80,200. Of this amount, eleven percent was for wages and fringe benefits for City staff and 89 percent was for vehicle operations. Expenditures budgeted for the 1982-1983 fiscal year are five percent greater than those for the previous fiscal year. Total expenditures are budgeted at $84,600.

TABLE 2-16

EXISTING RIDERSHIP FOR THE CLAREMONT DIAL-A-RIDE SYSTEM
(FISCAL YEAR 1981-1982)

Ridership Category	Average Daily Ridership: Weekday	Average Daily Ridership: Saturday/ Sunday	Annual Ridership
General Public	36	1	10,812
Senior Citizens	55	18	16,637
Handicapped Persons	4	3	734
TOTAL	95	22	28,184

Source: Claremont Dial-A-Ride.

2.2.2.8 Funding

About 28 percent of total expenditures are expected to be paid from farebox revenues. This represents a decline of four percent from the previous fiscal year. Funds from the Transportation Development Act would generate $19,800 or 23 percent of the total amount required. Proposition A funds are expected to provide $21,600 (23 percent) and State Transit Assistance $4,000 (five percent). The federal government is expected to provide $12,200 (14 percent) in Section 5 funds and $3,600 (four percent) in Section 8 funds. Funds from the federal government are 22 percent lower than the previous year. These funds are being offset by additional Transportation Development Act Funds and the new source of funds from Proposition A.

2.2.3 OMNITRANS

In addition to fixed-route services, OMNITRANS provides both general public and elderly and handicapped demand-responsive services in the West Valley area. These services are provided through contract with Paul's Yellow Cab.

The general public demand-responsive services are provided individually to the West Valley cities of Montclair, Chino, Upland, Ontario, and Rancho Cucamonga, as shown in Figure 2-5. Any origins or destinations are served within the areas shown. Therefore, the service can be classified as a many-to-many type of demand-responsive service. Service is provided from 7:00 a.m. to 6:00 p.m., Monday through Friday and from 7:00 a.m. to 5:00 p.m. on Saturdays. Service is requested by telephone. There are no advance reservation requirements for service. The response time for immediate requests for service is thirty to 45 minutes. A total of eighteen vehicles are used to provide demand-responsive service in the West Valley cities.

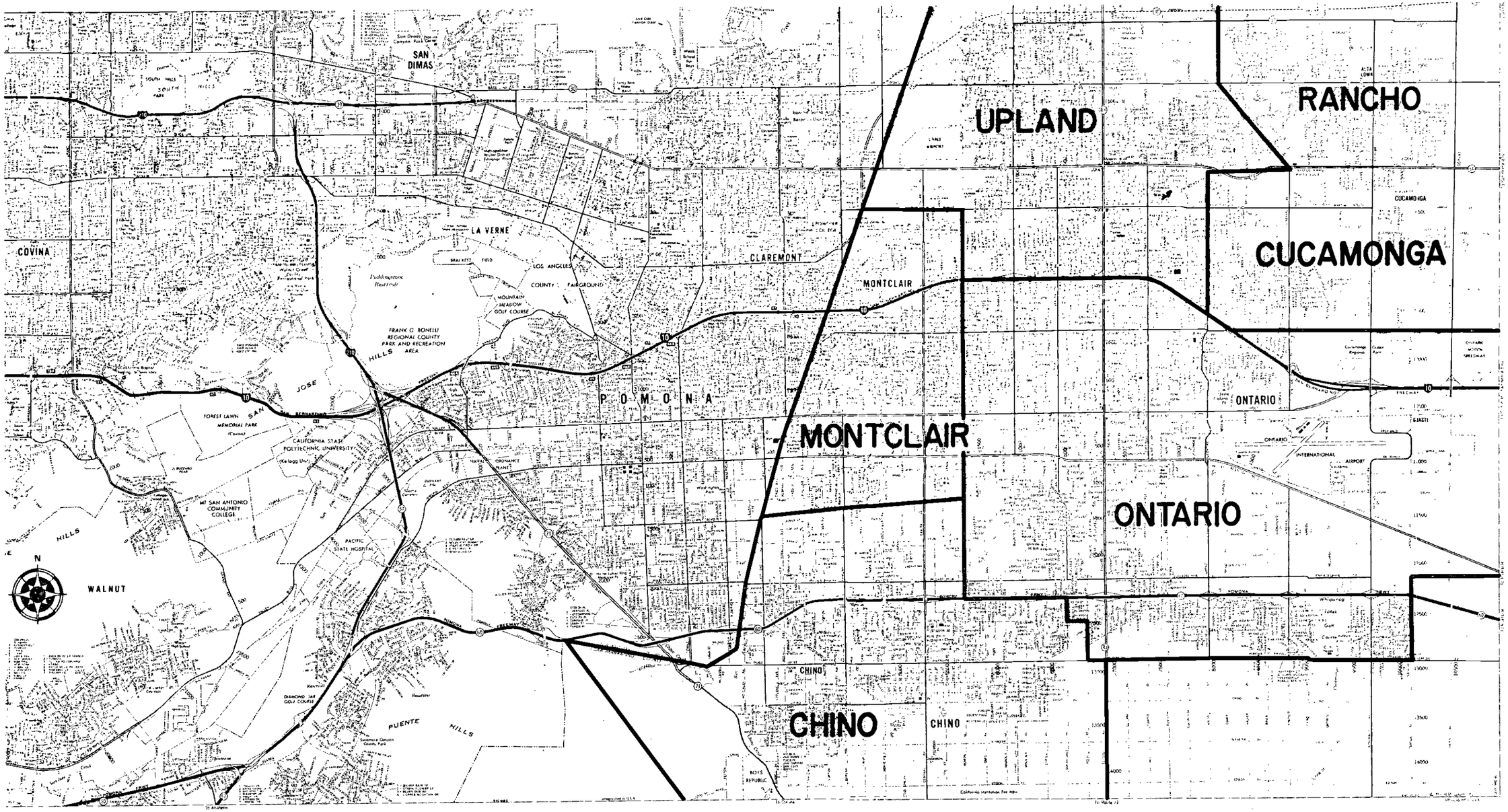


Figure 2-5

SERVICE AREAS FOR OMNITRANS
GENERAL PUBLIC DEMAND RESPONSIVE SYSTEM

During weekdays, eleven vehicles are operated in Ontario, four in Upland, and one each in Montclair, Rancho Cucamonga, and Chino from a total fleet of 27 vehicles. On Saturdays, a total of eight vehicles are operated, with four in Ontario and one in each of the other cities. In FY 1981/1982, these vehicles operated for approximately 491,000 vehicle service miles and 36,000 vehicle service hours.

The demand-responsive service for the elderly and handicapped is operated as one zone encompassing the West Valley service area (Figure 2-6). Vans equipped with lifts for handicapped persons in wheelchairs and others unable to mount steps provide door-to-door dial-a-ride service to all origins and destinations in the service zone. This specialized dial-a-ride service is available during the same hours and days of the week as the general public dial-a-ride services (7:00 a.m. to 6:00 p.m., Monday through Friday and 9:00 a.m. to 5:00 p.m. on Saturdays). This service also has no advance reservation requirements and the response time for service is thirty to 45 minutes. A total of seven lift-equipped vans are operated on weekdays and one on Saturdays from a fleet of eight vehicles. In FY 1981-1982, these vehicles were operated for a total of approximately 264,000 vehicle service miles and 16,000 vehicle service hours.

Fares for the dial-a-ride services are $1.50 for regular passengers and 65 cents for the elderly and handicapped. Transfers to the fixed-route system are five cents. Transfers from one general public dial-a-ride service area to another require an additional fare, while transfer from the dial-a-ride service zone for the West Valley area to a zone in the East Valley costs five cents.

2.2.4 Taxicab Services

The only taxicab service provider in Pomona Valley is Paul's Yellow Cab. This operator provides taxi services to both the Pomona Valley and West Valley area from a total fleet of 93 vehicles. In addition to providing taxi services, these vehicles are used for demand-responsive services for Claremont Dial-a-Ride, air freight courier and small package delivery service, airport transportation, company use, and auto rentals. The fleet averages approximately 250,000 miles per month.

2.3 RIDESHARING SERVICES

Ridesharing services in Pomona Valley are provided by Commuter Transportation Services, Inc. (Commuter Computer). Commuter Computer is a private, non-profit corporation organized to provide ridesharing services in the five-county area of Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. It is the nation's oldest and largest ridesharing organization.

Commuter Computer is governed by a 52-member Board of Directors with board representation from leaders in business, labor, government, and community organizations. Policy is set and administrative review is provided by an eleven-member Executive Committee that meets once a month. The full Board meets twice a year.

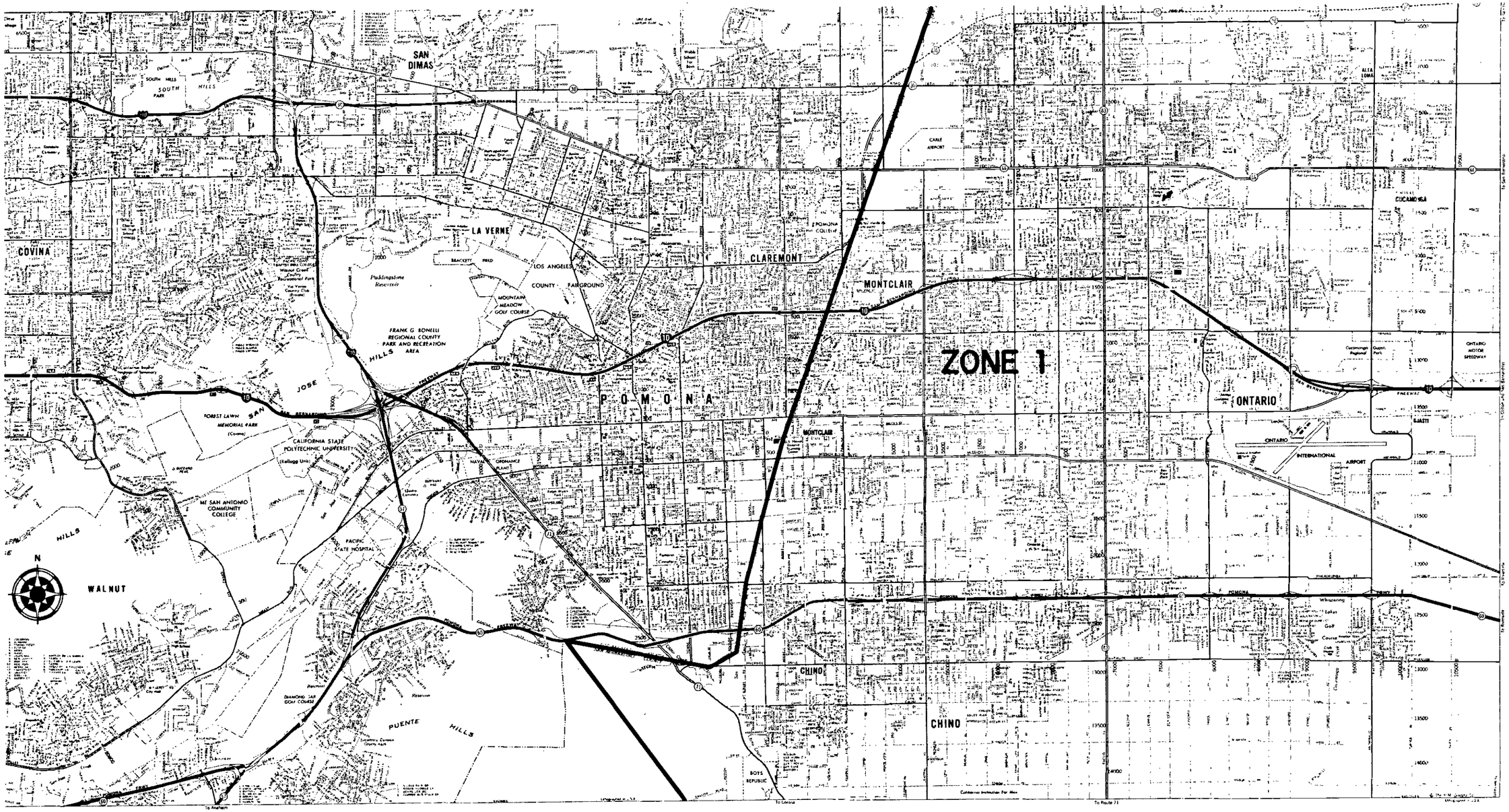


Figure 2-6

SERVICE AREA FOR OMNITRANS
LIFT EQUIPPED DEMAND RESPONSIVE SYSTEM

Since its founding in 1974, Commuter Computer has assisted more than 106,000 people with ridesharing. At present, there are over 314,000 registrants in the data base with about 46,666 commuters (41,570 carpoolers, 5,096 vanpoolers, and over 200 buspoolers) now ridesharing as a result of Commuter Computer's activities. In addition, Commuter Computer has over 1,000 client employers at over 1,500 different work sites.

The service provided by Commuter Computer to the public and to those commuters employed by client employers include:

- Ridesharing matching services for employer clients and individuals.
- Assisting both employers and interested employees in the formation of vanpools, buspools, and taxipools, including:
  - Third-party vanpool programs for employers and individual groups.
  - Information and development of various lease, lease/purchase, and direct purchase arrangements for employers wishing to set up an "in-house" vanpool program.
  - Information and assistance in establishing and contracting for buspool services.
  - Providing information on transportation services available in the service area.
  - Providing assistance to employers who are relocating.

All of the above services are free to the public and employees of client employers.

The headquarters office of Commuter Computer is located in the mid-Wilshire district of Los Angeles. There are two branch offices, one in the Riverside/San Bernardino area, the other in Ventura. Approximately 100 persons are employed at Commuter Computer in the Employer Services and Commuter Services departments.

The Employer Services Department establishes and maintains accounts between Commuter Computer and employer clients. Account executives within the department are assigned specific territories and provide ridesharing services (including matchlists and other statistical data) to client employers within the territories. They have the responsibility of seeing that the data for each client is accurately updated. They also work with employer groups, chambers of commerce, and non-client companies to establish new programs.

The Commuter Services Department includes the Commuter Services Section and the Ridesharing Information Services Center. Individuals seeking carpool matches or information are referred to the Information Center. Commuter

Services representatives work closely with employers to provide information and assistance on all transportation modes other than carpool. Their objective is to promote formation of vanpools, buspools, taxipools and to promote transit use.

In addition to providing ridesharing services, Commuter Computer maintains active liaison activities with Caltrans, councils of government, regional planning organizations, transportation commissions, chambers of commerce, and also with developers, planning commissions, and traffic engineers.

Commuter Computer is funded primarily by Caltrans, the Southern California Association of Governments, and the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura. Contributions are also made by the City of Los Angeles and the individual employers who utilize Commuter Computer's services.

3. GOALS & OBJECTIVES

3. GOALS AND OBJECTIVES

One of the objectives of this study was to develop a transit system to meet the transit needs of Pomona Valley residents. Therefore, before alternative systems could be developed and a recommended system selected for implementation, it was necessary to develop goals and objectives for design of transit alternatives and criteria for the evaluation of the performance of the alternatives. This chapter presents the goals and objectives adopted by the PMC and describes the process used in their selection. The criteria used for evaluation of the alternatives and the performance measures and standards used for judging the acceptability of the alternatives are also presented.

3.1 SELECTION OF GOALS AND OBJECTIVES

The selection of goals and objectives for the study involved soliciting input from three main sources; interviews with local policy makers; review of previous planning studies; and workshops with existing transportation suppliers, major employers, and public and private groups interested in transit.

3.1.1 Interviews

A series of policy interviews was conducted with city officials, local elected leaders, and staff of regional agencies. In addition to soliciting information on goals and objectives, the purposes of the interviews were:

- To explain the purpose and scope of the study.
- To introduce study participants.
- To answer questions regarding the study.
- To ascertain the official perspective regarding:
  - Transportation needs and problems in the community.
  - Prioritization of these needs and problems.
  - Transportation policy issues.
  - Social, political, and economic environment of the community.
  - Factors affecting the study.
  - Goals and objectives for the study.

The interviews were conducted by Schimpeler•Corradino Associates and David Abel & Associates over a two week period beginning November 29 and ending December 14, 1982. The interviews included officials from the cities of Pomona, LaVerne, Claremont, and San Dimas, and from the San Bernardino Association of Governments (SANBAG), Southern California Association of Governments (SCAG), RTD, and the Los Angeles County Transportation Commission (LACTC). A total of nineteen officials were interviewed (Table 3-1). The results of the interviews are contained in the study files maintained by RTD.

TABLE 3-1

POMONA VALLEY TRANSIT NEEDS STUDY
INTERVIEW LIST

City of Pomona	
Honorable Clay Bryant, Council Member	November 29, 1982
Mr. Ora Lampman, City Manager	November 29, 1982
City of LaVerne	
Mr. Martin Lomelli, Assistant City Manager	November 30, 1982
Mr. Ken Farfsing, Planning Director	
City of Claremont	
Honorable Eleanor Cohen, Council Member	December 8, 1982
Mr. Leonard Wood, City Manager	December 8, 1982
Ms. Betty Rose, Transportation	
Mr. Bill Wojtkowski, City Planner	
City of San Dimas	
Honorable Nick Martaccio, Council Member	December 8, 1982
Mr. Robert Poff, City Manager	December 8, 1982
San Bernardino Association of Governments	
Honorable Harold Hayes, Mayor of Montclair	December 8, 1982
Mr. Wes McDaniel, Executive Director	December 2, 1982
Southern California Association of Governments	
Mr. James Gosnell, Director of Transportation	December 9, 1982
Mr. William Wells, Transit Manager	December 9, 1982
Southern California Rapid Transit District	
Mr. Mike Lewis, President	December 14, 1982
Mr. Marvin Holen, Board Member	
Honorable Charles Storing, Board and Council Member, La Puente	December 10, 1982
Los Angeles County Transportation Commission	
Mr. Paul Taylor, Deputy Executive Director	December 14, 1982

Source: Schimpeler-Corradino Associates.
David Abel and Associates.

A common theme evident throughout the interviews was the ability of the communities in the Pomona Valley to work together effectively. This was evidenced by the Joint Powers Agreements now in effect for a variety of projects such as the Get About Transportation System. Those interviewed were also unanimous on the role of transit as a needed public service in the area. Transit was seen as necessary for mobility within the individual cities, within the Pomona Valley, and from the Pomona Valley to major shopping and employment areas. Among the specific issues identified for consideration as part of the study were:

- Assessment of the circulation and transit links between the Pomona Valley and the Diamond Bar area.
- Need to reduce traffic on Indian Hill Boulevard.
- Improve transit service along the north-south axis to link the north of Foothill Boulevard and south of Foothill Boulevard communities in LaVerne, address through-traffic to the San Bernardino Freeway, and the north-south links among community and civic centers in the valley.
- Consider service needs for area residents to medical facilities in Glendora, West Covina, and Covina.
- Examine the need for evening and weekend service to serve educational and community/civic functions.
- Explore transportation needs of the new medical facility and Swim Park in San Dimas.
- Improve access to Cal Poly, Citrus College, Mt. San Antonio College, and other educational institutions.
- Facilitate public transportation to Los Angeles International (LAX) and Ontario Airports.
- Evaluate the need for additional park-and-ride facilities in Claremont and in the existing rights-of-way at the Interstate 210 and Foothill Freeways.
- Consider public transportation improvements which can ease through-traffic congestion on Foothill Boulevard.
- Specifically address the needs of the developmentally disabled and additional service necessary to supplement existing service provided by Get About Transportation and Claremont Dial-a-Ride programs.
- Specifically address the transit needs for shopping trips throughout the area and identify senior centers and nutrition centers as specific destinations.

- Consider needed links among local dial-a-ride programs.
- Address access requirements of the Pomona Fairgrounds.
- Ensure integration with the proposed multi-modal facility in Montclair.

3.1.2 Workshops

Workshops were held on December 10, 1982 in Pomona and on December 13, 1982 in Claremont. The purpose of the workshops was to discuss problems with existing service, goals, and objectives for the study, and potential solutions to mobility problems. Invitations to the workshops were mailed to more than seventy individuals, agencies, and organizations. Invitees included city staff, major employees, Chamber of Commerce representatives, college/university officials, and transportation providers.

Approximately twenty persons attended the workshop sessions. Those attending the sessions represented Get About Transportation, Pomona City Committee on Aging, Pomona Valley Community Hospital, Diversified Paratransit, Inc., Commuter Computer, Pomona Chamber of Commerce, General Dynamics, Los Angeles Fair, City of Upland, City of LaVerne, and City of Pomona. The participants were primarily interested in the scope of the study. There was very little discussion about goals and objectives. Several questions dealt with the specificity of the recommendations that would be developed both for service improvements and for the financial/implementation plan. Private transit operators in attendance expressed some concern about the effects of the study's recommendations on the role of the private operator in providing service. Some participants expressed the opinion that the study area should be expanded to include a portion of San Bernardino County. Other questions raised during the sessions dealt with transit alternatives to be studied, the telephone survey, financing, and service to the handicapped. Both of these sessions provided input to development of goals and objectives for the study.

3.1.3 Review of Previous Planning Studies

Previous planning studies were also reviewed for goals and objectives affecting transportation policy in Pomona Valley. A list of the studies that were reviewed is shown in Table 3-2. Among the transit-related goals and objectives identified in these studies include:

- Encourage transit service from Ontario and LAX airports to Claremont.
- Encourage development of commuter rail service and regional bus service to Claremont.
- Work to develop a better feeder system which integrates bus and paratransit service in Claremont.
- Develop a park-and-ride lot in Claremont.

TABLE 3-2

LIST OF PREVIOUS PLANNING STUDIES

- Southern California Rapid Transit District, Five-Year Short-Range Transit Plan, FY 1984-1989, 1983.
- City of Claremont, Physical Mobility, 1981.
- City of Pomona, Comprehensive General Plan, 1977.
- City of LaVerne, General Plan, 1974.
- City of San Dimas, General Plan, 1974.
- Los Angeles County Transportation Commission, Los Angeles County Social Services Paratransit Coordination Project, 1982.
- San Bernardino Association of Governments, Valley Region Short-Range Transit Plan, FY 1983-1987, 1982.
- Alan Voorhees and Associates, Public Transportation Needs in San Bernardino County, 1974.
- Southern California Association of Governments, Commuter and Express Bus Service in the SCAG Region, 1982.

Source: Schimpeler-Corradino Associates.

- Encourage paratransit use.
- Continue dial-a-ride service in Claremont and work for expansion.
- Facilitate north-south transit, link neighboring communities, improve access, and expand paratransit in LaVerne.
- Develop a dial-a-ride system linking LaVerne to Pomona.
- Study Claremont-La Verne-San Dimas transit route.

3.2 GOALS AND OBJECTIVES

A preliminary set of goals and objectives for the Pomona Valley Transit Needs Study were prepared after the interviews and workshops were held and after reviewing all previous planning documents for Pomona Valley. These preliminary goals and objectives were presented to the public at a community meeting on December 16, 1982 in Pomona. The goals and objectives were finalized and adopted by the PMC on February 16, 1983.

The final set of goals and objectives is shown in Table 3-3. To distinguish goals from objectives it should be noted that goals are generally defined as broad, general, and perhaps more long-range guidelines for development, while objectives are more narrow, more specific, and usually short-range steps taken to accomplish a goal. In this sense one goal may have a large number of subordinate objectives.

Five goals were adopted by the PMC. The goals are organized by goal category. The goal category of "Study Design" represents the need that the study examine the full range of service options required to meet the area's needs for adequate local circulation, subregional mobility, and regional transportation service. "System Form and Function" represents the need to develop a transit system that is functionally sound, meets area needs, and encourages transit use. The goal category of "Social Impacts" addresses the need for accessibility to employment and other major activity centers and the particular needs of the elderly, handicapped, and other people dependent on transit. The goal category of "Efficiency and Economics" focuses on the need to create a transit system that will provide the desired level of service while minimizing costs. The purpose of "Organizational and Institutional Coordination" is to maximize the efficiency of transit service provided by the many providers of transportation--in government and in the private sector.

Subsequent to establishing these goals, specific objectives were defined for each goal to determine which measures are important in evaluating alternative transit system plans. In defining the objectives, an attempt was made to define only those objectives that could be used to measure the efficiency and effectiveness of alternative plans.

TABLE 3-3

POMONA VALLEY TRANSIT NEEDS STUDY
GOALS AND OBJECTIVES

A. STUDY DESIGN: That the Pomona Valley Transit Study examine the full range of service options required to meet the area's needs for adequate local circulation, subregional mobility, and regional transportation service.

1. Provide objective, technically sound analysis of transit needs and service options, avoiding any actual or perceived politicizing of the study.

2. Develop an understanding of the transportation links and interdependence among the Pomona Valley communities and the San Bernardino County communities of Ontario, Upland, Montclair, Chino, and Rancho Cucamonga.

3. Minimize significance of the existing county boundary and facilitate solutions responsive to geographic communities of interest and subregional needs.

4. Explore innovative service concepts and institutional options in developing implementation alternatives.

5. Maximize community input in the design of service options and alternatives.

6. Address existing needs and those anticipated from projected developments.

7. Recognize transportation improvements as a means of enchancing the quality of life in Pomona Valley.

8. Provide for input to SCAG's definition of subregional boundaries in Pomona Valley for use in regional development guide and transportation planning.

9. Address transit needs of seniors, handicapped, developmentally disabled, and transit dependents in Pomona Valley transportation system.

B. SYSTEM FORM AND FUNCTION: To design a system that is functionally sound, meets area needs, and encourages transit use.

1. Increase transit use.

2. Develop a flexible system responsive to general mobility needs and other identified special transit service needs of residents of Pomona Valley.

3. Provide transit access to schools throughout Pomona Valley.

TABLE 3-3 (CONTINUED)

POMONA VALLEY TRANSIT NEEDS STUDY
GOALS AND OBJECTIVES

4. Develop a system responsive to mobility needs of the general public.

5. Provide the most effective and efficient mix of transportation modes.

6. Ensure integration of local, subregional, and regional transit service.

7. Ensure future interface with proposed rail transit services.

8. Utilize transportation service to reinforce subregional cohesiveness and to support regionally designated growth centers.

9. Ensure adequate system capacity.

10. Minimize transit travel time.

C. SOCIAL IMPACTS: To design a system which maximizes service to those who need it most and is responsive to subregional goals.

1. Provide public transit access to the greatest number of households.

2. Provide access to major activity centers, employment sites, and regional shopping centers.

3. Improve transportation service required by social service recipients through coordination and consolidation of services.

4. To the extent possible, develop a subregional system that stimulates local investment and provides job opportunities for area residents.

D. EFFICIENCY AND ECONOMICS: To provide cost-effective transit service responsive to area needs.

1. Develop a system which maximizes utilization of available transit funding sources.

2. Consider utilization of private sector providers where most cost effective.

3. Increase transit productivity and minimize operating and user costs.

E. ORGANIZATIONAL/INSTITUTIONAL DEVELOPMENT: To develop a coordinated transportation system for the Pomona Valley.

1. Provide for opportunities for increased subregional decisionmaking and control.

TABLE 3-3 (CONTINUED)

POMONA VALLEY TRANSIT NEEDS STUDY
GOALS AND OBJECTIVES

2. Provide a viable transit ownership/management and long range management planning framework.

3. Provide an equitable distribution of transit services commensurate with local funding levels.

4. Coordinate funding from multiple sources.

3.3 EVALUATION CRITERIA

Using the goals and objectives adopted by the PMC, criteria were developed for use in evaluating the alternative transit systems (Table 3-4). The evaluation criteria are grouped by goal category so that an overall evaluation of alternatives by goals can be accomplished.

3.4 PERFORMANCE STANDARDS

Performance measures and standards are developed from defined goals and objectives, and must be based on accessible and reliable data. They are used to evaluate the efficiency of transit service. Performance measures are viewed as the means by which transit efficiency can be judged. Performance standards on the other hand identified the acceptable levels of performance for the measures. Most performance measures deal with productivities and costs of service. They should not be confused with service standards which deal with headways, access, schedule, load factors, bus stops, and so on. Definition of values for service standards are policy decisions.

RTD has developed service standards for accessibility, line spacing, and loading. Generally, service is to be provided at headways thirty minutes or less to within one-quarter mile of ninety percent of the population in areas where population is greater than 8,000 per square mile; thirty minutes or less to within one-half mile of ninety percent of the population in areas where population is 4,000 and 8,000 per square mile; and sixty minutes or less to within one-half mile of ninety percent of the population in areas where population is 4,000 or less per square mile. The standard for spacing specifies that service be one-half mile or less in at least one direction for areas in which population density is greater than 8,000 per square mile. RTD specifies that loading ratios are not to exceed 140 percent during peak periods and 100 percent during base and evening periods.

Performance standards on the other hand are based on technical decisions. Such standards were used in this study in evaluating the acceptability of the service alternatives developed for Pomona Valley. The performance standards were used in conjunction with the evaluation criteria identified earlier. Unlike the performance measures, the evaluation criteria are intended to compare the alternatives rather than judge their acceptability.

3.4.1 Existing Performance Measures

RTD has identified a set of measures that cover systemwide performance. These measures were reviewed for potential use in measuring the acceptability of the fixed-route transit service alternatives for Pomona Valley. The measures used by RTD for evaluating the performance of its lines are as follows:

1. Total boardings.
2. Total operating cost.
3. Total passenger revenues.
4. Operating ratio.
5. Revenue per boarding.
6. Revenue per passenger mile.

TABLE 3-4

EVALUATION CRITERIA

Categories	Criteria
System Form and Function	Total Passenger Boardings Square Miles of Coverage Population Served Major Generators Served
Social Impacts	Total Households Served Low-Income Households Served Zero or One Auto Households Served Percentage Coverage to High Propensity Areas
Efficiency and Economics	Total Capital Costs Total Operating Costs Total Vehicle Miles Total Vehicle Hours Total Passenger Boardings Total Passenger Revenues Operating Cost/Vehicle Mile Operating Cost/Vehicle Hour Operating Cost/Passenger Passengers/Vehicle Mile Passengers/Vehicle Hour Revenue/Cost
Organizational/Institutional Development	Advantages/Disadvantages of Various Ownership/Management Structures and Cost Consequences Service Hours by Jurisdiction Capital and Operating Costs by Source

Source: Schimpeler·Corradino Associates.

7. Operating cost per boarding.
8. Operating cost per in-service bus hour.
9. Operating cost per peak bus.
10. Subsidies per boarding.
11. Subsidies per passenger mile.
12. Boardings per in-service bus hour.
13. Bus hours per scheduled peak vehicle.
14. Passenger miles per in-service bus hour.
15. Passenger miles per seat mile.

Of the above measures, Measures 4, 7, 8, and 12 were proposed for use in measuring the acceptability of the service alternatives. The other measures were rejected because they were included as evaluation criteria for the goals and objectives, duplicated by other measures, or difficult to calculate due to required inputs. (Measures 1 and 2 were previously selected as evaluation criteria for the goal category of system form and function. Measures 3, 5, 6, 10, and 11 duplicate information produced by Measure 4. Measures 9, 13, 14, and 15 cannot be calculated because of their input requirements.)

The only local operator that has established performance measures for demand-responsive service is OMNITRANS. As a measure of the performance of its demand-responsive service, OMNITRANS uses the passengers per mile, passengers per hour, and the ratio of revenue to cost.

3.4.2 Performance Measures Used By Other Systems

An investigation was conducted to determine what other measures, if any, should be employed in the evaluation of transit service alternatives for Pomona Valley. Recent literature was reviewed to determine measures used by other transit systems. In a survey of small to medium sized properties (those with less than 400 buses) and large properties (those with more than 400 buses) conducted by the Massachusetts Bay Transportation Authority and Tidewater Transportation, it was found that the respondents used the following measures for evaluation of fixed-route service:

1. Ridership trend.
2. Number of passengers per vehicle mile.
3. Number of passengers per vehicle hour.
4. Revenue to cost ratio.
5. Subsidy per passenger.
6. Average fare per passenger.
7. Revenue per mile.
8. Cost per mile.

Measures 2, 3, 4, and 5 were used by between 19 and 38 percent of the respondents. The measure used by the largest number of small to medium size transit system was Measure 4. The larger systems were found to use Measure 3 most often. Ridership trend is not an appropriate measure for the evaluation of new systems. Measure 2 is a way to measure productivity of specific routes or systems. This measure of passengers per vehicle mile is an alternative to passengers per vehicle hour, which is used by RTD and will be used for the evaluation of the alternatives. The per vehicle hour measure favors express routes which operate at higher speeds than local routes slowed by traffic congestion, while the per vehicle mile measure favors slower local routes.

Measure 4 is included in the RTD performance measures and will also be used in evaluating the service alternatives. Measure 5 duplicates information produced as a result of Measure 4 and will not be used in the evaluation. Only one operator used the average fare per passenger as a performance measure. This measure will not be used because average fare is an input rather than an output. Revenue per mile duplicates Measure 2 and therefore will not be used. Cost per mile is not currently used by RTD, however, it is appropriate for evaluating proposed service alternatives.

For demand-responsive service, the review of recent literature revealed little difference in the performance measures used to evaluate service. One study found that passengers per vehicle hour was the most commonly used productivity or efficiency measure.[1] Passengers per vehicle mile was used by fewer systems, but is included in this evaluation because it is to be used in the evaluation of the fixed-route service alternatives. The measure used most often for evaluating the cost of demand-responsive service was found to be cost per passenger.

3.4.3 Performance Measures for the Evaluation of Service Alternatives In Pomona Valley

Listed in Table 3-5 are the performance measures for measuring the acceptability of the fixed-route and demand-responsive service alternative for Pomona Valley. The performance measures are grouped by the goals that are applicable to the efficiency of transit service. Total passengers carried by the system is the only measure identified as a measure of efficiency under the first goal of designing a system that is functionally sound, meets area needs, and encourages transit use. The second group of measures assesses the efficiency of transit service by measuring the passengers, costs, and revenue associated with each system. A total of six measures are included in this group of measures under the goal of providing cost-effective transit service responsive to area needs. All other goals identified for this study were found to deal primarily with accessibility rather than efficiency or productivity.

3.4.4 Performance Standards for Fixed-Route and Demand-Responsive Transit Services

Table 3-6 presents the standards for fixed-route service that were adopted by the PMC for each of the performance measures. These standards were developed on the basis of the performance of existing Pomona Valley RTD lines, average system values for RTD and systems of similar size to Pomona Valley, and the standards that have been adopted by RTD and other transit systems. The adopted standards reflect a higher efficiency for new fixed routes. However, the standards may need to be revised following evaluation of the alternatives if the efficiency levels are found to be unrealistic.

---

[1]Systan, Inc., "Paratransit Handbook, A Guide to Paratransit System Implementation," prepared for the U.S. Department of Transportation, 1980.

TABLE 3-5

PERFORMANCE MEASURES FOR EVALUATING
TRANSIT SERVICE ALTERNATIVES

GOAL: To Design a System That Is Functionally Sound, Meets Area Needs, and Encourages Transit Use

PERFORMANCE MEASURES:

1. Total passengers carried on the system.

GOAL: To Provide Cost-Effective Transit Service Responsive to Area Needs

PERFORMANCE MEASURES:

1. Passengers per vehicle mile of service operated.
2. Passengers per vehicle hour of service operated.
3. Operating cost per vehicle mile of service.
4. Operating cost per vehicle hour of service.
5. Operating cost per passenger carried.
6. Ratio of operating revenues to operating cost.

Source: Schimpeler-Corradino Associates.

TABLE 3-6

PERFORMANCE STANDARDS FOR FIXED ROUTE SERVICE ALTERNATIVES

Performance Measure	Performance Data			Performance Standards		
	Pomona Valley RTD Routes[1]	RTD Systemwide[1]	Similar Size Systems[2]	RTD Standard[1]	Range in Standards for Other Systems[2]	Adopted Pomona Valley Standard[3]
1. Total passengers	5,992	1,161,368	14,245	Varies	Route ridership 60% of system average.	Greater than existing.
2. Passengers per mile	1.08	4.26	2.1	2.5	1.5 - 2.5	2.0
3. Passengers per hour	22.61	67.7	29.8	20.0	20.0 - 33.0	25.0
4. Operating cost per mile	3.17	$4.44	$2.00	None	N.A.	$2.50
5. Operating cost per hour	66.41	$70.64	$27.00	None	N.A.	$50.00
6. Operating cost per passenger	$2.94	$1.04	$0.95	None	N.A.	$2.50
7. Operating ratio	0.15	0.26	N.A.	None	0.20 - 0.50	0.45

[1]Southern California Rapid Transit District.

[2]Transportation Systems Center, National Urban Mass Transportation Statistics, 1981 Section 15 Report, prepared for the Office of Technical Assistance Information Services, 1982.

[3]Project Management Committee.

N.A.--Not available.

The standards adopted for demand responsive service are presented in Table 3-7. These standards were developed on the basis of the performance of existing services operated by Claremont Dial-a-Ride and Get-About Transportation and average values for similar size systems. The standards are categorized according to the market served: general market and target market. This was done because the operating performance of systems serving the general public and the elderly and handicapped are different, as shown by the Claremont Dial-a-Ride and Get-About Systems. Like the fixed-route service standards, the standards proposed for evaluation of the demand responsive service alternatives reflect a higher efficiency level than existing service and many need to be revised following evaluation of the alternatives.

TABLE 3-7

MINIMUM PERFORMANCE STANDARDS FOR DEMAND RESPONSIVE SERVICE ALTERNATIVES

Performance Measures	Performance Measures			Performance Standards			
	Claremont Dial-a-Ride[1] (General Market)	Get-About Transportation[2] (Target Market)	Average Values for Similar Size Systems[3]	OMNITRANS Standard[4]	Range in Values for Similar Size Systems[3]	Adopted Pomona Valley Standards[5] General Market	Adopted Pomona Valley Standards[5] Target Market
1. Total passengers	95	450	1,500	None	N.A.	Greater than existing.	
2. Passengers per mile	0.69	0.45	0.50	0.33	0.10 - 2.10	.62	.41
3. Passengers per hour	6.33	4.28	6.90	4.00	0.80 - 16.80	7.75	5.05
4. Operating cost per mile	$1.73	$2.08	$1.90	None	$0.31 - 13.18	$1.90	$3.40
5. Operating cost per hour	$19.28	$25.79	$24.60	None	$6.00 - 49.50	$23.90	$41.90
6. Operating cost per passenger	$2.85	$6.02	$3.70	None	$2.05 - 16.21	$3.15	$7.45
7. Operating ratio	0.32	N.A.	N.A.	0.10	N.A.	0.29	0.17

[1]Claremont Dial-a-Ride.

[2]Get-About Transportation.

[3]Transportation Systems Center, National Urban Mass Transportation Statistics, 1981 Section 15 Report, prepared for the Office of Technical Assistance Information Service.

[4]OMNITRANS.

[5]Project Management Committee.

N.A.--Not available.

4. TELEPHONE SURVEY

4. TELEPHONE SURVEY

This chapter describes the execution and results of the telephone surveys of residents of Pomona Valley and the West Valley.

4.1 SURVEY AND SAMPLE DESIGN

Survey forms were designed separately for Pomona Valley residents and West Valley residents, with the primary difference being that West Valley residents were asked questions relating to travel to and from Pomona Valley, while Pomona Valley residents were asked about travel within Pomona Valley and between Pomona Valley and other localities within the region. Copies of the final versions of the survey forms are included as Appendix A. A Spanish translation was developed for the Pomona Valley survey, but very few of these forms were used, because the majority of households and individuals contacted were found to be sufficiently fluent and comfortable with English not to require use of the Spanish form.

The Pomona Valley survey was subjected to a pilot test in early January, 1983 from which a number of changes were identified as being desirable. Inputs on modifications were also obtained from the PMC and these, together with the changes suggested by results of the pilot survey, were incorporated in the final survey designs. Because the West Valley survey represented only minor changes in questions from the Pomona survey and deletion of some questions, a pilot survey was considered unnecessary for the West Valley form.

The survey was designed to be administered by telephone to a randomly-selected adult from each household telephoned. The selection procedure appears on the front of the survey form and is keyed to the number of adults and number of male adults at home when the interviewer calls. Because selection is based on the adults at home when contact is made, necessity for call-backs is minimized, making the survey more efficient.

The sample design specified in the contract was a sample in proportion to population in Pomona Valley and in West Valley. No stratification of sample was defined for the individual communities making up Pomona Valley or West Valley. Sampling was based on the random-digit dialing (RDD) procedure, in which a computer random-number generator is used to produce random telephone numbers. Specifically, the candidate telephone prefixes (the 3-digit portion of the 7-digit local telephone number) are provided to the computer, together with specification of the number of telephone numbers to be drawn for the sample in each prefix. The computer program then generates the required number of unique four-digit numbers to use with each specified prefix, thus constituting a random telephone number.

The primary drawback to the RDD procedure is that it is capable of creating telephone numbers that are not in use, that are used by a business, and that are for other nonresidential uses such as phone booths. Thus, it is usual and expected that twenty percent or less of the numbers generated by RDD produce households eligible for survey. However, the efficiency of sample generation and the completeness of the sample are far greater than any other procedure, being free from such biases as alphabetic ordering of last names and noninclusion of unlisted numbers.

To develop the sample, a list of candidate prefixes was obtained from contact with the local telephone company office. The prefixes used for Pomona, San Dimas, LaVerne, and Claremont were identified for the Pomona Valley sample, and those for Upland, Chino, Montclair, and part of Ontario were identified for the West Valley sample. It is important to keep in mind that telephone prefix areas are generally not defined to conform to municipality boundaries, zip-code boundaries, or any other specific community related boundaries. Figure 4-1 shows the approximate prefix boundaries for those prefixes used in the sample. As a result of the lack of conformance of boundaries, it was possible for the prefixes covering the four Pomona Valley communities to include residents of Chino, Upland, Montclair, Ontario, Covina, West Covina, and other contiguous communities, while the West Valley prefixes could include Claremont, Pomona, and San Dimas, among other communities.

It was considered that a question on home address or zip code could be asked in the survey but only as one of the last questions on the survey, because of anticipated concerns with confidentiality and personal safety that might seem threatened by such a question. Therefore, it was not possible to subselect households for interview on the basis of location, and the budget and time schedule for the survey did not permit sufficient surveys to be conducted to allow for post-interview selection of 2,000 households in Pomona Valley communities and 500 households in West Valley communities.

The sample was constructed more efficiently by obtaining from the telephone company lists of major blocks of telephone numbers allocated to businesses and for testing and other telephone company purposes. These lists were obtained for each prefix. In addition, the telephone company indicated that there were no significant groups of telephone numbers not in current use that should be excluded in the sampling procedure. Acquisition of these numbers for exclusion makes the calling procedure more efficient by prior exclusion of the numbers from the sample to be called.

Initially, each prefix has ten thousand possible telephone numbers (XXX-0000 through XXX-9999). For each prefix, the number of pre-identified non-eligible numbers was determined and subtracted from ten thousand to estimate the pool of potential eligible numbers. Based on prior experience, it was decided that 18,750 numbers should be generated for the sample of 2,000 households in Pomona, and that 2,800 numbers should be generated for the 500 households in the West Valley. Using the total number of eligible telephone numbers from the Pomona Valley prefixes, a sampling rate was determined from 18,750 (the desired sample) divided by the total number of eligible telephone numbers. This sampling rate was then applied to each prefix to determine the sample size for each prefix. Assuming that the incidence of not-in-service, business, and other non-eligible numbers is reasonably uniform across all prefixes, this procedure will generate a uniform random sample of the population of the Pomona Valley. An identical procedure was applied for the West Valley.

The sample sizes by prefix were rounded to the nearest 25, in most cases because the computer program listed 25 numbers to a page and use of full pages of numbers provided the most efficient procedure for allocating telephone numbers to interviewers. The samples drawn by prefix for each of the two areas are shown in Table 4-1.

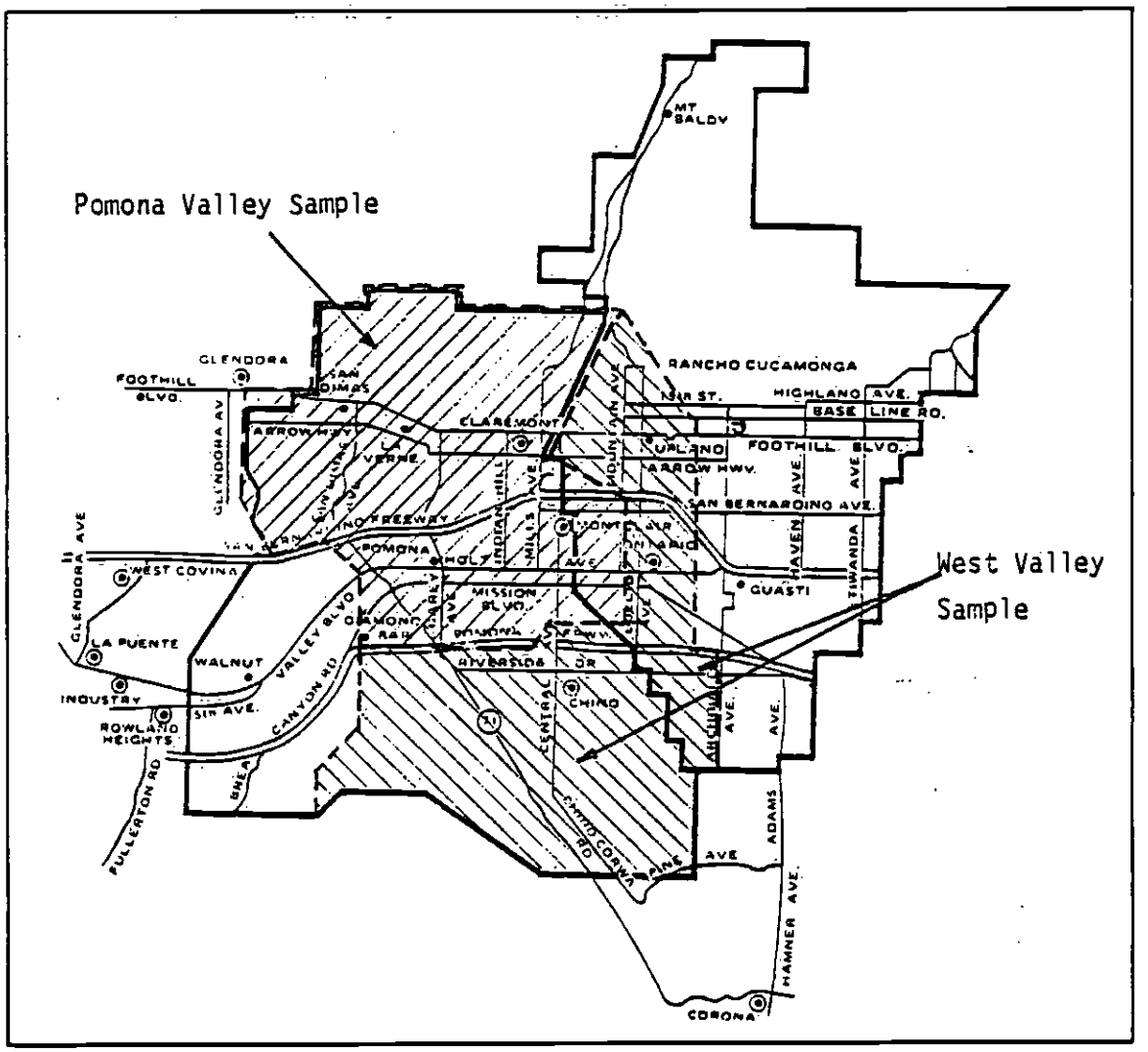


Figure 4-1

AREAS COVERED BY THE TELEPHONE SAMPLES

TABLE 4-1

MAIN SURVEY SAMPLES FOR POMONA VALLEY AND WEST VALLEY

Area	Telephone Prefix	Sample Drawn
Pomona Valley	592	1,475
	593	1,500
	596	1,500
	599	1,450
	620	1,475
	621	1,300
	622	1,550
	623	1,025
	624	1,475
	625	1,425
	626	1,550
	629	1,425
	865	1,600
	SUBTOTAL	18,750
West Valley	591	125
	597	150
	624	700
	627	200
	628	225
	980	233
	981	233
	983	233
	984	360
	985	340
	SUBTOTAL	2,799

Source: Schimpeler•Corradino Associates.

4.2 SURVEY RESULTS

The survey was designed to obtain data on several variables relevant to the Transit Needs Study:

- Current use of transit in Pomona Valley.
- Preferences and priorities for service characteristics of transit for Pomona Valley.
- Stated intention to use transit.
- Selected socioeconomic characteristics of the individual and his or her household.

4.2.1 Profile of Pomona and West Valley Samples

Survey execution commenced on January 29 and calling was completed on March 17. The time required for the survey execution was lengthened both for the addition of the West Valley sample and because of a logistics problem that resulted in a lack of survey forms for about six days in the second week of February. Productivity for the survey was lower than expected because of resistance to the survey by Pomona Valley residents. Many residents expressed no interest in cooperating with the surveyors and a higher-than-expected refusal rate resulted. For the interview itself, the termination rate was low and the survey execution averaged close to the expected twelve to fifteen minutes. The disposition of the numbers called is shown in Tables 4-2 and 4-3 for Pomona Valley and West Valley, respectively.

Eligible contacts are those telephone numbers that were identified as households from which an interview should have been obtained. An interview is considered to be terminated if, after answering some questions, the respondent refuses to continue the interview further. A refusal occurs when the respondent answers no questions. In both samples, the refusal rate was approximately 32 percent of households contacted, which is undesirably high. This refusal rate represents a combination of a lack of interest in the subject of the survey, a general objection to responding to a survey, and the difficulty of convincing a person to participate during the first one or two sentences spoken by the interviewer. The primary means to improve this rate would have been a much more widespread publicity campaign and awakening of public interest. With the variety of telephone sales and survey activities taking place these days, however, experience is indicating refusal rates of at least twenty to 25 percent for any survey.

TABLE 4-2

DISPOSITION OF PHONE CALLS - POMONA VALLEY SAMPLE

	Disposition	Number	Percent of Numbers Dialed	Percent of Eligible Contacts
1.	Eligible Contacts	3,095	46.5	100.0
	a. Completed	2,044	30.7	66.0
	b. Terminated	60	0.9	1.9
	c. Refused	991	14.9	32.1
2.	Non-eligible Contacts	3,564	53.5	--
	a. Not in service	1,705	25.6	--
	b. No answer	1,203	18.1	--
	c. Business	307	4.6	--
	d. New listing	18	0.3	--
	e. Busy	200	3.0	--
	f. Recorder	53	0.8	--
	g. Non-English/Spanish	78	1.2	--

Source: Schimpeler•Corradino Associates.

TABLE 4-3

DISPOSITION OF PHONE CALLS - WEST VALLEY SAMPLE

	Disposition	Number	Percent of Numbers Dialed	Percent of Eligible Contacts
1.	Eligible Contacts	748	61.8	100.0
	a. Completed	494	40.8	66.0
	b. Terminated	8	0.7	1.1
	c. Refused	246	20.3	32.9
2.	Non-eligible Contacts	463	38.2	--
	a. Not in service	186	15.4	--
	b. No answer	143	11.8	--
	c. Business	92	7.6	--
	d. New listing	9	0.7	--
	e. Busy	10	0.8	--
	f. Recorder	13	1.1	--
	g. Non-English/Spanish	10	0.8	--

Source: Schimpeler•Corradino Associates.

The productivity of the random-digit dialing is much higher than usual, with 46.5 percent being eligible households in Pomona Valley and 61.8 percent in the West Valley. These compare to average urban area productivities of fifteen to 25 percent. There are three principal reasons for this: (1) the areas covered are more residential than industrial/commercial and do not represent the typical urban area range and proportion of land uses; (2) Southern California telephone prefixes are more heavily used than almost any telephone prefixes in the country, so that not-in-service numbers have a much lower incidence in Southern California than anywhere else in the United States; and (3) information provided by the telephone company permitted exclusion of a large number of nonresidential numbers from the telephone numbers generated.

Overall, the termination rates of around one to two percent show that interviewers were well-skilled in keeping respondents on the survey, once they had started the interview. The very low termination rate compared to the high refusal rate tends to suggest that the refusal rate cannot be attributed to interviewers.

In the non-eligible contacts, some explanation is needed for one or two categories. The disposition "new listing" refers to the case where a recorded message informs the caller that the number has been changed and provides the new number. Because the number dialed was the one selected, interviewers were instructed not to use the new number provided. That new number might not be in the area, in which case it should not be part of the sample; if it were in the area, it may already be in the sample and its use in this case would lead to the household being called twice. In addition, such a number would violate the randomness of the sample by having twice the probability of any other number of being selected.

When a recorder was encountered, interviewers were also instructed to pursue the number no further. In most cases, it has been found in past surveys and in the pilot survey of this study that very few numbers on which a recorder is encountered yield a response in the usual three attempts. The extremely low productivity from re-calling such numbers mandated their treatment as non-eligible. Finally, if a household was contacted in which no one present could speak either English or Spanish, the number was marked as non-eligible.

The dispositions of "busy" and "no answer" are allocated only after three attempts have been made to call the number. Of the three attempts, at least one was required to be on a weekday evening and one on the weekend. Some of the "no answer" telephones will be businesses that are not open either on evenings or weekends, some will be public telephones, and some will be not-in-service numbers for which the telephone company does not currently have the recorded "not-in-service" message.

Overall, the only remarkable feature of the non-eligible contacts is that there were so few. In both samples, the majority of non-eligible contacts are not-in-service and no answer numbers (43.7% of all numbers in Pomona Valley, and 27.2% in West Valley). These two categories account for 82 percent of the non-eligible contacts in Pomona Valley and 71 percent in West Valley.

The final response to the survey was 2,044 from the Pomona Valley telephone numbers and 494 from the West Valley numbers. The distribution of these samples by location is shown in Figures 4-2 and 4-3. While there are some small differences in the questions asked, these two figures show total combined samples of 272 for Claremont, 432 for LaVerne, 914 for Pomona, and 220 for San Dimas, for a total of 1,838 responses in Pomona Valley. Similarly, there are totals of 120 responses for Upland, 153 for Chino, 73 for Ontario, and 109 for Montclair, giving a total of 455 for the West Valley. The 245 households classified as "other" include households in contiguous communities, households that refused to give their zip code, and households that provided a fictitious zip code. Additional attempts will be made to restore fictitious and missing zip codes by locating addresses from telephone numbers, to the extent possible.

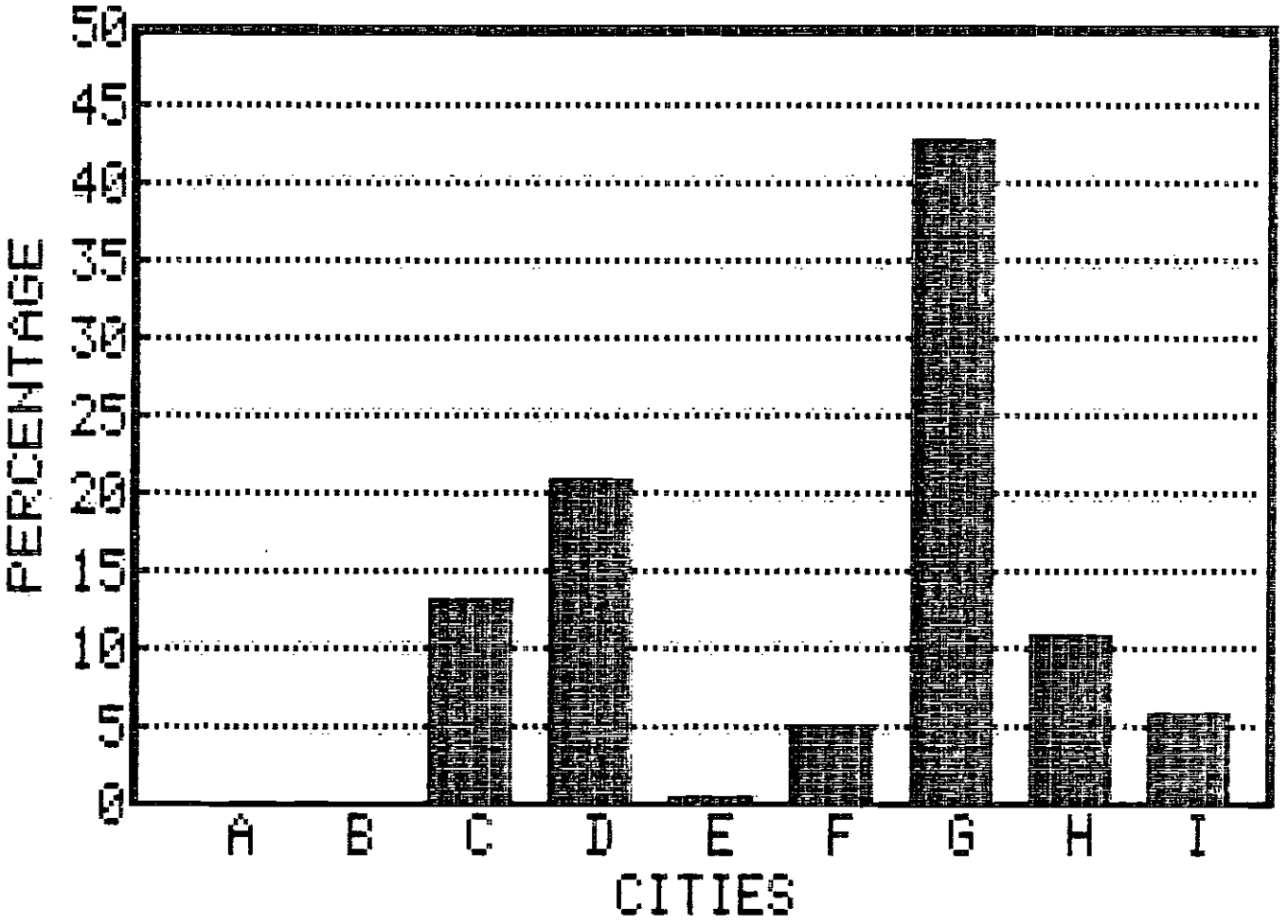
From the responses to the Pomona Valley survey (the 2,044 households), the average household characteristics show the following profile.

- Household size average 3.1 persons per household with fifty percent of households having three or fewer members.
- An average of 1.6 workers per household.
- An average of 2.0 cars per household, with only 4.1 percent of households having no cars.
- An average of 2.1 licensed drivers per household, indicating that most households have a vehicle for every licensed driver.
- A majority (74%) of households are white, with eleven percent Hispanic and nine percent black.
- A majority of households (68%) own their own homes, while 32 percent rent.
- The average income of households is in the range of $20,000 to $25,000 per annum.
- The average age of respondents to the survey is 31 to forty, with 4.4 percent refusing to provide their age.
- The average educational level of respondents is some college, but no degree.

From the respondents interviewed, only 22 percent had used transit in the past year and 89 percent of these had used RTD services.

The profile of the West Valley sample is quite similar and shows the following characteristics.

- Average household size is 3.2 persons per household, with the median size again being three persons per household.

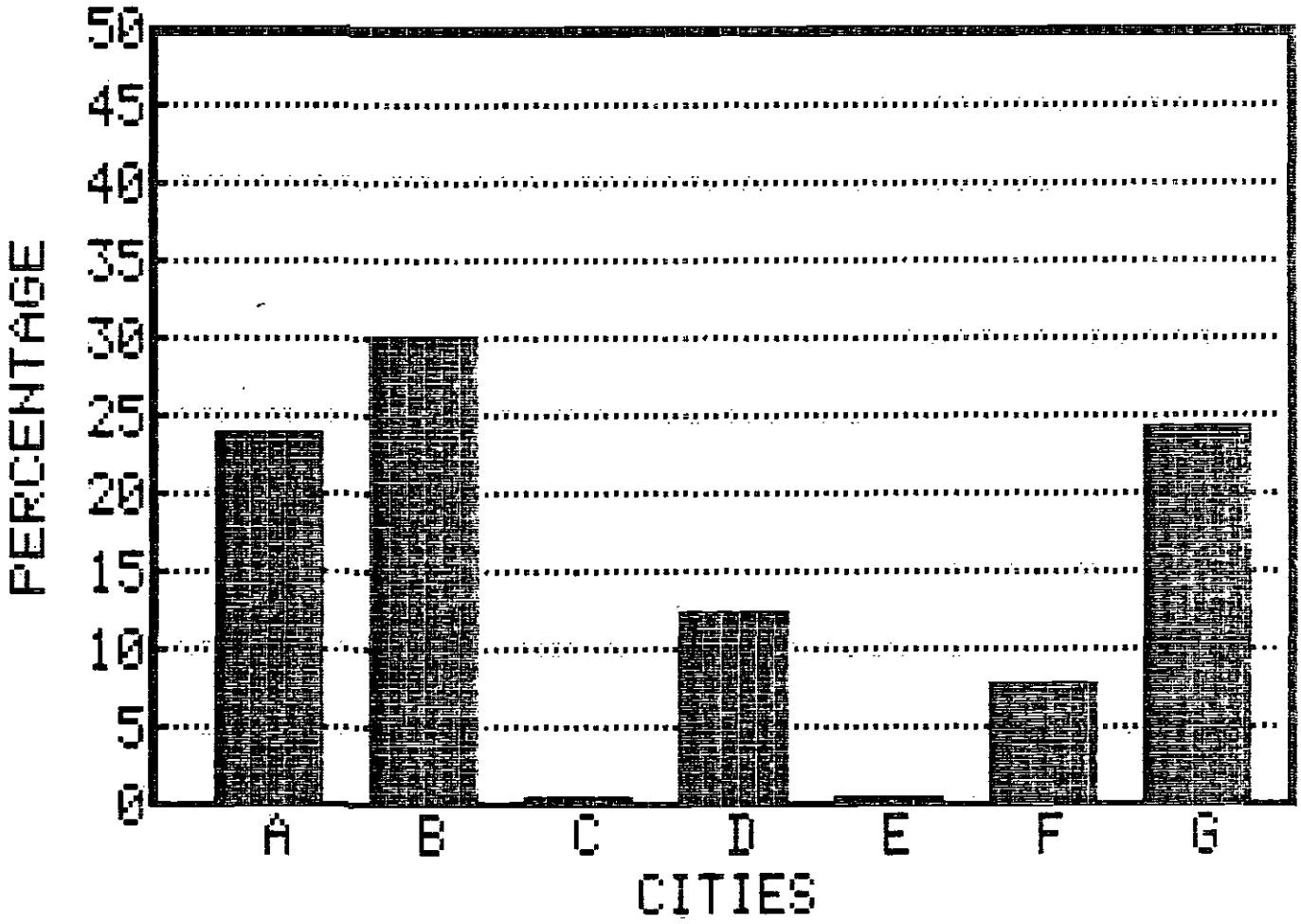


CITIES

A--UPLAND
B--CHINO
C--CLAREMONT
D--ONTARIO
E--MONTCLAIR
F--POMONA
G--OTHER

Figure 4-2

DISTRIBUTION OF HOUSEHOLDS BY LOCATION FOR THE POMONA VALLEY SURVEY SAMPLE



CITIES

A--UPLAND
B--CHINO
C--CLAREMONT
D--ONTARIO
E--MONTCLAIR
F--POMONA
G--OTHER

Figure 4-3

DISTRIBUTION OF HOUSEHOLDS BY LOCATION FOR THE WEST VALLEY SURVEY SAMPLE

- The average number of workers per household is 1.6.
- The average auto availability is 2.1 autos per household and 3.2 percent of households have no car.
- There is an average of 2.1 licensed drivers per household.
- A larger majority (82%) of households are white, eleven percent are Hispanic, and four percent are black.
- Seventy-three percent of households own their own homes.
- The average income is again $20,000 to $25,000 per annum.
- The average age of respondents to the survey is 31 to forty.
- The average educational level of respondents is some college, but no degree.

Of West Valley respondents interviewed, only fourteen percent have used transit in the past year, with 54 percent of these transit users having used RTD services and 34 percent Omnitrans.

A brief comparison shows that the West Valley residents differ from Pomona Valley residents only in having a higher percentage of white households (82% compared to 74%). Also, there are fewer transit users in the West Valley sample (14% compared to 22%).

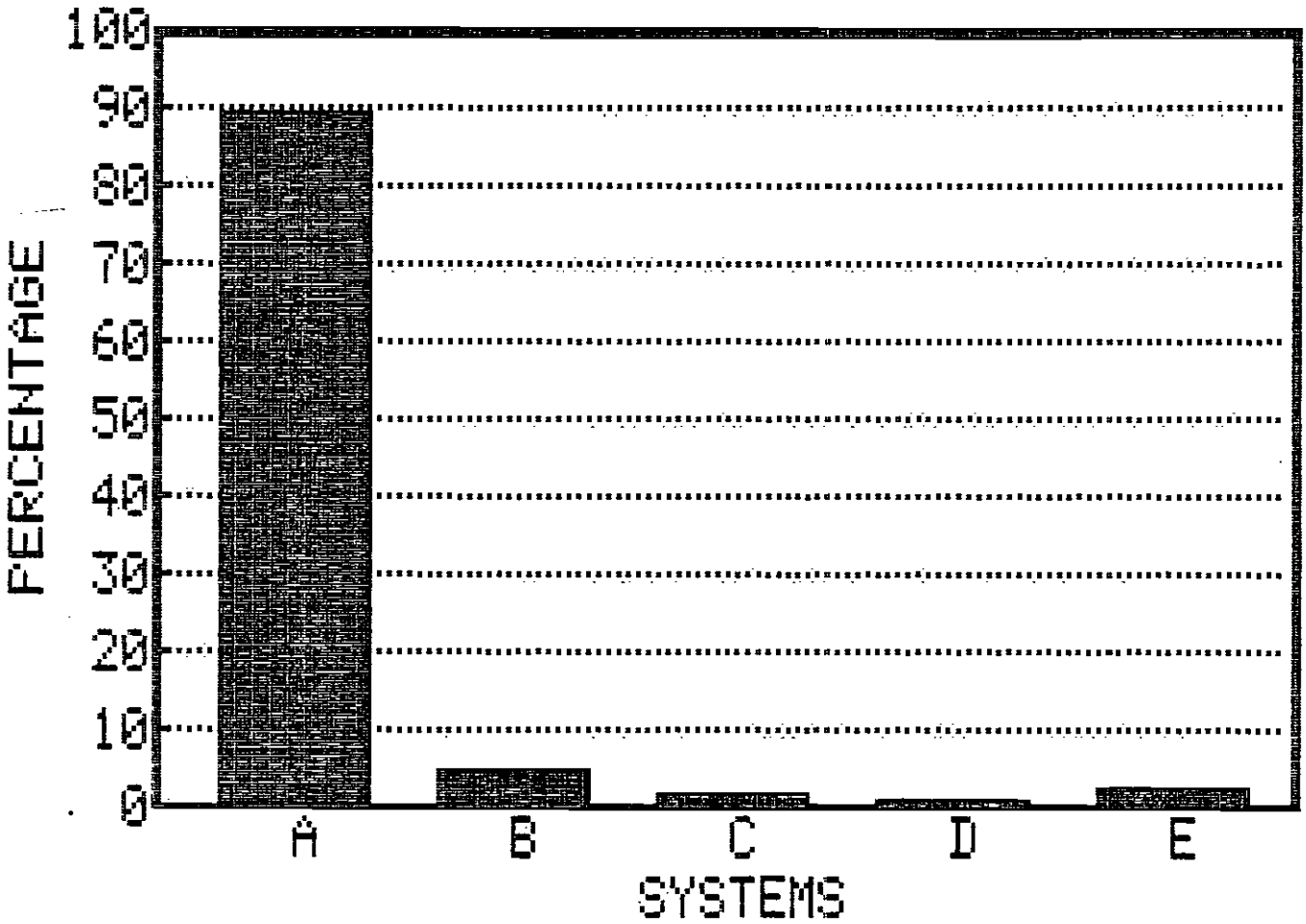
4.2.2 Transit Service and Transit Use

In addition to socioeconomic characteristics of the household, data was obtained on transit use and opinions about the type and characteristics of transit service that should be offered.

4.2.2.1 Pomona Valley Residents

As noted in the previous section, only 22 percent of Pomona Valley residents who were interviewed have used transit services in the past year, and most of these have used RTD services. Figure 4-4 shows the distributions of non-use, use, and services used. Of those who have used transit within the past year, 61 percent are regular users, using transit once or more per month. Figure 4-5 shows the frequency of use and shows that almost 22 percent of those who have used transit in the past year use transit on twenty or more days a month.

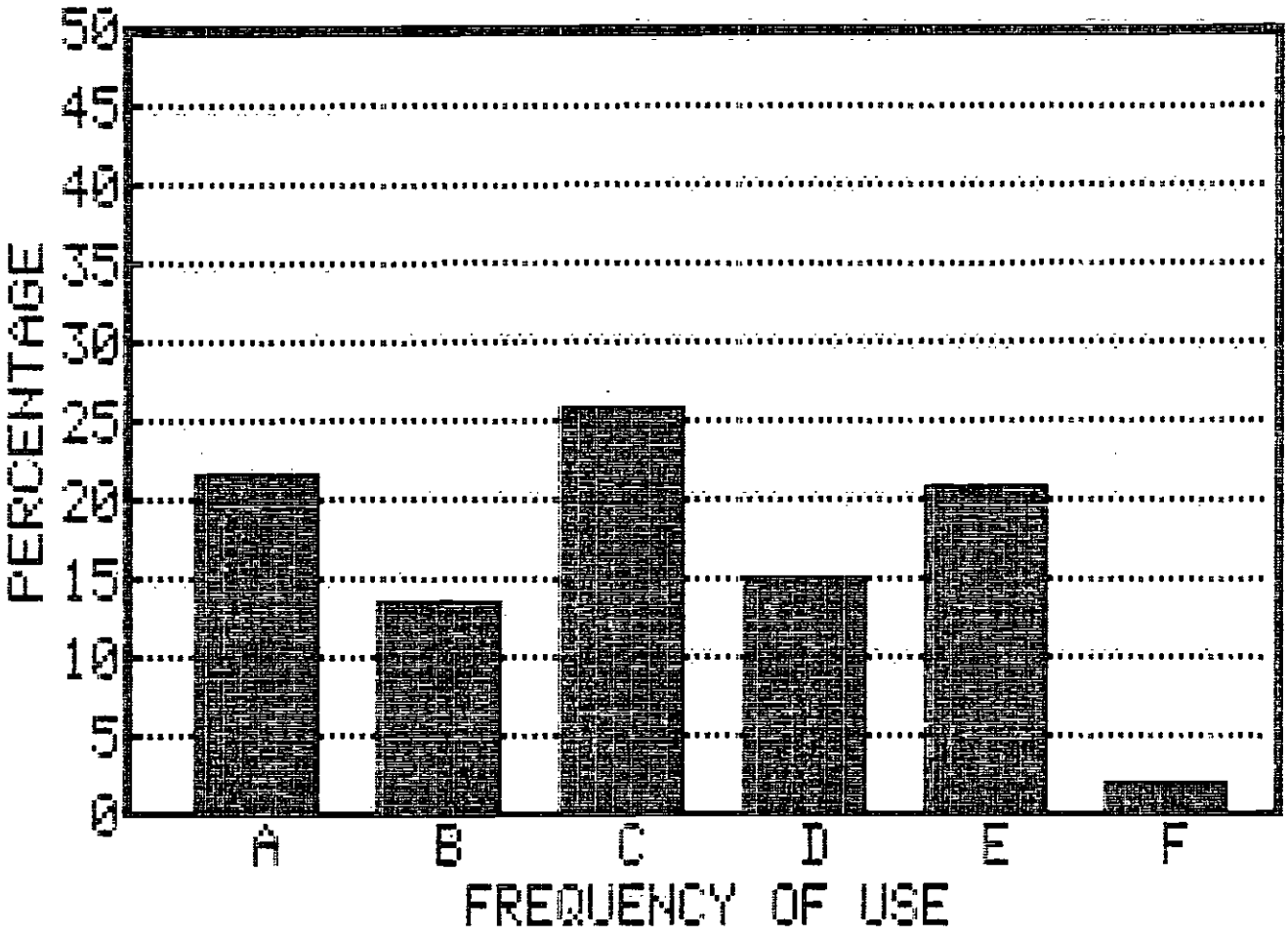
Transit nonusers were asked how important various reasons were for not using transit. Based on the percent of nonusers indicating that the reason was "very important," the rank ordering of reasons, with percentages ranking "very important" is:



SYSTEMS

A--RTD
B--GET ABOUT
C--OMNITRANS
D--CLAREMONT DIAL-A-RIDE
E--OTHER

Figure 4-4
TRANSIT USE OF POMONA VALLEY RESIDENTS



FREQUENCY

A--20 DAYS PLUS
B--5 TO 19 DAYS
C--1 TO 4 DAYS
D--LESS THAN 1 DAY
E--VARIES
F--OTHER

Figure 4-5

FREQUENCY OF TRANSIT USE BY POMONA VALLEY TRANSIT USERS

1. (d) Flexibility of the car (67%)
2. (e) Carry things in the car (43%)
3. (c) No need for transit service (36%)
4. (f) Give rides to others in the car (29%)
5. (g) Inconvenience of schedules and frequency (24%)
6. (b) Ignorant of transit service (17%)
7. (a) No service available (13%).

If one includes those who also rated the reasons as "important," the rank ordering remains unchanged, but the percentages increase to 89 percent for "Flexibility of the Car" to 29 percent for "No Service Available." Only two percent of respondents gave any additional reason.

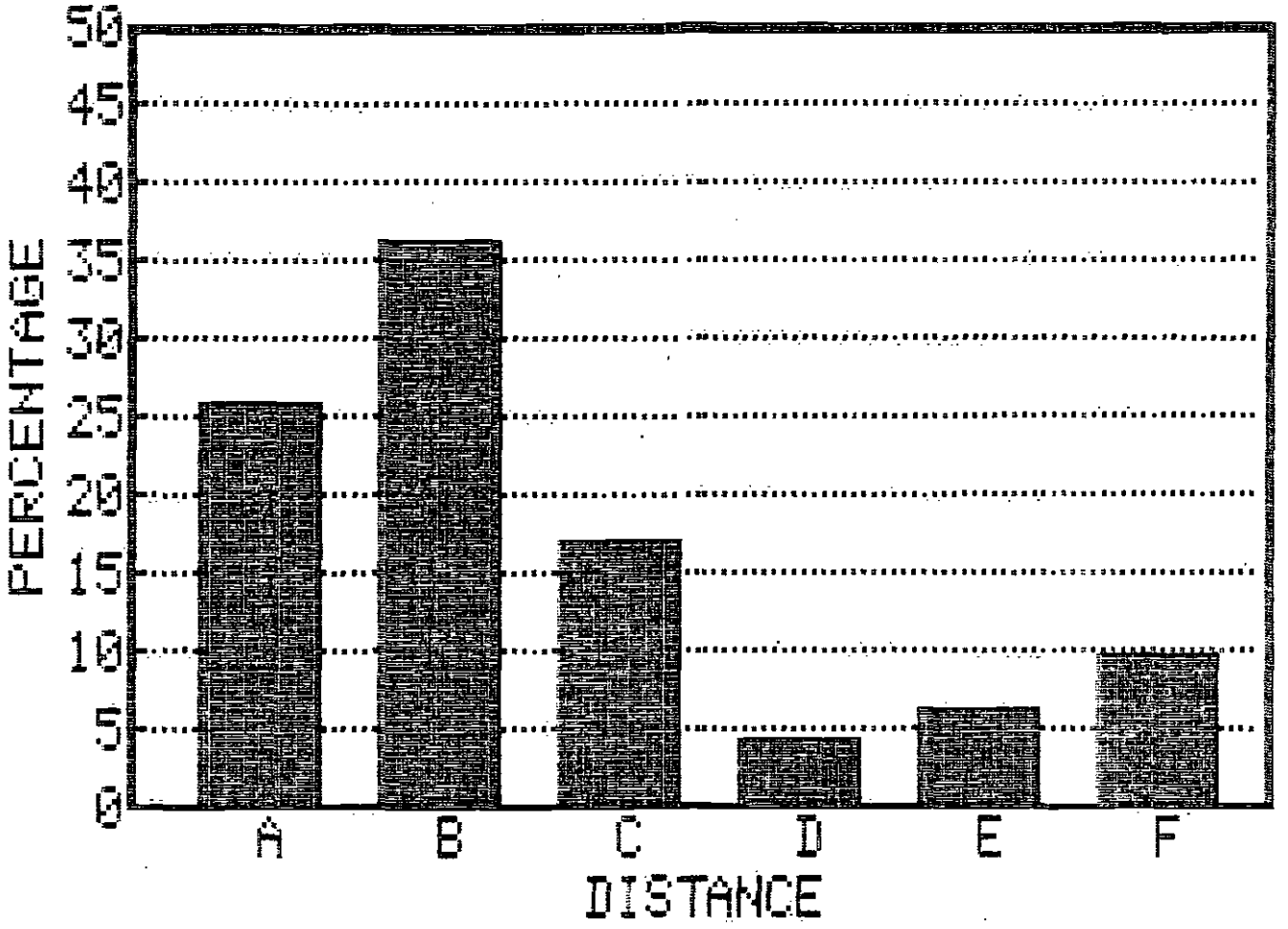
On the whereabouts of the nearest bus stop, ten percent claimed not to know the location of the stop, while 62 percent indicated that it was not more than three blocks away, as shown in Figure 4.6. Although ignorance of the bus system was not rated very high as a reason for nonuse of the bus system, 45 percent of repondents claim to know very little about service and another 27 percent claim to know nothing (Figure 4-7).

On the question of whether or not there should be transit service in Pomona Valley, the large majority support transit service; 79 percent indicated "definitely yes" there should be transit service and nineteen percent answered "probably yes." Less than one percent indicated "probably no" and just over one percent answered "definitely no." This last group was not asked any further questions about transit service.

Responses to the groups of people to be served and the types of transit service that should be provided are shown in Figures 4-8 and 4-9, respectively. From Figure 4-8, as expected, 99 percent of the population think service should be provided for the elderly, 98 percent think it should be provided for the handicapped and 97 percent for low income residents. Support seems weakest for providing transit service to public grade school students and for everyone in the Valley. In general, however, there is little to distinguish responses on the various groups and most differences are not statistically different from each other. A tentative ordering of service priorities would be:

1. The elderly
2. The handicapped
3. Low-income residents
4. People traveling to jobs elsewhere in Los Angeles
5. People traveling to jobs locally
6. College students
7. Everyone in the Valley
8. Public grade-school students.

There is a little more variation in responses to type of service as shown in Figure 4-8. Strongest support is for service to Ontario airport followed by local bus service to park-and-ride lots for express service to downtown Los Angeles and service to LAX. Least support is shown for service within Pomona Valley only and for dial-a-ride service for everyone. Based on the percentages of "definitely should" ratings (using "probably should" only as a tie-breaker), the tentative ranking of services is:



DISTANCE

A--1 BLOCK
B--1 TO 3 BLOCKS
C--4 TO 6 BLOCKS
D--7 TO 10 BLOCKS
E--OVER 10 BLOCKS
F--DON'T KNOW

Figure 4-6

DISTANCE TO NEAREST BUS STOP - POMONA VALLEY RESIDENTS

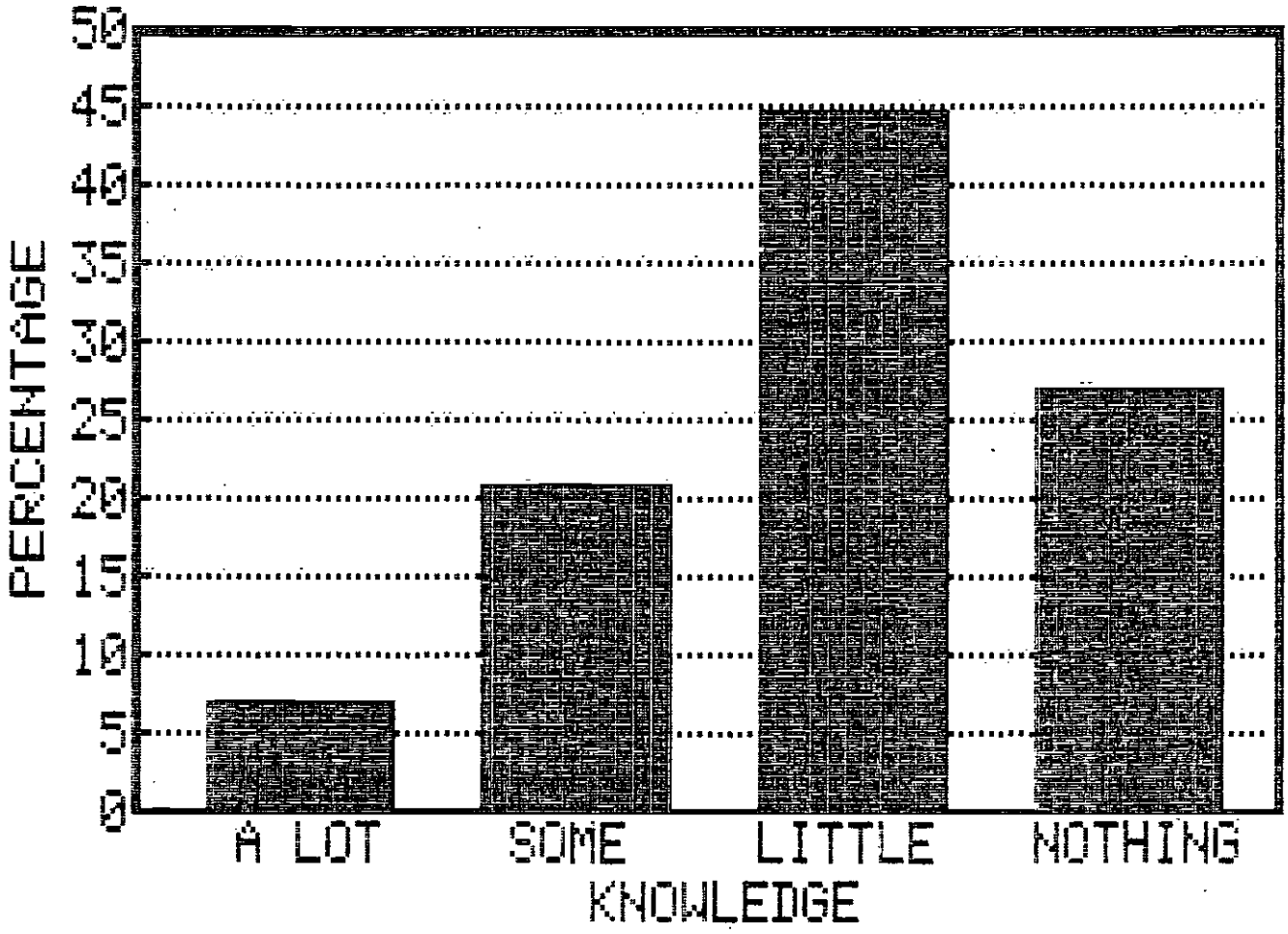


Figure 4-7

KNOWLEDGE OF TRANSIT SERVICE - POMONA VALLEY RESIDENTS

FIGURE 4-8

RESPONSES ON GROUPS OF PEOPLE WHO SHOULD BE SERVED BY TRANSIT

2. THERE ARE A NUMBER OF DIFFERENT GROUPS OF PEOPLE THAT TRANSIT SERVICE COULD SERVE. I AM GOING TO READ EIGHT GROUPS TO YOU. FOR EACH ONE, PLEASE TELL ME IF YOU THINK THEY SHOULD BE SERVED OR NOT BE SERVED. FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSES AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.

		DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT
a.	People traveling to jobs locally	68%	28%	3%	1%
b.	Public grade school students	50%	30%	10%	10%
c.	Low-income residents	74%	23%	2%	1%
d.	College students	66%	28%	4%	2%
e.	The elderly	85%	13%	*	*
f.	People traveling to jobs elsewhere in the Los Angeles region	70%	26%	3%	2%
g.	The handicapped	82%	16%	2%	1%
h.	Everyone, including those we haven't mentioned already	56%	39%	4%	1%

*Less than one percent.

Note: Due to rounding, percentages may not add to exactly 100 percent.

FIGURE 4-9

RESPONSES ON TYPES OF TRANSIT SERVICE TO BE PROVIDED IN POMONA VALLEY

3. THERE ARE MANY DIFFERENT TYPES OF TRANSIT SERVICE THAT COULD BE PROVIDED IN POMONA VALLEY. I AM GOING TO READ YOU SOME OF THOSE. FOR EACH ONE, PLEASE TELL ME IF YOU THINK IT SHOULD BE PROVIDED OR SHOULD NOT BE PROVIDED. FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINTELY SHOULD NOT
a. Regularly-scheduled local transit service in Pomona Valley only.	31%	21%	15%	33%
b. Regularly-scheduled transit service to and from the Montclair-Ontario-Upland area.	60%	35%	4%	2%
c. Regularly-scheduled transit service to the San Gabriel Valley.	50%	40%	7%	3%
d. Transit service to Ontario airport.	70%	23%	4%	3%
e. Transit service to LAX airport.	61%	24%	9%	6%
f. Regularly-scheduled transit service to and from other areas in Los Angeles County.	52%	39%	6%	3%
g. Regularly-scheduled transit service to and from Orange County.	40%	42%	13%	6%
h. Local bus service to park-and-ride lots for express service to downtown LA.	66%	26%	4%	3%
i. Expanded park'n'ride and express service.	60%	33%	5%	3%
j. Dial-a-ride service for all Pomona Valley residents, not just elderly and handicapped.	39%	28%	13%	20%

Note: Due to rounding, percentages may not add to exactly 100 percent.

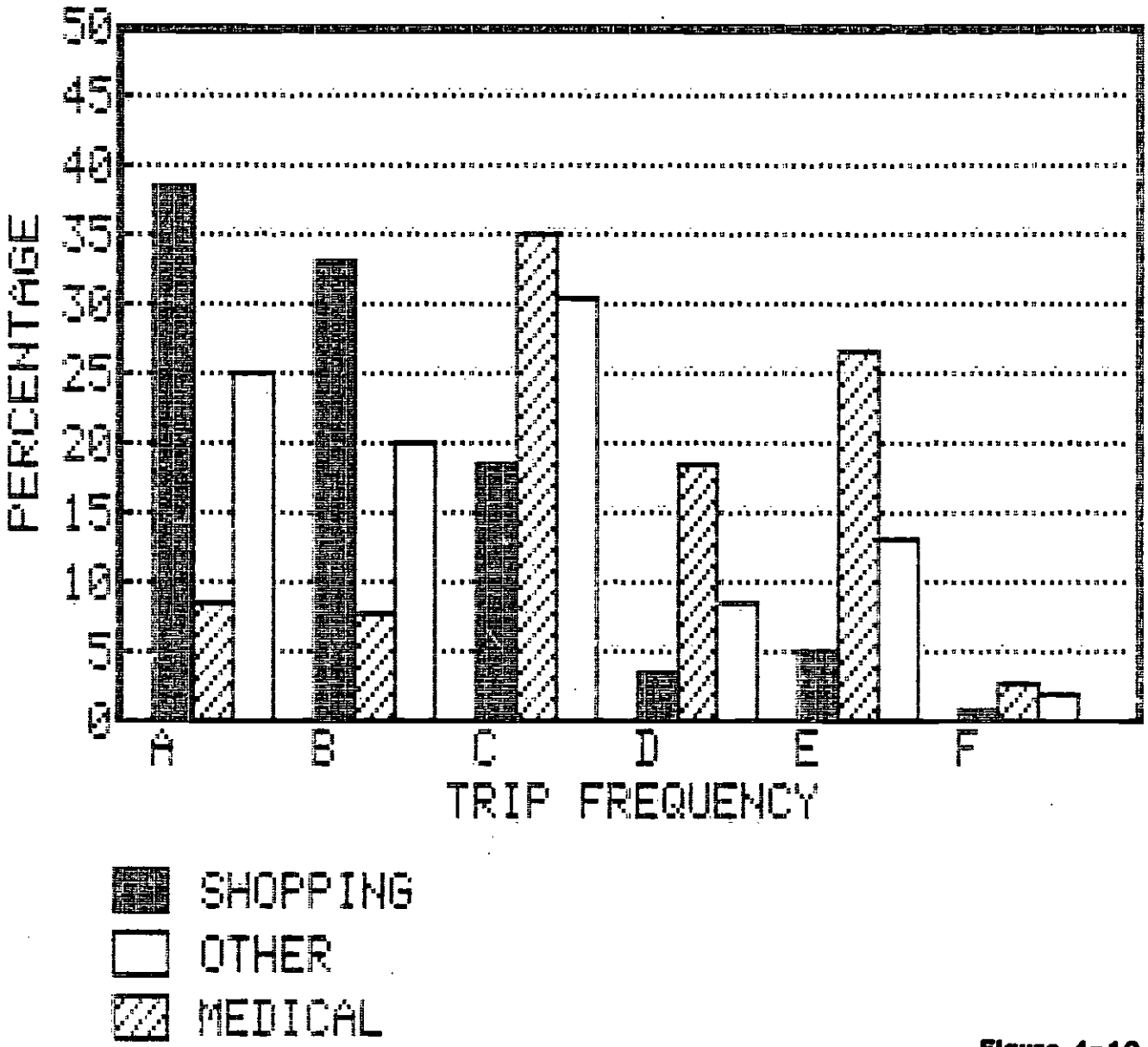
1. Service to Ontario airport
2. Service to connect to express service to downtown Los Angeles
3. Service to LAX
4. Service to and from Montclair-Ontario-Upland
5. Expanded park-and-ride and express service
6. Service elsewhere in LA County
7. Service to the San Gabriel Valley
8. Service to Orange County
9. Dial-a-ride service for all residents
10. Service within Pomona Valley only.

When respondents were asked about the type of service that should be provided for them to use it, just over 39 percent indicated they would not use transit service in any instance. Of those who indicated that they might use transit service (including current users), transit service characteristics should be as follows:

Days of service:	Seven days a week (42%) Monday through Friday (40%)
Hours of service:	Daytime (30%) Day and evening (28%)
Frequency of service:	20 to 30 minutes (43%) 30 to 60 minutes (30%)
Distance to bus stop:	1 to 3 blocks (53%) 4 to 6 blocks (29%)
Call-up time for dial-a-ride service:	1 to 4 hours (34%) 30 to 60 minutes (31%).

Behavioral intent questions generally receive a higher indication of response than would be achieved in reality and Pomona Valley residents appear to be no exception to this as shown by the next group of responses. Respondents who indicated they would not use transit at all are excluded from the following figures.

Of those who currently work outside the home or go to school or college, 71 percent said they would use transit for work/school trips. For shopping trips, 58 percent said they would use transit for such trips and 42 percent of the respondents (72% of those who said they would use transit for shopping trips) said they would use transit one or more times a week for shopping. Just over 51 percent said they would use transit for medical-related trips and 27 percent of respondents (52% of those who would use transit) indicated a frequency of use of one or more times per month. For other travel, 59 percent indicated they would use transit and 44 percent (76% of those who would use transit) indicated an expected frequency of use of one or more times per month. Frequency of use for the three trip purposes are shown together in Figure 4-10. A full summary of all results is shown in Appendix B.



FREQUENCY

A--2 OR MORE A WEEK
B--ONCE A WEEK
C--1 TO 4 A MONTH
D--UNDER ONCE A MONTH
E--RARELY
F--OTHER

Figure 4-10

EXPECTED FREQUENCY OF TRANSIT USE FOR SHOPPING, MEDICAL AND OTHER TRIPS - POMONA VALLEY SAMPLE

4.2.2.2 West Valley Residents

For the West Valley sample, responses are summarized in Appendix C. In this narrative, results that pertain to questions asked of West Valley residents alone are described, together with responses that are significantly different from the results for Pomona Valley residents.

The only reason for not using transit that was cited as very important more often by West Valley residents than Pomona Valley residents is the inconvenience of schedules and service frequency, which ranks third in importance for West Valley, compared to fifth for Pomona Valley. Twice as many West Valley residents state that the nearest bus stop from home is either over ten blocks away or they don't know where it is. Only seventeen percent say they have a bus stop within one block, compared to 26 percent of Pomona Valley residents.

Two percent of West Valley residents think that there definitely should not be service between Pomona Valley and their homes and four percent think that probably such service should not be provided. These percentages compare to two percent of Pomona Valley residents who think that transit service probably or definitely should not be provided in Pomona Valley.

In response to questions on the groups of people who should be provided with transit service, West Valley residents show more inclination to provide a "definitely should" response. The rank order of groups to be served is much the same. Shoppers are ranked second lowest, with the lowest ranking being everyone. For West Valley residents, shoppers were included in place of public grade school students, and commuters were asked in one group instead of being split into those with local jobs and those elsewhere in Los Angeles County. These changes have minimal effect on the rankings; shoppers are ranked slightly higher by West Valley residents than grade-school students were by Pomona Valley residents; and commuters are ranked the same by both samples.

On types of service and service areas, West Valley residents ranked service to and from Pomona Valley highest, followed by service to downtown Los Angeles, park-and-ride express service, and service to Ontario airport. Based on the "definitely should" ratings, the rank order of service options is:

1. Service to and from Pomona Valley
2. Local service to park-and-ride lots to express service to downtown LA
3. Park-and-ride express service
4. Service to Ontario airport
5. Dial-a-ride service for all residents
6. Service to LAX
7. Service to and from Orange County.

A higher proportion of West Valley residents would not use transit service at all (48%) than Pomona Valley residents (39%). On the service characteristics that would meet minimum requirements for use, there are very few differences. West Valley residents rate Monday through Friday service highest, followed by seven days a week, while Pomona Valley residents had these in the reverse

order. For both, daytime service was given as sufficient by the largest group, followed by daytime and evening. A similar response pattern is shown for both samples for service frequency, for distance to the bus stop, and for calling time for dial-a-ride service.

Fewer West Valley residents who responded work outside the home or are in school or college (55% compared to 72%), but otherwise intended use of transit is slightly higher for West Valley residents than Pomona. There is little difference in expected frequency of use, except for "other" travel, where 98 percent of West Valley residents who would use transit think they would use transit at least once a week, compared to 45 percent of Pomona Valley residents at this frequency.

5. FINANCIAL RESOURCES

5. FINANCIAL RESOURCES

This chapter identifies existing and projected financial resources that could be used for capital or operating costs for transit improvements in the Pomona Valley. These include local sources of financing and state and federal transportation funding sources. Innovative financing techniques that could be considered also are identified.

5.1 LOCAL SOURCES

At the local level, the cities of San Dimas, LaVerne, Claremont, and Pomona have two existing basic sources of revenue that could be applied to improved transit service in the Pomona Valley: General Revenues and Proposition A funds. General revenues accrue to the cities from a variety of sources. Typically, sales taxes and property taxes provide a significant portion of the income. Due to declining revenues and the increased cost of providing services, the general revenue funds are not expected to be a viable source for financing transit improvements. Proposition A funds refer to the cities allocated share of a one-half cent sales tax in Los Angeles County which was approved by voters as Proposition A on the 1980 general election ballot.

This one-half cent sales tax is dedicated to transit improvements. In FY 1982/1983 this tax is expected to generate $224 million in funds for Los Angeles County. Twenty-five percent of this amount (less administrative costs) is set aside in a special fund and then divided among the 82 cities and the county unincorporated area, according to the population of each jurisdiction. The expenditures by the recipients is administered according to guidelines established by the Los Angeles County Transportation Commission (LACTC). Cities have wide discretion in spending the money, but the projects primarily must benefit public transit users. The balance of the fund is for reductions in the RTD fare structure. The fare reduction program will also provide for an additional service necessary to relieve overcrowding induced by the lower fare. Any leftover funds will be available for the fixed guideway programs.

After June 30, 1985 the lower bus fares will no longer be guaranteed by Proposition A funds. At that date, 25 percent of receipts will continue to be returned to local jurisdictions for local transit programs. At least 35 percent will be allocated by the LACTC for construction and operation of the rail transit system. The remaining forty percent will be allocated by the LACTC on a discretionary basis.

5.2 STATE SOURCES

At the state level, funding for transportation services is available from two funding sources under the Transportation Development Act (TDA): the County Local Transportation Fund and the State Transit Assistance Fund. Also, of particular concern is the payment for transportation of the large number of developmentally disabled through the Department of Developmental Services of the State of California Health and Welfare Agency.

The TDA creates in each county a local source for the funding of public transportation. Revenues are derived from 1/4 cent of the six cent retail sales tax. Funds are allocated to each county according to the amount of tax collected in that county. Regionally, allocations are made by the Southern California Association of Governments (SCAG) with prior approval of the LACTC and, in San Bernardino County, SANBAG. TDA funds in Los Angeles County primarily go to RTD. However, in Pomona Valley, Claremont Dial-a-Ride and Get About Transportation currently receive a portion of the TDA funds collected. RTD receives the remainder of the funds. To receive all of the TDA funds directly, the cities in Pomona Valley would have to withdraw from RTD and establish a totally separate transit operation. Gross receipts due Los Angeles County for the year ending June 30, 1983 are expected to be about $112 million for the local transportation fund.

The State Transit Assistance (STA) program provides a second source of TDA funds for public transportation. Funds for the program are derived from the statewide sales tax. Funds are allocated to SCAG, SANBAG, and to the LACTC based upon a formula. The formula is seventy percent according to population and thirty percent according to transit operator revenues for the prior fiscal year. The estimated FY 1982/83 allocations are: SCAG--$1.7 million; LACTC $27.7 million; and SANBAG $97,000. The funds are ultimately allocated to transit operators. RTD is expected to receive $17.7 million of STA funds in FY 1982/83. In Pomona Valley, Claremont Dial-a-Ride is expected to receive about $4,000 in STA funds.

A current funding problem in the Pomona Valley area deals with transportation for developmentally disabled residents. The Get About Transportation system currently carries significant numbers of the developmentally disabled to workshops in the Pomona Valley. These clients put a strain on the system and result in limitations on the numbers of seniors and handicapped residents that can be served. In September, 1982, Get About requested that it be allowed to charge the State Department of Developmental Services (DDS) a breakdown rate of $1.64 per mile for transporting these clients. In a letter of September 29, 1982 the DDS denied that request on the basis that all riders should pay the same fare. Get About Transportation continues to have financial difficulties due to this decision.

5.3 FEDERAL SOURCES

Federal financial assistance for transit is managed by UMTA. UMTA administers funds for both capital and operating assistance. The Federal Public Transportation Act of 1982, which went into effect on January 6, 1983, has made significant changes in the UMTA programs for financial assistance. Total nationwide funding levels for the programs for fiscal years 1983-1986 are shown in Table 5-1. Only those categories that apply to the Los Angeles area have been shown.

TABLE 5-1

UMTA FUNDING LEVELS
(THOUSANDS OF DOLLARS)

	1983	1984	1985	1986
Section 3	1,606,000	1,250,000	1,100,000	1,100,000
Section 5 (Total)	1,200,000	0	0	0
Tier I	680,000	0	0	0
Tier II	125,000	0	0	0
Tier III	70,000	0	0	0
Tier IV	325,000	0	0	0
Section 9 (Total) Population of 200,000 and above.	229,338	958,803	1,028,665	1,063,535
Bus Incentive	0	149,249	160,185	165,615
Rail Basic	229,338	774,015	830,425	858,575
Rail Incentive	0	35,539	38,055	39,345

Source: Urban Mass Transportation Administration.

Section 3 funds are allocated by UMTA on a discretionary basis for capital improvements. A 25 percent local match is required. Capital expenditures for buses and related facilities could be funded out of this section. Beginning in 1984, Section 3 will be funded from the Mass Transit Account of the Highway Trust Fund which is the repository of federal gas tax receipts. In 1983, $500 million is reserved nationwide for buses and bus facilities. Twenty-five million dollars has been allocated for a new rail start in Los Angeles and $50 million is slated for planning studies nationwide.

Section 5 is for capital or operating assistance. The program is scheduled to end in 1983. The federal share on capital projects is eighty percent and on operating assistance fifty percent of net costs. The funds are allocated on a formula basis (formulas differ for tier categories). The Los Angeles-Long Beach urbanized area is apportioned the following amounts for FY 1983:

Tier I (Operating and Capital)	$ 48,104,219
Tier II (Operating and Capital)	13,001,349
Tier III (Fixed Guideway & Commuter Rail Support)	1,147,861
Tier IV (Bus Capital Support)	27,770,399
TOTAL	$100,023,828

The amount available for operating assistance in FY 1983 is limited to an amount equal to eighty percent of its apportionment in FY 1982 for Tiers I, II, and III. For the Los Angeles-Long Beach urbanized area the limitation on operating assistance is $66,838,000.

Section 9 funds are in the form of a block grant. For 1983 only this section will be funded at $229 million for urbanized areas with populations over 200,000 from the Mass Transit Account of the Highway Trust Fund. For FY 1983 these funds can only be used for capital projects. For FY 1984-86 these funds can be used for block operating and capital projects. The limit that can be used for operating expenses is the same as under the Section 5 program.

The funds will be awarded to each designated recipient according to the following formula:

- Bus
  - 50% bus revenue miles
  - 25% 1980 census population
  - 25% population density
- Rail
  - 60% fixed guideway revenue vehicle miles
  - 40% fixed guideway route miles

Beginning in FY 1984 there is an incentive tier for both bus and rail for urbanized areas with population over 200,000. In FY 1984, $35 million of the rail funds will be awarded according to the cost per passenger mile. In the same year, $149 million of the bus funds will be awarded on the same criteria. Using the above formula the FY 1983 apportionment from the Mass Transit Account of the Highway Trust Fund for the Los Angeles-Long Beach urbanized area would be $29,184,000. The federal share is eighty percent for capital projects and fifty percent for operating projects.

Transit improvements in Pomona Valley could be eligible for funding from Section 3 and Section 9 programs of UMTA.

5.4 OTHER FINANCING TECHNIQUES

In addition to the above financial resources already in place, new financing techniques could be used to fund transit improvements in the Pomona Valley. These techniques are briefly described in this section. Some of the techniques are increases in existing revenue sources. Others are completely new sources. They vary considerably in the ease and acceptability of implementation, as well as in their ability to produce the amount of money required for improvements. If the Project Management Committee desires to consider these measures further they will be carried into the implementation task and more detail will be developed.

Financing techniques generally can be divided into two categories: General Taxes and Charges and Benefit-Related Taxes and Charges. General taxes and charges include property tax, retail sales tax, personal income tax, payroll tax, utilities tax, alcoholic beverage tax, tobacco products tax, motor fuel tax, business license tax, and lottery. All of these measures are in use in the U.S. for financing transit. The money generated from these measures could be dedicated to transit or could accrue to general funds and be appropriated for transit purposes. Many of these measures are now used to

finance transit in Southern California (particularly, property tax, sales tax, and motor fuel tax). It is likely to be difficult to increase these taxes. Other new measures would require local and/or state legislation and could be subject to a public referendum.

Benefit-related taxes and charges include: taxing real estate value increments, motor fuel taxes, motor vehicle taxes, and parking charges. These taxes may be more acceptable than general taxes because they are geared to segments of the population that benefit from expanded transit service. In the first measure, property owners are taxed based upon the increased value of their property due to transit service provided. The difference in property value is difficult to determine in many cases; however, the tax could be applied to a business district as a benefit assessment district. Transit would bring in more customers; therefore, the businesses are asked to contribute to the cost of the service. Motorists would benefit from increased transit service and roads and parking facilities would be less crowded. Therefore, they could be required to return a portion of the benefit to the transit system through higher gas taxes, higher vehicle registration fees, or higher parking fees. In the latter case, a city parking fund could be established with all or a portion of the revenues going to transit. Income could be from parking meters, charges in city-owned lots, or from a fee levied on parking spaces in the municipality.

6. SERVICE ALTERNATIVES

6. SERVICE ALTERNATIVES

A total of five transit service alternatives were developed for Pomona Valley based on identification of market areas which have a propensity for transit use, locations of major transit generators, and review of the characteristics of several potential transit service types. The results of the interviews with city officials and local elected leaders, final goals and objectives established for the study, results of the telephone survey of Pomona Valley residents, distribution of trips produced in Pomona Valley, and the review of existing transit services were also employed in the development of the alternatives. This chapter discusses the process used in the identification of transit market areas and major generators, identifies service barriers that impede service efficiency or hinder implementation of service improvements, defines several types of transit services that were considered by the PMC for application in Pomona Valley, and describes the characteristics of the service alternatives developed for consideration by the PMC.

6.1 IDENTIFICATION OF TRANSIT MARKET AREAS

A successive overlays technique was utilized to identify transit market areas in Pomona Valley. This technique provides a simple and effective method for defining those portions of Pomona Valley which have a propensity to use transit and, therefore, are candidates for public transportation services.

Several socioeconomic characteristics indicative of transit use were selected to define existing market areas. The selected indicators include total population density, population 65 and older density, minority population density, percentage of households with income less than $10,000, and percentage of occupied units with one auto or no autos available. Data on each of these indicators were available by census tract from the 1980 Census.

Application of the successive overlays technique to identify areas with transit use potential required several steps. First, the indicators were stratified to reflect high, medium, and low propensities to use transit. Table 6-1 lists the transit use indicators and the ranges of values selected for each propensity level. The value ranges were subjectively selected based upon a review of the census tract data and profiles of transit riders from RTD surveys conducted on Pomona Valley lines. Next, each census tract's propensity to use transit was classified according to each of the five indicators. Using a series of transparent overlays over a census tract map with each labeled with one of the indicators of transit use, each census tract was then graphically recorded to reflect high, medium, and low propensities to use transit for each indicator. Shadings of gray were used to depict each level of transit use. A high propensity to use transit was represented by the darkest shade, medium propensity by a lighter shade, and no propensity by no shading at all. The series of transparancies were then successively superimposed, resulting in a composite overlay showing the various shadings of gray. Areas that were darkest indicated census tracts having the highest transit potential.

TABLE 6-1

TRANSIT USE INDICATORS AND PROPENSITY LEVELS

Indicator	Transit Use Propensity Levels	
Total Population Per Acre	Low Propensity	0-4.99 persons
	Medium Propensity	5.0-9.99 persons
	High Propensity	10.0 and above
Population 65 and Over Per Acre	Low Propensity	0-.29 persons
	Medium Propensity	.30-.99 persons
	High Propensity	1.0 and above
Minority Population Per Acre	Low Propensity	0-.99 persons
	Medium Propensity	1.0-4.99 persons
	High Propensity	5.0 and above
Percentage Households with Incomes Less than $10,000	Low Propensity	0-24.99 percent
	Medium Propensity	25-39.99 percent
	High Propensity	40 percent and above
Percentage Occupied Units with One Auto or No Autos Available	Low Propensity	0.24.99 percent
	Medium Propensity	25-49.99 percent
	High Propensity	50 percent and above

Source: Schimpeler•Corradino Associates.

Following is a discussion of the transit indicator ranges used, and the results of application of the successive overlays technique to identify transit market areas in Pomona Valley.

6.1.1 Total Population

Generally, the propensity to use transit increases along with population density. Census tracts within Pomona Valley have varying levels of population density ranging from a low of 1.13 persons per acre to a high of fourteen persons. The median population density is 7.16 persons. In terms of propensity to use transit, the ranges used were: ten and above as high propensity; five to 9.99 as medium propensity; and 0 to 4.99 as low propensity. Accordingly, a total of six tracts were found to have a high propensity to use transit and nineteen tracts a medium propensity. The remaining eleven tracts have a low propensity for transit use. Figure 6-1 shows propensity of each census tract to use transit according to population density.

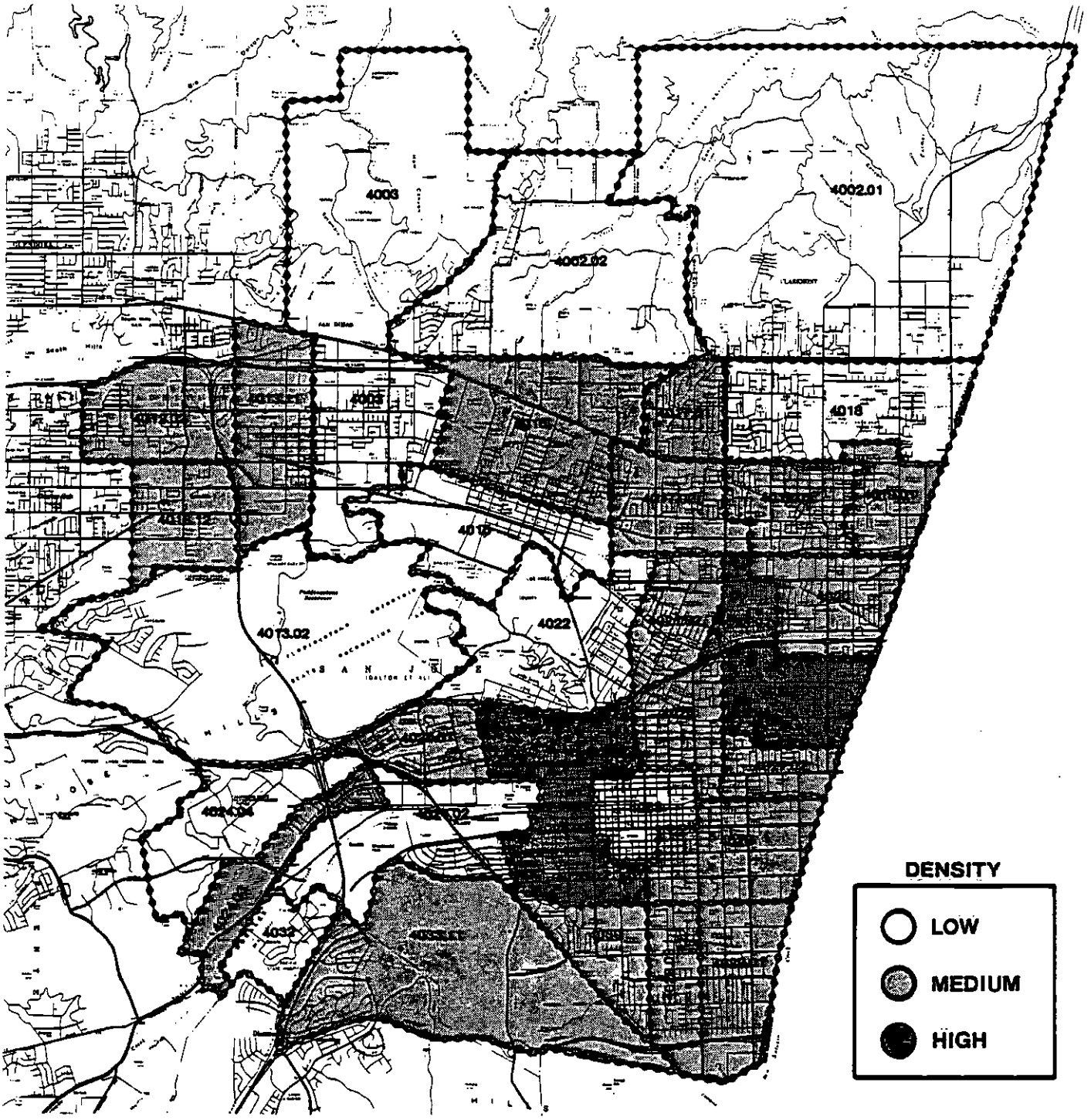


Figure 6-1
TOTAL POPULATION

6.1.2 Population Age 65 and Older

The elderly represent a significant proportion of the transit market principally because they have a greater problem driving an automobile due to physical limitations and the costs associated with automobile ownership and maintenance often surpass their limited financial resources. Therefore, this socioeconomic variable was selected as a valuable indicator of transit use. The densities for the population age 65 and older computed for census tracts ranged from 0 to 2.64 persons per acre, with a median of 0.48. Values from 1.0 and above represented a high propensity for transit use; from .30 to .99 persons a medium propensity; and less than .30 persons, a low propensity. Based on these value ranges for each propensity level, eight census tracts displayed a high propensity for transit, fifteen a medium propensity, and thirteen a low propensity. The propensity of each tract according to density of population age 65 and older is shown in Figure 6-2.

6.1.3 Minority Population

Results from RTD surveys of Pomona Valley lines show that a high proportion of transit riders are Blacks or Hispanics. In view of this finding, these minorities were aggregated on a census tract basis. Densities computed ranged from 0.13 to 10.39 persons per acre, with a median of 1.87 persons. The stratification of minority population densities into high, medium, and low propensities to use transit is as follows: five and above; 1.0 to 4.99; and 0 to .99, respectively. Accordingly, a total of six tracts showed a high propensity to use transit, sixteen tracts a medium propensity, and fourteen tracts a low propensity. Figure 6-3 shows each census tract's propensity to use transit according to the density of the minority population.

6.1.4 Percentage of Households with Incomes of Less than $10,000

Lower income families have traditionally used public transportation services more than the higher income strata of the population. This is generally due to the high cost of owning and maintaining an automobile. Results of the RTD survey of Pomona Valley lines show that over half of the transit users in Pomoma Valley have household incomes of less than $10,000. The percentage of households with incomes less than $10,000 for the 36 census tracts in Pomona Valley ranged from 0 to 61.7 percent, with a median of 23.4 percent. In terms of propensity to use transit, the ranges used for the three propensity levels were: forty percent and above as high propensity; 25 to 39.99 percent as medium propensity; and 0 to 24.99 as low propensity. Classification of the 36 tracts according to these propensity level ranges resulted in seven tracts with a high propensity for transit, eleven tracts with a medium propensity, and eighteen tracts with a low propensity. The propensity of each census tract to use transit according to income is shown in Figure 6-4.

6.1.5 Percentage of Occupied Units with One or No Autos

Historically, automobile ownership has been one of the most widely used variables for estimating transit use. It is generally agreed that persons without access to an automobile are more likely to use transit than those with an automobile available. Results from the RTD survey of transit riders support this viewpoint. The results reveal that over half of the Pomona Valley transit riders have either one or no automobile available in their

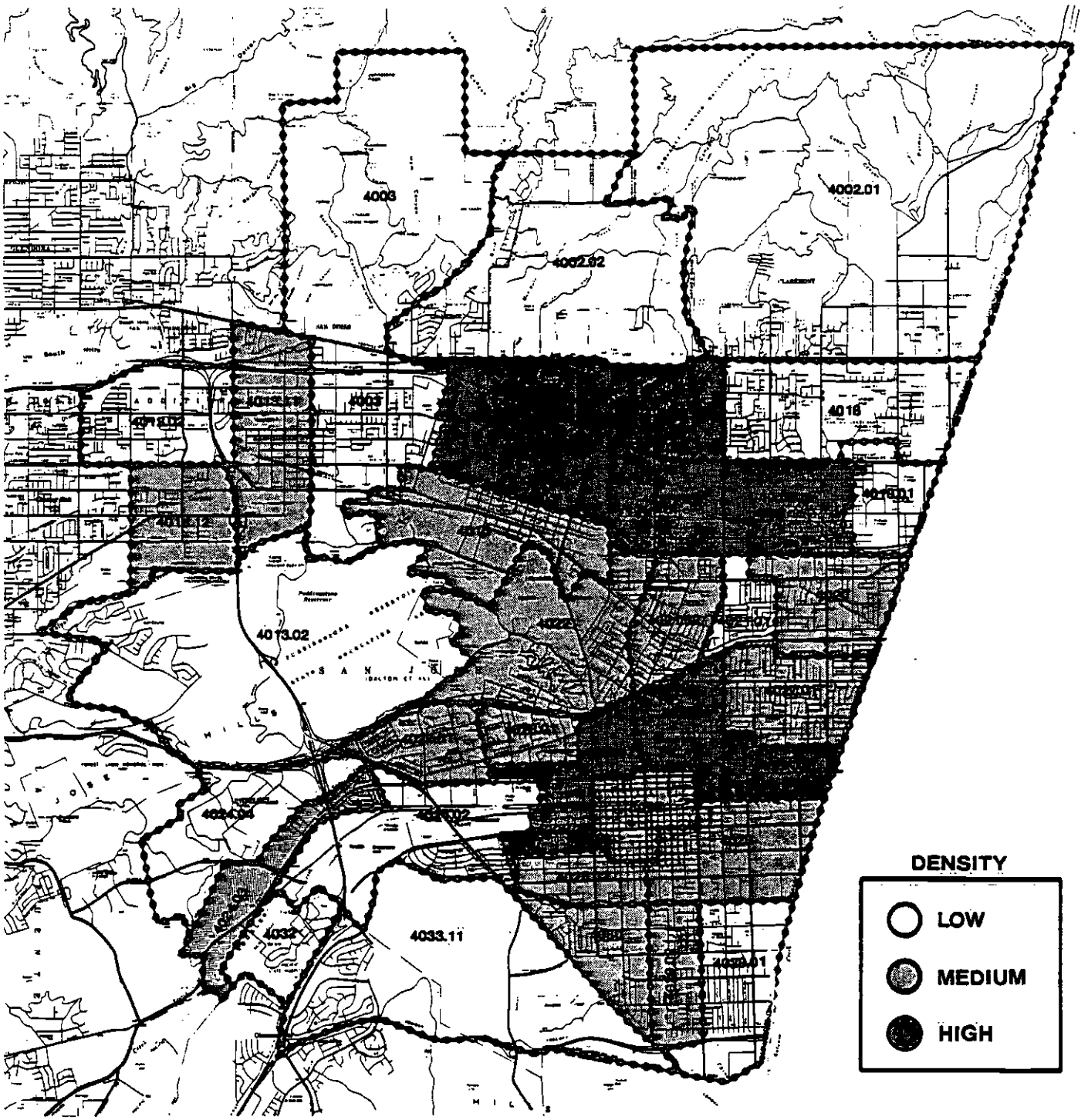


Figure 6-2
POPULATION AGE 65 AND OVER

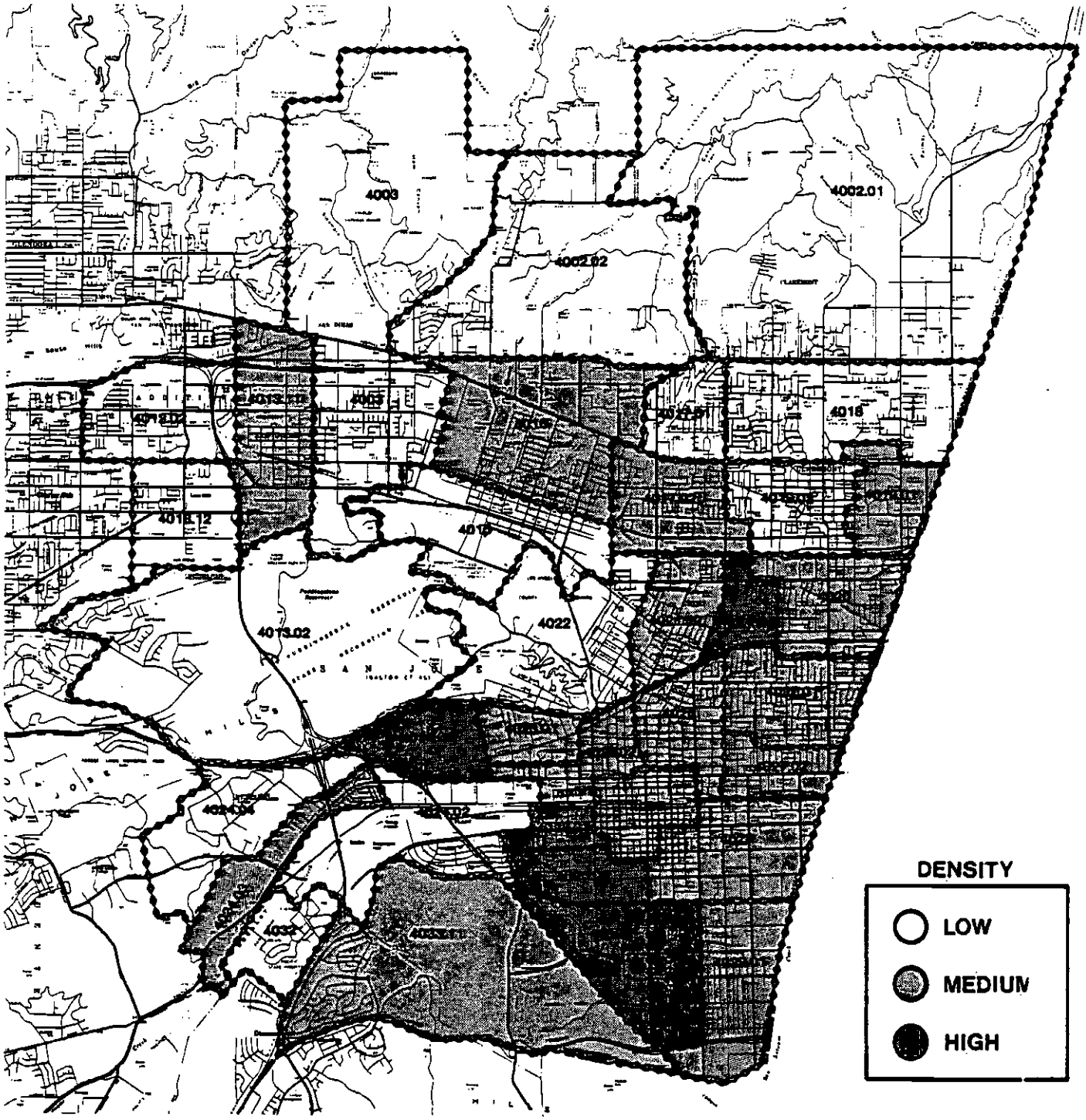


Figure 6-3
MINORITY POPULATION

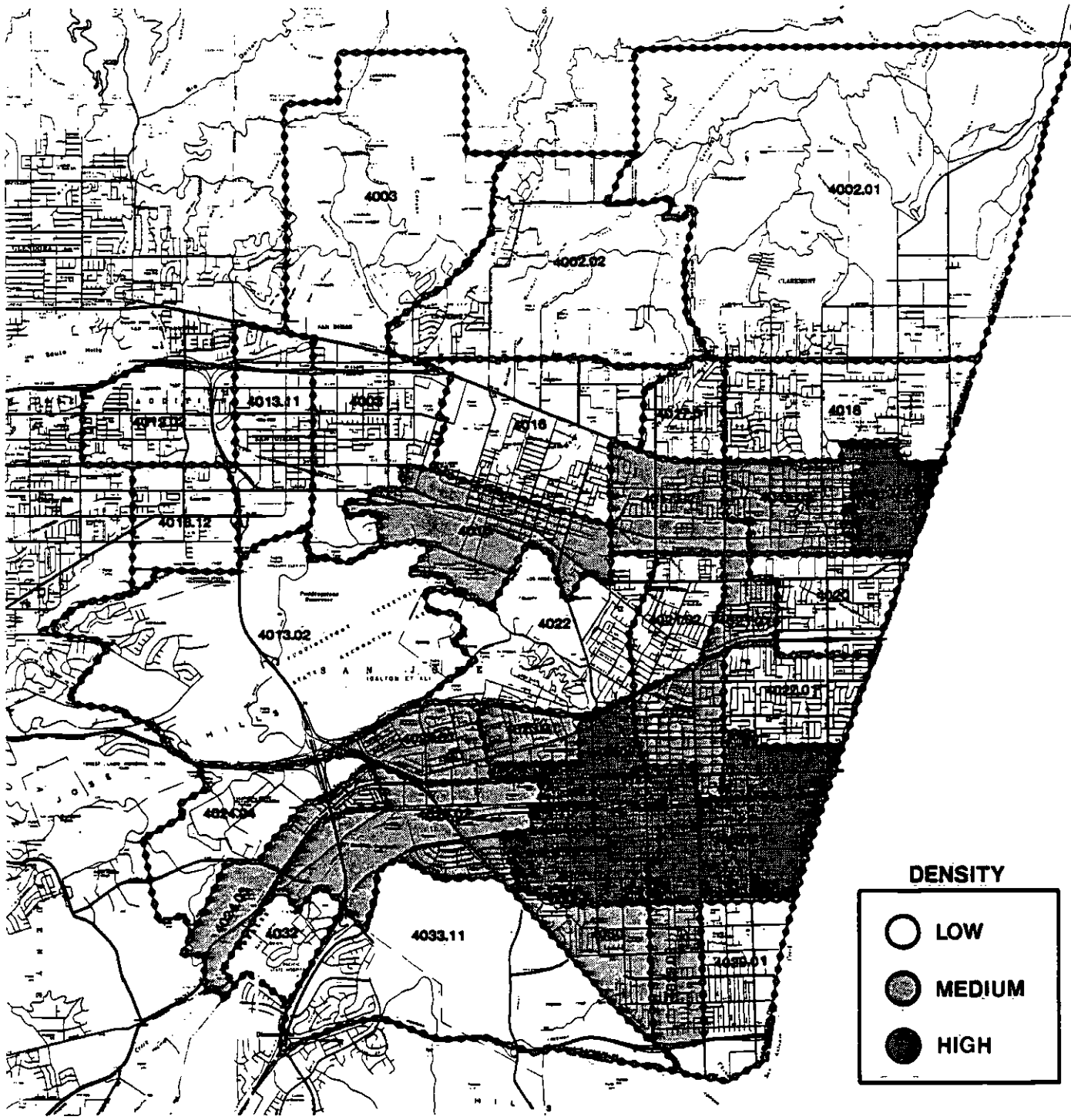


Figure 6-4

HOUSEHOLDS WITH INCOMES LESS THAN $10,000

household. The propensity to use transit was based on the percentage of occupied units with one or no auto available. For census tracts in Pomona Valley, the values ranged from zero to 72.6 percent with a median of 39.8 percent. Values from fifty percent and above represented a high propensity for transit use; 25 to 49.99, a medium propensity; and 0 to 24.99, a low propensity. Accordingly, ten tracts displayed a high propensity, sixteen tracts a medium propensity, and ten tracts a low propensity (Figure 6-5).

6.1.6 Composite Profile Indicators

Following the plotting of the five indicators on the series of overlays, a composite map was produced. A scoring system was used to identify the composite profile for each census tract according to the plotting of the five indicators. Tracts with a composite score of zero to three were considered to possess a low propensity; four to six, a medium propensity; and seven to ten, a high propensity. These propensity ratings were arrived at by assigning a score of zero for low, one for medium, and two for high to each individual indicator resulting in a maximum score of ten for any tract. The results of the scorings were then used to shade each census tract according to its propensity to use transit. Five different shadings of gray plus no shading at all were used to identify high, medium, and low propensities to use transit. Census tracts with a composite score of zero were assigned no shading at all, while those with a score of ten were assigned the darkest shade. Based on the composite profile of the transit use indicators, seven census tracts showed a high propensity to use transit and sixteen a medium propensity. The remaining thirteen tracts showed a low propensity. Figure 6-6 shows the composite profile of each census tract in Pomona Valley.

6.1.7 Major Transit Generators

In addition to identifying transit market areas, major transit generators in Pomona Valley were identified. Identification of these generators was necessary to determine the round trip circuit of service. Types of transit generators that were identified include:

- Major employers (greater than 100 employees).
- Hospitals.
- Major shopping centers.
- Elementary and high schools.
- Colleges and universities.
- Elderly/nursing homes.

Figure 6-7 shows the location of major transit generators. An examination of this figure reveals that most of the major transit generators are located south of the San Bernardino Freeway within the city limits of Pomona. Transit generators north of the freeway primarily are major employers scattered along Arrow Highway, Bonita Avenue, and Foothill Boulevard within the cities of LaVerne and Claremont.

6.2 IDENTIFICATION OF SERVICE BARRIERS

Service barriers that impede service efficiency or hinder the implementation of service improvements were also identified and considered in the development of service alternatives.

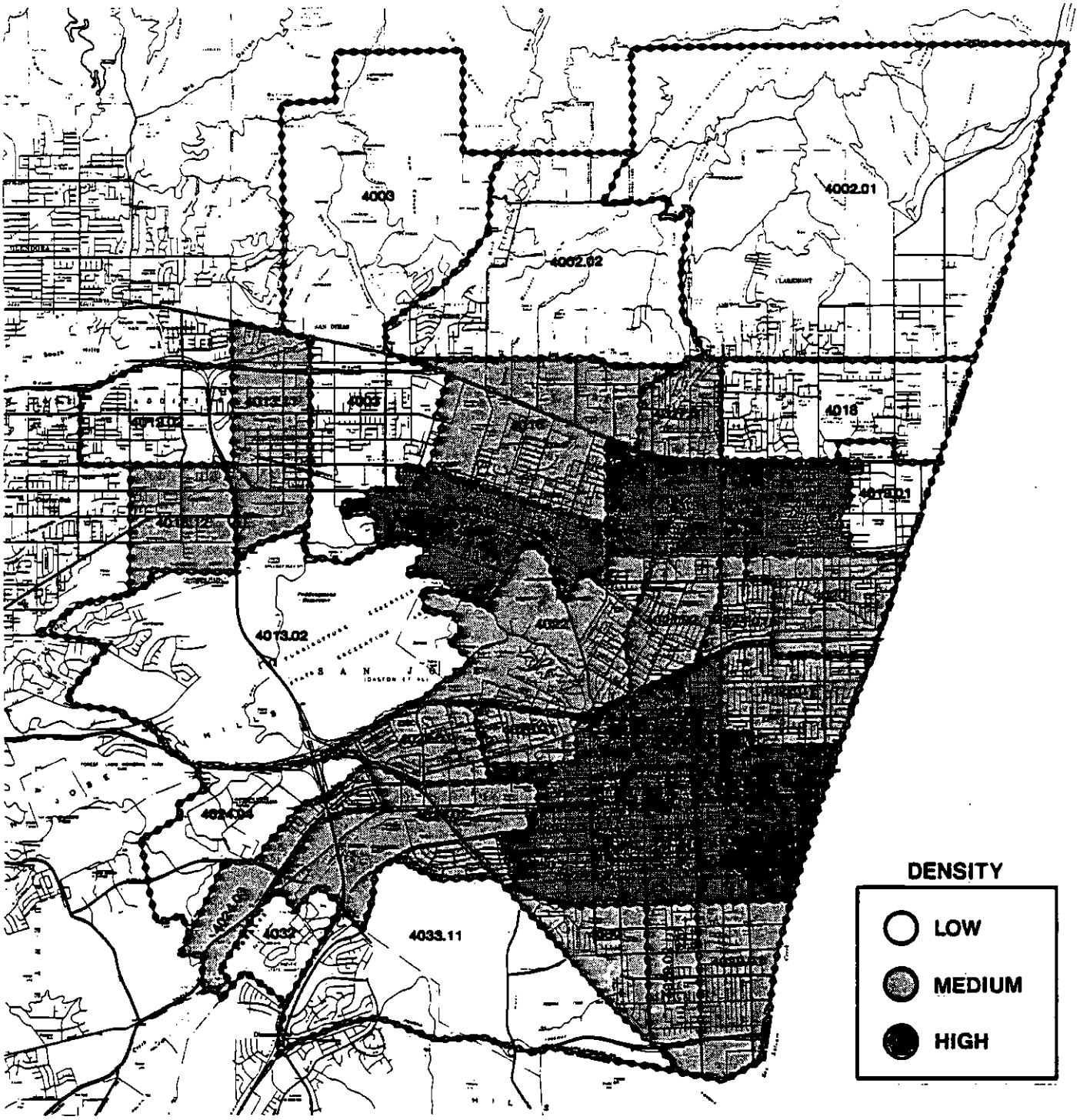


Figure 6-5
OCCUPIED UNITS WITH ONE OR NO AUTOS

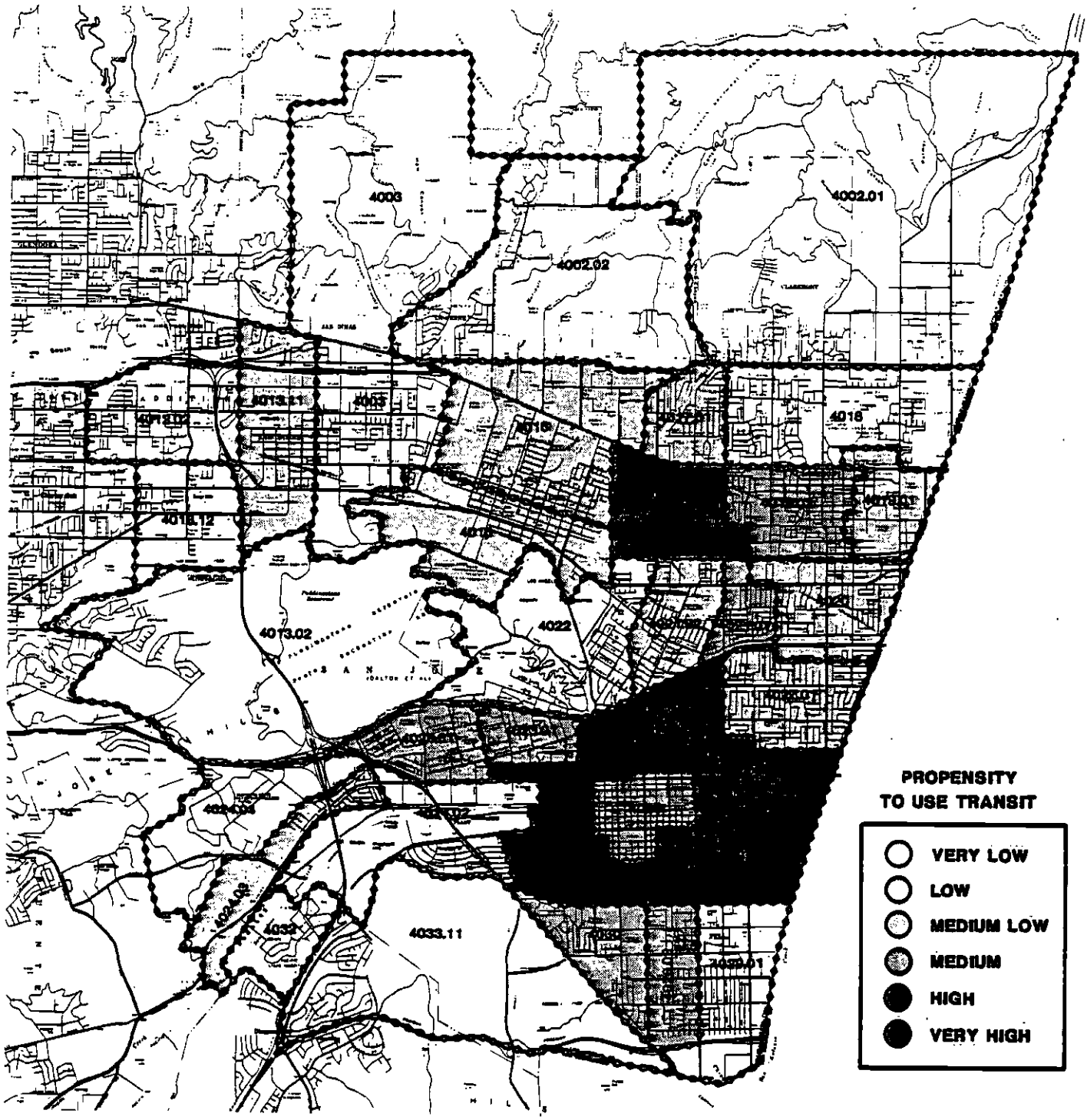
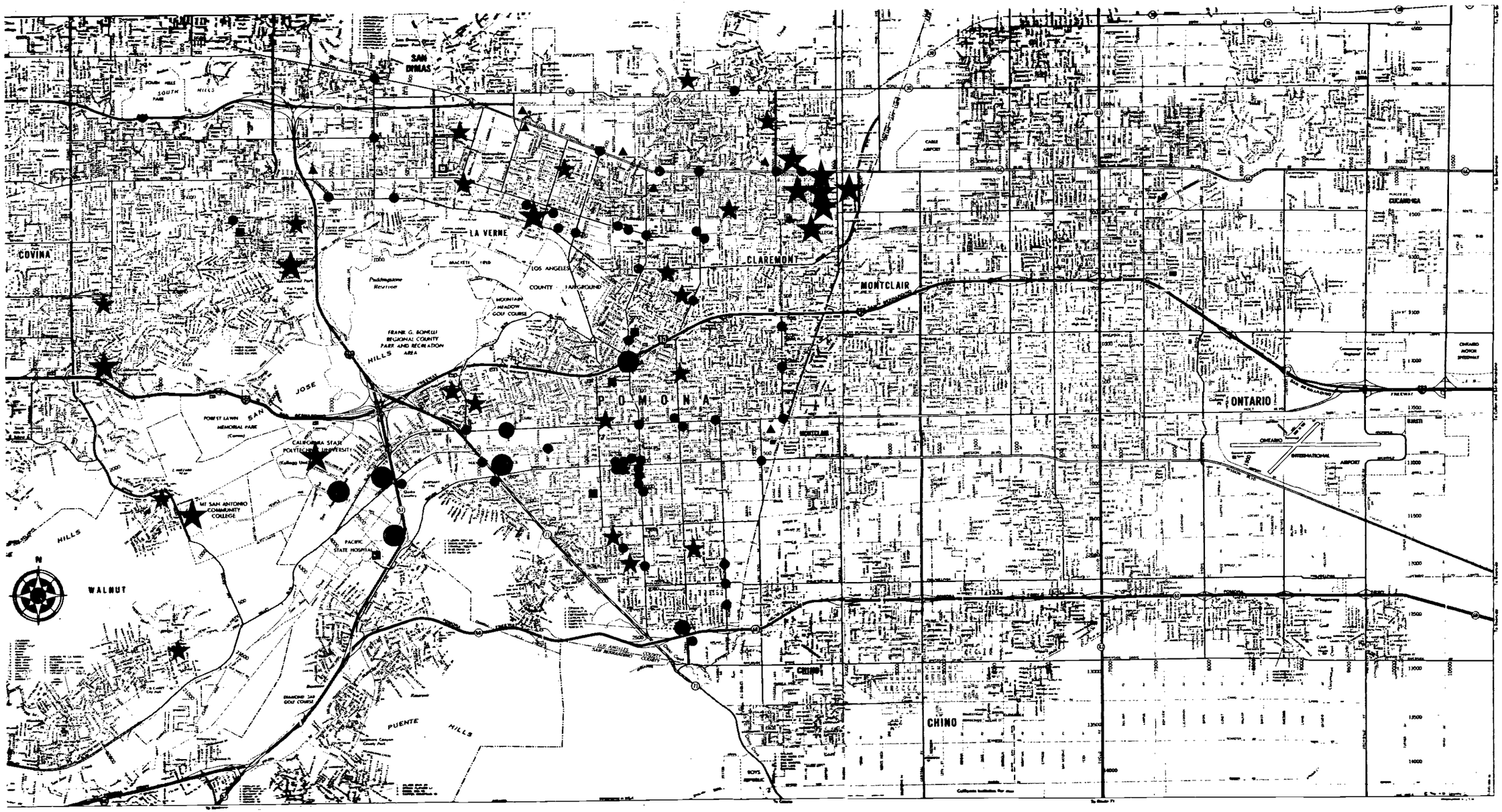


Figure 6-6
COMPOSITE PROFILE



- 100-499
- 500-1000
- Over 1000

Major Employers

- Hospitals
- Elderly/Nursing Homes
- Shopping Centers
- Elem./High Schools
- Colleges/Universities

Figure 6-7
MAJOR TRANSIT GENERATORS

The key barrier to improved service in Pomona Valley is financial. In general, RTD is unable to justify increased service in the Pomona Valley due to overall budget constraints, competing demands in other areas of the District's service area, and the low cost-effectiveness of existing Pomona Valley routes. The present level of RTD service is being supported by a three-year infusion of Proposition A funds. In July, 1985, RTD will lose this guaranteed funding and may be forced to make substantial cuts in service and/or to implement much higher base fares. Communities in Pomona Valley are also experiencing budget difficulties due to the recession. Pomona is concerned about a potential $4 million dollar deficit. Other cities are expecting minimal if any real growth in revenues over previous years. Revenues are currently being fully utilized to fund primary city services with little or nothing available for transit services. Transportation Development Act, Local Transportation Fund, and State Transit Assistance funds which are generated by sales tax collected in Pomona Valley communities do not return to those cities. The money goes to RTD because the cities are within the District.

Another barrier is the whole realm of institutional constraints. Decisions about policy and service issues in Pomona Valley are made by the RTD Board of Directors. Board members are appointed from each of the supervisory districts and from each of the four transit corridors connecting outlying areas with Los Angeles. However, the Board by design makes transit decisions on a regional basis. Needs within areas such as the Pomona Valley must be weighed by the Board in light of regional priorities with the result that the RTD cannot always be responsive to the legitimate local concerns. Decision-making is not done in the Pomona Valley and many local officials and residents view this as a barrier to improved service.

The boundary between Los Angeles and San Bernardino Counties has also been identified as a barrier to improved transit service. The local perception is that transit service on the two sides of the line is not coordinated well. Two separate agencies, RTD and OMNITRANS, provide service which is differentiated by political communities rather than by communities of interest and commerce. Coordination of fare policies across the line (between RTD and OMNITRANS) is also a barrier. Double fares are charged for what can be a relatively short trip.

Another service barrier is the fact that the Pomona Valley is not a dense area. Housing is primarily single-family on moderate size lots. Employment centers also are dispersed and are low-rise. The result is that it is costly to provide an extensive network of fixed-route transit service and that many portions of the area do not have adequate public transit service.

6.3 DEFINITION OF POTENTIAL SERVICE TYPES

Several types of transit service can be identified, including fixed-route/fixed-schedule, demand-responsive, planned-demand, and car/van pool service. Each of these service types were examined for potential application to Pomona Valley. The service types can be applied as "pure" service types (e.g., an all fixed-route/fixed-schedule system or an all demand-responsive system) or combined to form a "multiple type" system. The characteristics of each service type are described in this chapter along with factors to consider in their application.

6.3.1 Fixed-Route/Fixed-Schedule Service

Fixed-route/fixed-schedule or flexible-schedule service is commonly referred to as conventional transit service, in which vehicles operate over predetermined routes at predetermined intervals. The two greatest markets for this type of service are commuters who journey to and from work in a central activity center (such as a downtown) during peak periods and captive transit riders (people who do not own or have access to a private automobile). To establish a fixed-route/fixed-schedule alternative, the following items should be considered.

- Route Location--Routes will be designed to provide transit service to locations with good potential for using them. The following guidelines will apply:

    - Consider express routing when justified.
    - Use direct routing wherever possible.
    - Carefully consider the consumer's needs.
    - Avoid duplication.
    - Begin and end routes at traffic generators wherever possible.
    - Touch as many traffic generators along the route as possible.

- Headways--Headway is a term used to define the frequency of transit service, which usually has an important influence on ridership. In general, routes for which there is a high demand should have short headways. A route with headways of more than sixty minutes will draw few riders who have an alternative to transit unless it is a special route, such as express service to an employment area. However, very short headways (ten minutes or less) greatly increase costs and are often not suitable for use during extended periods in areas with densities less than ten dwelling units per acre. Headways of thirty minutes or greater are suitable in areas with seven units per acre. At a density of 4.5 dwelling units per acre, sixty-minute headways are feasible.

- Fares--Fares must reflect the community's willingness to subsidize operating costs. In the planning process, many fare programs should be examined. Establishment of a base fare, a student fare, and a special fare for the elderly and handicapped will be considered. The cost of transferring from one vehicle to another will also be specified.

6.3.2 Demand-Responsive/Paratransit Service

Demand-responsive or paratransit services can be provided throughout a community or in selected areas. These services are typically provided in areas with densities of 4,000 to 8,000 persons per square mile, although they have also been operated in areas with fewer than 1,000 or more than 10,000 people per square mile. Practical boundaries for a demand-responsive system's service area have often been determined to be between two and six square miles. However, many taxicab services, including a few shared-ride taxi enterprises, cover areas of more than twenty square miles. Nevertheless, demand-responsive services are particularly suitable for low-

density areas where buses on fixed routes and schedules have not been able to operate successfully.

An important market for demand-responsive service consists of people who do not have access to a private automobile. Because it can provide door-to-door service, a demand-responsive system is especially suitable for the physically handicapped and elderly residents of a community.

Many-to-many (many origins to many destinations) demand-responsive systems can be used for virtually any type of trip. The same may be true of many-to-few and many-to-one systems, although the nature of their destinations may effectively preclude certain trips. Regardless of the number of origins and destinations served, demand-responsive systems are more suitable for short trips. A large number of long trips can lower a system's productivity and increase the time patrons must spend waiting for traveling in the transit vehicle.

Demand-responsive services are particularly appropriate during off-peak periods when the demand for travel is light and diffuse. During midday, evening, early morning, and weekend periods, a many-to-many demand-responsive service can often substitute for less flexible fixed-route/fixed-schedule bus systems. Many-to-few and many-to-one services can complement regular route transit services during peak hours and even at midday by operating as feeder systems.

Demand-responsive service can be accessed by advance arrangement or by requesting immediate service. Advance-request service accepts orders for pick-up at a specified time later in the day or for a subsequent day. These orders may be standing requests for daily or weekly service, renewed by the week or by the month, or they may be requests for one-time-only service. Advance reservation service is commonly called subscription service. On the other hand, immediate-request service provides pick-ups as soon as the request can be scheduled, in the manner of exclusive ride taxis. Some systems accept only advance requests (requiring several hours notice), while others will accept both advance and immediate requests.

In establishing a demand-responsive alternative, the following elements should be considered.

• Type of Service--The system should be designed to suit the area's travel patterns. The community's willingness to subsidize operating cost should also be taken into account. A many-to-one system might allow only the downtown as the destination. A many-to-few system might limit destinations to the downtown, shopping centers, or other major generators. A many-to-many system would allow destinations anywhere within its service area. Another demand-responsive scheme could be a fixed-route system in which the destinations of the demand-responsive service would be transfer points. Also, it is sometimes desirable to change the type of system to suit different travel demands at different times of the day.

• Service Areas--The service areas should be designed to accommodate as many trips as possible without developing excessively long journeys. The service area may be divided into sectors with one or several common transfer points, so that no transfer is needed for trips within a sector, while trips with

destinations outside of the origin sector would require a transfer. In this case, a schedule of stops would have to be posted at transfer points. Selection of the service area is again a function of the desired level of service.

• Level of Service--Reasonable average trip times range from fifteen to 45 minutes in a demand-responsive system; response time (from the consumer's request to the vehicle's arrival) range from on-schedule to 45 minutes later than the requested time. This item will eventually influence the size of the transit fleet required.

• Vehicle Requirements--The size of the fleet is most often dictated by the area that must be covered each day rather than the number of passengers. The number of vehicles must be sufficient to cover the service area and meet the previously defined level of service. The experience of several communities indicates that the number of transit vehicles per square mile of service area ranges from 0.2 to 1.7, with an average of about 0.7. The number of vehicles per person living in the service area ranges from 0.1 to 0.7, with an average of about 0.3 vehicles per 1,000 persons living in the service area.

• Fares--The fare structure should include a base fare, a student fare, and a special fare for elderly and handicapped people. Transfer charges and possibly zone fares for special trips should be considered.

6.3.3 Planned-Demand Service

In this semi-demand-responsive system, passengers must arrange a trip in advance. A ride may or may not be available on the day requested, depending on the routes being developed to meet demand. Routes are continuously revised by a dispatcher who follows a definite set of rules. If a request for a particular day is rejected because a route is not built to accommodate it, the dispatcher asks the consumer to consider another day when a route is available. This transit concept is especially useful in areas where demand is very light (e.g., predominantly rural areas) or when it is desirable to provide access to a fixed-route service from areas of light demand.

The elements defining a planned-demand transit system are similar to those for the demand-responsive system. The type of service, service areas, level of service, and number of vehicles required must be considered.

Subscription bus service is a type of planned-demand service. For example, a rider contracts for service (a seat in the bus or van) on a long-term basis (e.g., monthly). The vehicle picks up the passenger and carries him to his destination each work day. Because the passenger contracts for service, he must pay whether he uses it or not.

6.3.4 Carpool/Vanpool Service

A central agency is generally responsible for developing and administering a program of promoting ridesharing. The program may consist of computer-matching potential ride sharers based upon a common home area, general place of business, and work hours or the program could be more extensive with the agency actually purchasing and brokering vehicles. In all instances, a good deal of contact and work with the business sector is required. In

considering this option, attention should be given to the number and locations of major employers, the availability of incentives (parking, carpool/vanpool lanes, etc.), and constraints such as the public's attitude, perceived inconveniences, and business's lack of knowledge or interest.

6.3.5 Service Types Selected for Development of Alternatives

Each of the service types described above was discussed in a meeting with the PMC for the purpose of selecting service types to be used in the development of alternatives. In the meeting, the characteristics of each service type were discussed, as well as the geographic limits of application of the service types. Of the four service types, the PMC selected fixed-route/fixed-schedule and demand-responsive service for development of alternatives for Pomona Valley. Planned-demand and expansion of carpool/vanpool service were eliminated from further consideration.

6.4 DESCRIPTION OF SERVICE ALTERNATIVES

The characteristics of the five service alternatives developed for Pomona Valley are described in this section. These characteristics include area served, days and hours of service, frequency of service, and vehicle hours and miles of operation. This latter service characteristic refers to in-service vehicle operations. It does not include "deadhead" mileage.

The service alternatives developed include either fixed-route or demand-responsive service or a combination of both service types. In the development of the fixed-route alternatives, a building block process was used so that the PMC would have the ability to select routes from one alternative and add them to another alternative. Use of this process eliminates the possibility of having to reject an alternative because of the undesirability of one or more routes. It also allows the PMC the ability to combine routes and create a new alternative.

Alternative 1 is the do-nothing alternative. It reflects a continuation without modification, of existing transit services in Pomona Valley. Alternative 2 is a fixed-route system with demand-responsive services for the elderly and handicapped. The fixed routes in this alternative include new routes, as well as modifications to existing routes. Alternative 3 is a demand-responsive system with regional fixed-route service. The demand-responsive service provided by this alternative is designed to serve both the general public and elderly and handicapped. Alternative 4 is a combination of the fixed-route service of Alternative 2 with the demand-responsive service of Alternatives 2 and 3. Under this alternative, the demand-responsive service for the general public would be limited to evening hours and weekends. Alternative 5 also offers a combination of fixed-route and demand-responsive service. This alternative expands the fixed-route service of Alternative 3 and combines it with the demand-responsive service of Alternative 3. Alternative 5 offers a more balanced level of fixed-route and demand-responsive services than any of the other alternatives.

6.4.1 Alternative 1--Do Nothing

Alternative 1 is the continuation, without modification, of all existing transit services in Pomona Valley. It is considered the base condition for

comparison with the other alternatives. The existing transit services include the Southern California Rapid Transit District (RTD) fixed-route service, Claremont Dial-a-Ride, and Get About Transportation.

The fourteen RTD routes now serving Pomona Valley are shown in Figure 6-8. The service characteristics of the RTD fixed routes including their days of service, hours of service, and morning peak hour, afternoon peak hour, midday base, night, and weekend service frequencies are presented in Table 6-2. Service is provided on most routes five days a week; only about one-third of the routes provide Saturday and Sunday service in addition to their regular Monday through Friday service. Routes with Saturday and Sunday service include Lines 187, 480, 482, 484, and 490. Hours of service vary among the routes. The earliest route begins service at 4:42 a.m. and the latest service extends to 1:50 a.m. at night. Frequency of service during peak hours (6:00 - 9:00 a.m. and 3:00 - 6:00 p.m.) ranges from thirteen minutes on Line 497 to sixty minutes on Lines 276, 185, and 178, with an average of about 34 minutes. Lines 492 and 497 operate only during peak hours. The former is an express service route and the latter is park-and-ride route. Frequency of service on these routes averages seventeen minutes during the a.m. peak and 25 minutes in the p.m. peak. Three routes provide night service (Lines 480, 482, and 484). Service ranges from forty minutes on Line 482 to sixty minutes on Line 484. Service frequency on routes with Saturday and Sunday service is sixty minutes, with two exceptions. Line 480 operates at thirty-minute frequencies both Saturday and Sunday, while Line 484 operates at thirty-minute frequencies on Saturday and sixty-minute frequencies on Sunday.

Claremont Dial-a-Ride operates a many-to-many demand-responsive system for the general public and elderly and handicapped within the city limits of Claremont. Because no accessible vehicles are available, non-ambulatory passengers are referred to Get About Transportation. The service is available 24 hours a day, seven days a week. There are no advance reservation requirements for the service. All trip purposes are served, with no priorities placed on trip purposes. Service is requested by telephone. The response time for immediate requests for service is twenty to thirty minutes.

Get About Transportation serves the elderly and handicapped residents of Pomona Valley with accessible demand-responsive service. Areas served include the cities of San Dimas, La Verne, Claremont and Pomona. Get About connects with RTD, the East San Gabriel Valley Elderly and Handicapped Transportation System, and OMNITRANS for trips to other cities in the region. Service is available from 7:30 a.m. to 5:30 p.m., Monday through Friday. Weekend service is limited to 8:30 a.m. to 4:00 p.m. on Sundays. All trip purposes are served, with no priorities placed on trip purpose. Advance reservation requirements vary according to trip purpose. Service is requested by telephone.

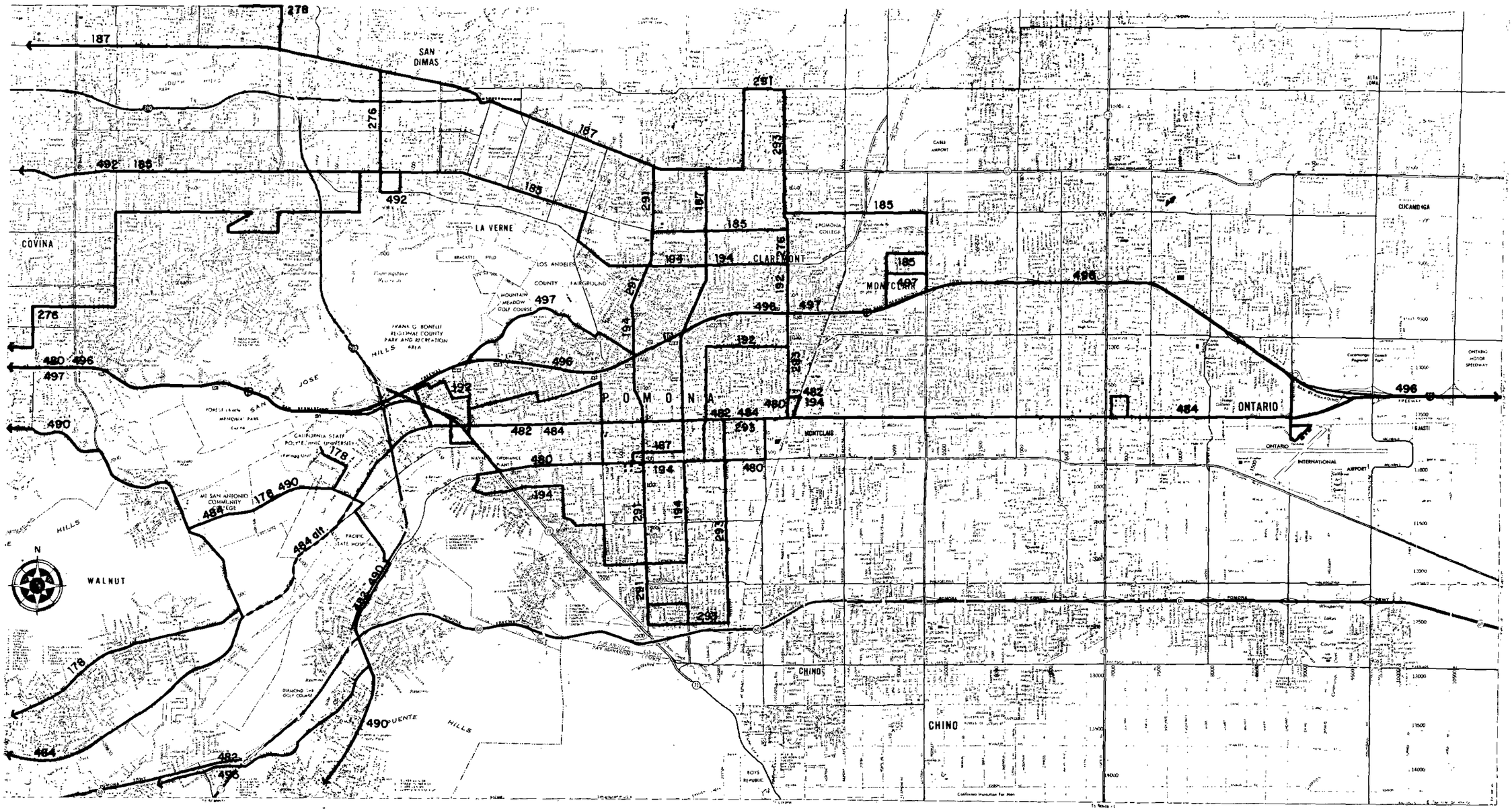


Figure 6-8

ALTERNATIVE 1
FIXED ROUTE SYSTEM

TABLE 6-2

ALTERNATIVE 1:
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
187 - Pasadena - Pomona	Monday - Friday Saturday Sunday	5:00 a.m. - 7:30 p.m. 5:00 a.m. - 7:00 p.m. 7:00 a.m. - 7:00 p.m.	30	30	30	0	60
276/Sunset Avenue - Covina Avenue San Dimas Avenue	Monday - Friday	6:00 a.m. - 7:30 p.m.	60	60	60	0	0
185/Hacienda Avenue - Irwindale Avenue - Arrow Highway	Monday - Friday	6:30 a.m. - 8:22 p.m.	60	60	60	0	0
178/El Monte - Baldwin Park - West Covina - Valinda - Walnut	Monday - Friday	6:08 a.m. - 10:10 p.m.	60	60	60	0	0
291/Garey Avenue - Foothill Boulevard	Monday - Friday	6:00 a.m. - 7:37 p.m.	40	40	40	0	0
192/Arroya Avenue - North White Avenue - San Bernardino Avenue	Monday - Friday	6:19 a.m. - 7:51 p.m.	35	40	40	0	0
293/Indian Hill Boulevard - Reservoir Street	Monday - Friday	6:00 a.m. - 7:37 p.m.	40	40	40	0	0
194/West Ninth Street - South Towne Avenue - Arrow Highway	Monday - Friday	5:58 a.m. - 7:51 p.m.	35	40	40	0	0
480/Los Angeles - El Monte - West Covina - Pomona	Monday - Friday Saturday Sunday	4:42 a.m. - 1:55 a.m. 5:50 a.m. - 1:55 a.m. 5:50 a.m. - 1:55 a.m.	17	15	20	45	30

--continued

TABLE 6-2 (CONTINUED)

ALTERNATIVE 1:
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
482/Los Angeles - Hacienda Heights - Pomona	Monday - Friday Saturday Sunday	5:12 a.m. - 11:30 p.m. 5:43 a.m. - 11:27 p.m. 5:43 a.m. - 8:27 p.m.	28	21	65	40	60
484/Los Angeles - El Monte - La Puente - Pomona - Ontario Airport	Monday - Friday Saturday Sunday	5:26 a.m. - 1:50 a.m. 5:30 a.m. - 1:30 a.m. 5:00 a.m. - 1:50 a.m.	15	16	30	60	30/60
490/Los Angeles - Covina - Walnut - Cal Poly Pomona	Monday - Friday Saturday Sunday	6:02 a.m. - 7:54 p.m. 7:08 a.m. - 7:10 p.m. 7:08 a.m. - 7:10 p.m.	42	32	60	0	60
492/Los Angeles - South Arcadia - San Dimas	Monday - Friday	5:47 a.m. - 6:35 a.m. 6:03 p.m. - 7:10 p.m.	3 trips	3 trips	0	0	0
497/Montclair - Pomona Park-and-Ride	Monday - Friday	5:26 a.m. - 8:06 a.m. 4:08 p.m. - 6:54 p.m.	13[3]	16[3]	0	0	0

[1]Represents headways inbound to Los Angeles.
[2]Represents headways outbound from Los Angeles.
[3]Represents scheduled headway rather than average headway.

Source: RTD Route Timetables.
1982 Base Bus Network, UNET Daily Line Summary.

6.4.2 Alternative 2--Fixed-Route System with Demand-Responsive Service for the Elderly and Handicapped

Alternative 2 is a modification of Alternative 1 and attempts to provide a somewhat higher level of transit service at a minimum cost. This alternative consists of a modified fixed-route system with areawide demand-responsive service for the elderly and handicapped. It assumes that the existing general public demand-responsive service provided by Claremont Dial-a-Ride will be discontinued.

Figure 6-9 illustrates the fixed-route service of Alternative 2. Under Alternative 2, several existing RTD lines are modified and new service is added to provide better fixed-route coverage to areas with a relatively high potential for transit use. The alternative contains fourteen fixed routes, the same number as Alternative 1. Line 187, which operates between Pasadena and Pomona, has been modified to serve the planned Transcenter in Montclair. The modification consists of the removal of the portion of the line on Towne Avenue between Foothill Boulevard and downtown Pomona, and the extension of the line east on Foothill Bouelvard to Mills Avenue, south to Sixth Street, and east across the San Bernardino county line. At the Transcenter, passengers from the Pomona Valley lines will be able to transfer to OMNITRANS routes for destinations in San Bernardino County. This modification is especially beneficial to Claremont, which identified a need for more service to Montclair. Line 480 is another line which has been modified to serve the Transcenter. This modification consists of an extension north on Indian Hill Boulevard to Sixth Street in Claremont and east across the San Bernardino County line to the Transcenter in Montclair. This extension of Line 480 along Indian Hill Boulevard also will replace service currently provided by Lines 192 and 293, which have been discontinued and replaced by new routes or modifications to existing routes. Line 480 currently terminates at Indian Hill Shopping Center.

Alternative 2 includes four new routes. NR-1 provides north-south service along Garey Avenue between Foothill Boulevard and County Road in Pomona with a connection to north La Verne. This new route will replace service currently provided on Garey Avenue by Line 291, which also has been discontinued. The northern terminus will be a loop around Garey, College Way, and Williams Avenue, and the southern terminus will be loop around Olive Street, Towne Avenue, County Road, and Garey Avenue. The connection to north La Verne will follow Bonita west to D Street, north to Foothill Boulevard, west to Emerald Avenue, and then loop around Emerald, Base Line Road, Wheeler Avenue, and Foothill Boulevard. Service to LaVerne north of Foothill Boulevard was indicated in the interviews with Pomona Valley government officials and elected leaders. NR-2 is a new route between north Claremont and downtown Pomona. This new route replaces service currently provided by Line 187 on Towne Avenue between Third Street and Foothill Boulevard and by Lines 291 and 293 in north Claremont between Base Line Road and Foothill Boulevard. Line 187 would be rerouted to the Montclair Transcenter, while the latter two lines have been discontinued. NR-3 is a new route that would connect the California Polytechnical Institute and the residential areas near Ganesha High School and between Mission and Phillips Boulevards with downtown Pomona. The route would follow basically the same streets in these areas as Lines 192 and 194 in Alternative 1. The fourth new route proposed in Alternative 2 is a park-and-ride line, NR-4, which would provide park-and-

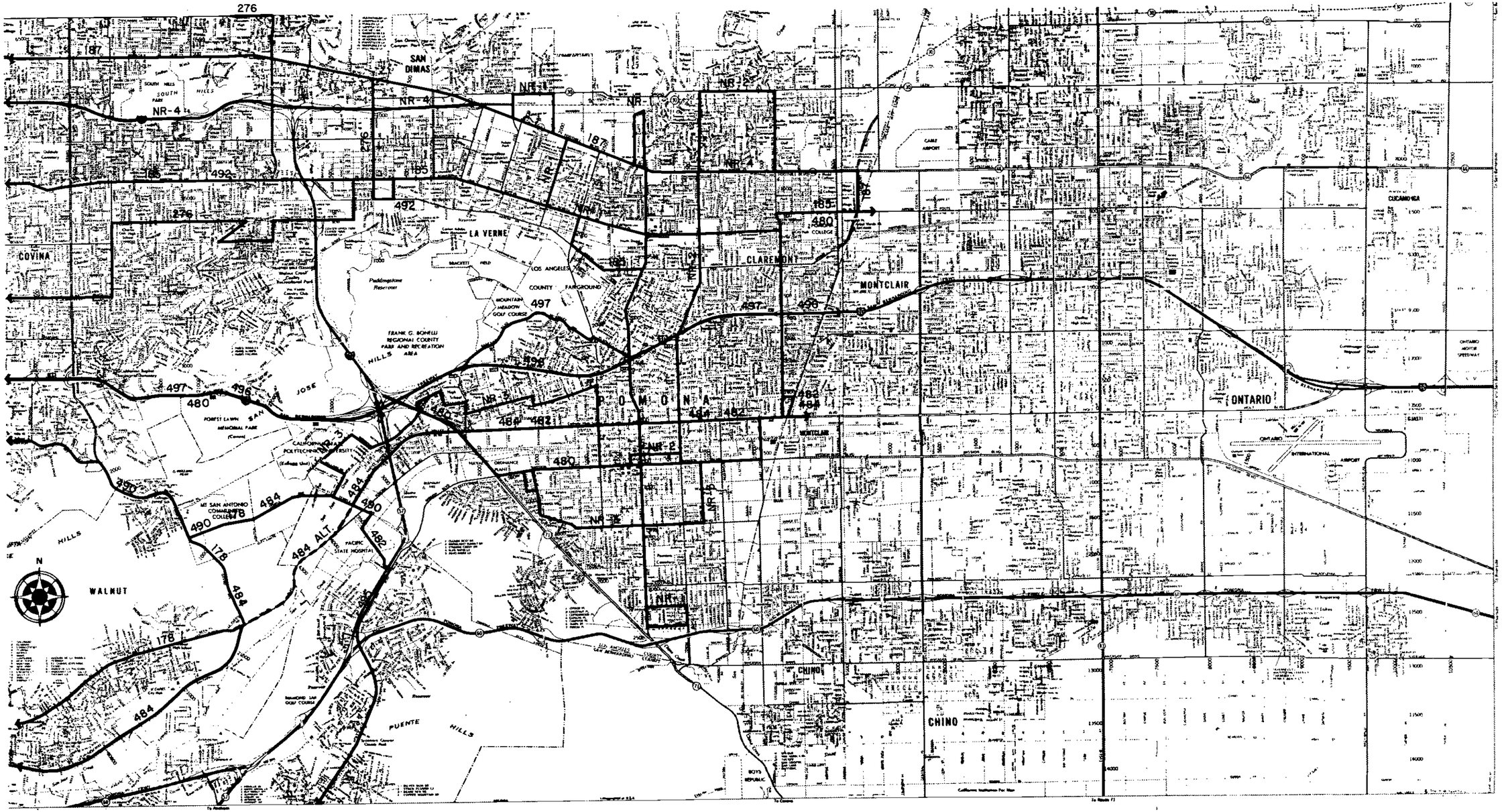


Figure 6-9

ALTERNATIVES 2 & 4
FIXED-ROUTE SYSTEM

ride limited stop service between Pasadena and Pomona Valley. In Pomona Valley, the route would follow the Foothill Freeway and Foothill Boulevard to a new park-and-ride lot near the San Bernardino County line in northern Claremont. According to the results of the telephone survey, expanded park-and-ride service ranked high among Pomona Valley residents. With the exception of Lines 187, 291, 192, 293, 194, and 480, the routing of all other RTD lines serving Pomona would remain unchanged.

Service characteristics of Alternative 2 fixed-route service are shown in Table 6-3. Days and hours of service are nearly identical to those of Alternative 1. Days of service for the three new routes would be Monday through Friday with Saturday and Sunday service provided only on the Garey Avenue (NR-1) route. This route would provide north-south service in Pomona Valley on weekends. Currently, only east-west service is provided. Hours of service for the new routes would be from 6:00 a.m. to 8:00 p.m., Monday throguh Friday. NR-1 would also operate during these hours on Saturday and Sunday. Frequency of service would be increased to thirty minutes during the peak and midday periods on Lines 276, 178, 482, and 484. Service frequencies on Lines 187, 185, 480, 490, 492, and 497 would remain unchanged or about the same as those defined in Alternative 1. The three new local service lines would operate at thirty-minute frequencies during the peak and midday periods, while the new park-and-ride line would operate at thirty minute frequencies during the peak periods with no service during the midday.

Alternative 2 would include an areawide demand-responsive system for the elderly and handicapped residents of Pomona Valley (Figure 6-10). The system would be a many-to-many type system similar to the existing Get About Transportation service. In addition to serving all origins and destinations within the cities of Pomona, Claremont, LaVerne, and San Dimas, connecting service would be provided to Pomona Valley fixed-route service, OMNITRANS, and the East San Gabriel Valley Elderly and Handicapped Transportation System.

Elderly and handicapped passengers would request service by telephone. A centralized dispatching system would be used to assign passengers to vehicles. The system would accept telephone requests for both advance and immediate service. Requests for advance service would be accepted for pick-ups at a specified time later in the day or on a subsequent day. Requests for immediate service would be responded to as soon as the request could be scheduled; in any case, service would be provided no later than thirty minutes from the time pick-up is requested.

Service would be expanded from six to seven days a week. Hours of service on weekdays would be the same as the operating hours for the Get About Service, with service from 7:30 a.m. to 5:30 p.m. Unlike Alternative 1, the service hours on Saturdays and Sundays under Alternative 2 would be the same as on weekdays.

6.4.3 Alternative 3--Demand-Responsive with Regional Fixed-Route Service

Alternative 3 consists of an areawide demand-responsive system for both the general public and elderly and handicapped with regional fixed-route service. The demand-responsive system is designed to serve local trips within Pomona Valley, while the fixed-route system is designed to serve long

TABLE 6-3

ALTERNATIVE 2 AND 4:
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
187/Pasadena - Montclair	Monday - Friday Saturday Sunday	5:00 a.m. - 7:30 p.m. 5:00 a.m. - 7:00 p.m. 7:00 a.m. - 7:00 p.m.	30	30	30	0	60
271/Sunset Avenue - Covina Avenue - San Dimas Avenue	Monday - Friday	6:00 a.m. - 7:30 p.m.	30	30	30	0	0
185/Hacienda Avenue - Irwindale Avenue - Arrow Highway	Monday - Friday	6:30 a.m. - 7:30 p.m.	30	30	30	0	0
178/El Monte - Baldwin Park - West Covina - Valina - Walnut	Monday - Friday	6:08 a.m. - 10:10 p.m.	60	60	60	60	0
480/Los Angeles - El Monte - West Covina - Pomona - Claremont - Montclair	Monday - Friday Saturday Sunday	5:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m.	15	15	15	30	30
482/Los Angeles - Hacienda Heights - Cal Poly - Pomona	Monday - Friday Saturday Sunday	5:00 a.m. - 11:30 p.m. 6:00 a.m. - 11:30 p.m. 6:00 a.m. - 8:30 p.m.	30	30	30	30	60
484/Los Angeles - Pomona - Ontario Airport	Monday - Friday Saturday Sunday	5:30 a.m. - 2:00 a.m. 5:30 a.m. - 2:00 a.m. 5:00 a.m. - 2:00 a.m.	15	15	30	60	30/60
490/Los Angeles - Covina - Walnut - Cal Poly - Pomona	Monday - Friday Saturday Sunday	6:02 a.m. - 7:54 p.m. 7:08 a.m. - 7:10 p.m. 7:08 a.m. - 7:10 p.m.	42	32	60	0	60
492/Los Angeles - South Arcardia - San Dimas	Monday - Friday	5:47 a.m. - 6:35 p.m. 6:03 p.m. - 7:10 p.m.	25	40	0	0	0

--continued

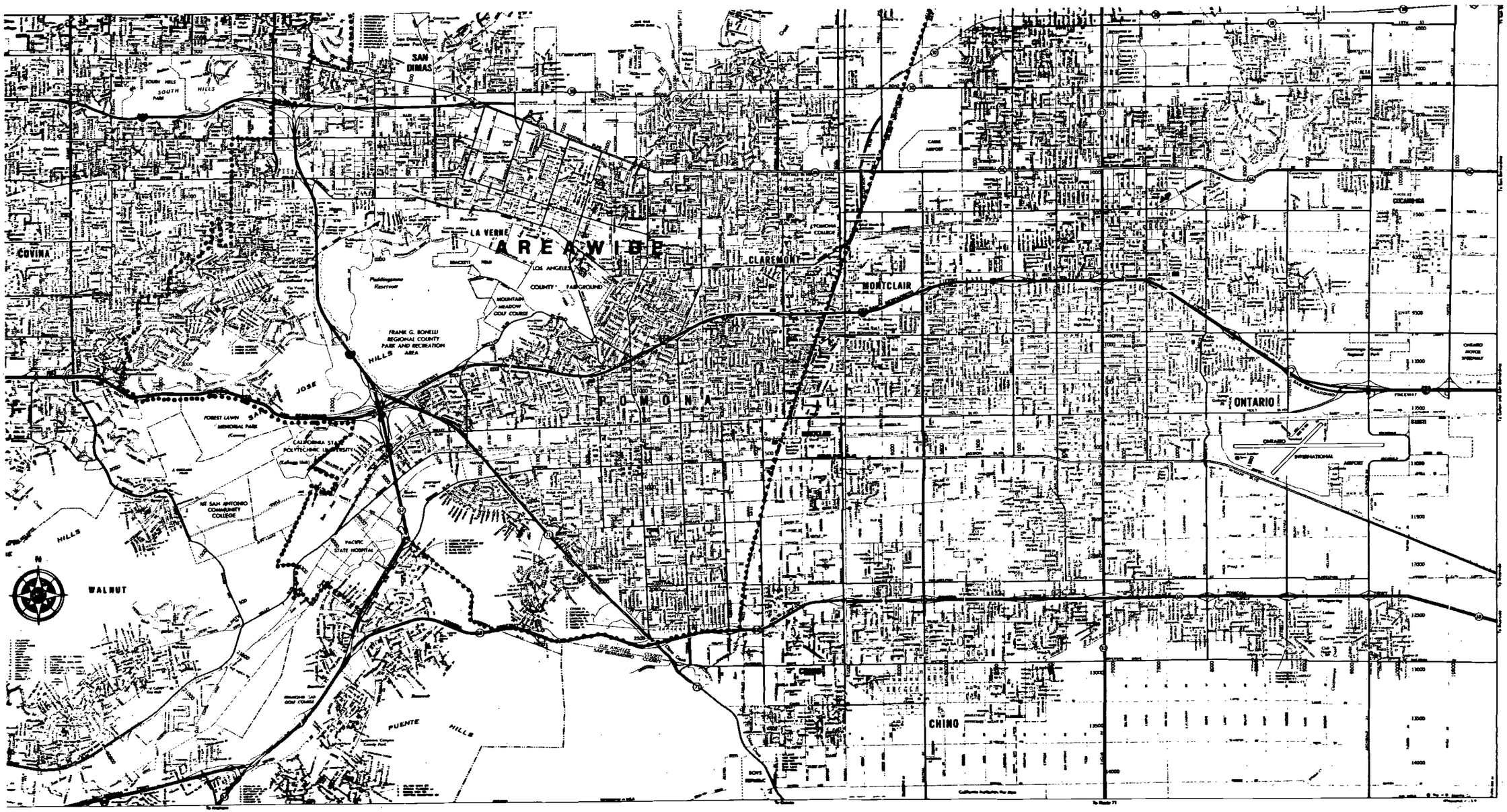
TABLE 6-3 (CONTINUED)

ALTERNATIVE 2 AND 4:
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
497/Montclair - Pomona Park-and-Ride	Monday - Friday	5:26 a.m. - 8:06 a.m. 4:09 p.m. - 6:54 p.m.	13	16	0	0	0
NR-1/Gary Avenue	Monday - Friday Saturday Sunday	6:00 a.m. - 8:00 p.m. 6:00 a.m. - 8:00 p.m. 6:00 a.m. - 8:00 p.m.	30	30	30	0	60
NR-2/Towne Avenue	Monday - Friday	6:00 a.m. - 8:00 p.m.	30	30	30	0	0
NR-3/Cal Poly - Pomona	Monday - Friday	6:00 a.m. - 8:00 p.m.	30	30	30	0	0
NR-4/Pasadena - San Dimas - La Verne Claremont Park-and-Ride Limited	Monday - Friday	5:30 a.m. - 7:30 a.m. 6:00 p.m. - 7:30 p.m.	30	30	30	0	0

[1]Represents headways inbound to Los Angeles.
[2]Represents headways outbound from Los Angeles.

Source: RTD Route Timetables.
1982 Base Bus Network, UNET Daily Line Summary.



▪▪▪▪▪▪▪▪ Boundary

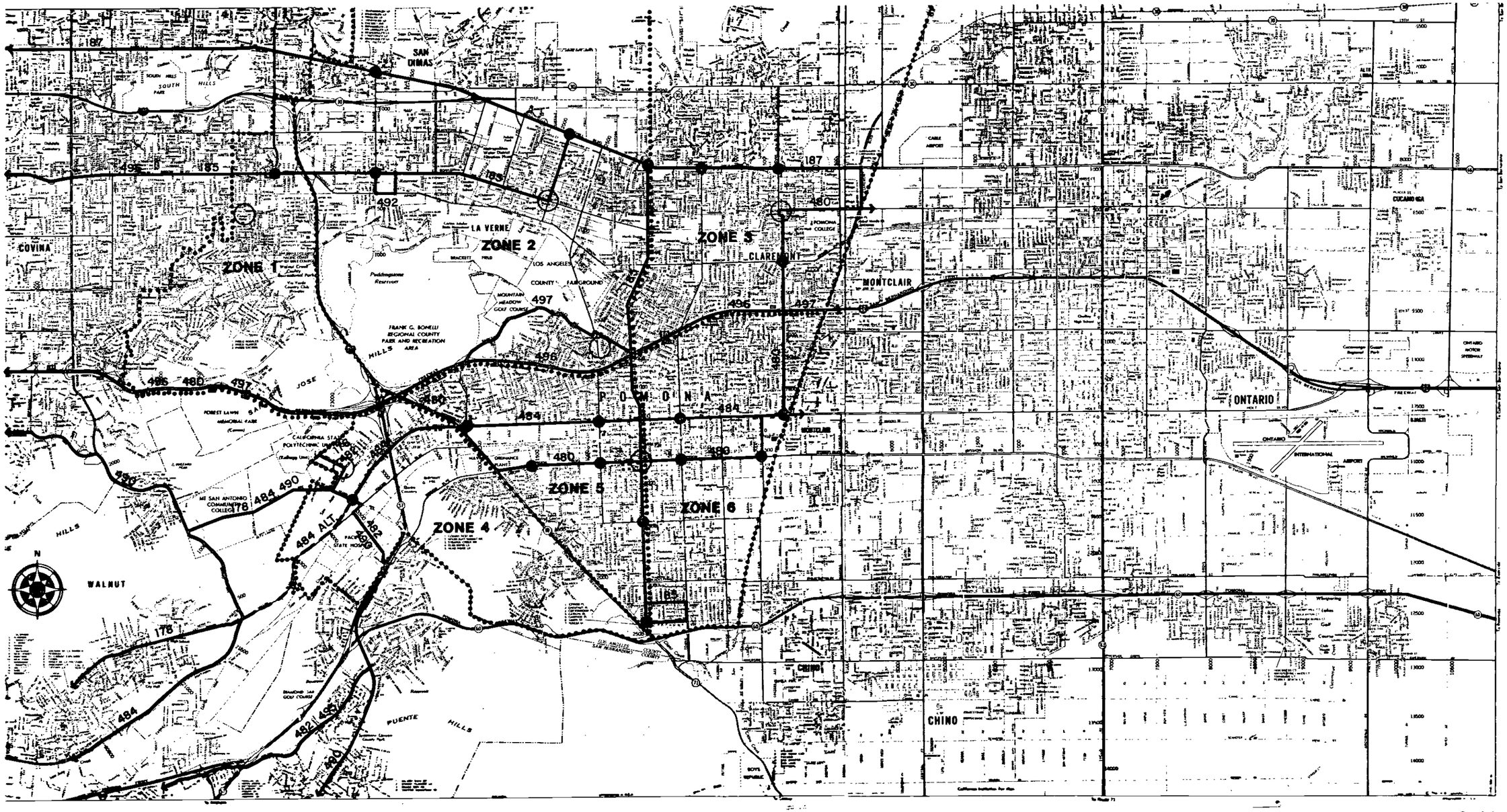
Figure 6-10
ALTERNATIVE 2
DEMAND RESPONSIVE SYSTEM

distance trips in the region. The demand-responsive system would also serve as a feeder service for the fixed-route system.

The demand-responsive system, as proposed under Alternative 3, is a multi-zonal system with a combination of many-to-many and many-to-few service. As shown in Figure 6-11, Pomona Valley would be divided into six service zones. These zones were developed on the basis of census tracts, geographic boundaries, freeways, fixed-route service, and population. Service would be operated on a many-to-many basis within each zone. A specific number of vehicles would be assigned to each zone based on passenger demand and area coverage. These vehicles would serve all origins and destinations within the zone. Outside the zone, service would be on a many-to-few basis (i.e., only a limited number of destinations would be served). These destinations would be limited to zonal transfer points established for all six zones where vehicles from all zones would meet simultaneously and transfer passengers. Only one zonal transfer point would be established for each zone. These zonal transfer points would represent central business districts or other major transit generators. Another major transfer point would be located at the Caltrans park-and-ride lot at McKinley and Garey in Pomona. However, this major transfer point would be served during peak hours only. In addition to these major transfer points, points would be established along each line for transfer of passengers from fixed-route to demand-responsive vehicles. Transfer of passengers from demand-responsive to fixed-route vehicles could occur at any designated bus stop within the zone. This zonal transfer system would be used only for the general public and elderly. Demand-responsive services for the handicapped would be operated on an areawide many-to-many basis.

Under the proposed system, passengers would request service by telephone. A centralized dispatching system would be used for assignment of passengers to vehicles and coordination of transfers. The system would accept telephone requests for both advance and immediate service and for all trip purposes. Requests for immediate service would be responded to as soon as the request could be scheduled with other requests, but no more than thirty minutes from the time pick-up is requested. Requests for demand-responsive feeder services will be scheduled in coordination with fixed-route services to assure that the demand-responsive vehicles are in the right place at the right time. Ideally, the vehicles should arrive at the transfer point a few minutes before the fixed-route bus is scheduled to arrive. This will not always be possible because fixed-route buses do not always arrive on schedule and demand-responsive tours vary widely in duration and are not predictable. However, on the average, demand-responsive tours should fit fixed-route frequencies. Passengers desiring to transfer from a fixed-route bus to a demand-responsive vehicle will not be required to telephone for service. Transfers to demand-responsive vehicles will be made by getting off the bus at designated transfer points. Demand-responsive drivers will be notified in advance of the scheduled bus arrival whether they have to pick up fixed-route transfer passengers and will modify their tours to meet the bus schedule. The number of vehicles scheduled to interface with fixed-route buses at transfer points will be periodically adjusted according to demand.

The telephone survey of Pomona Valley residents indicated little support for dial-a-ride service for all residents. In response to types of service that should be provided, dial-a-ride service for all residents ranked ninth among ten types of service.



Fixed Route Transfer Point

Zonal Transfer Point

Zonal Boundary

Figure 6-11

ALTERNATIVE 3
DEMAND RESPONSIVE SYSTEM

Demand-responsive service under Alternative 3 would be provided seven days a week. Hours of service would be from 6:00 a.m. to 8:00 p.m., Monday through Friday and on Saturdays and Sundays.

The respondents to the telephone survey indicated a preference for service seven days a week. When asked about minimum hours of service, the largest response reviewed was for daytime service. Alternative 3 proposes that both daytime and evening service be provided so that the service level of the alternative is reasonably consistent with the service level of existing service.

The fixed-route service of Alternative 3 represents the basic fixed-route system for Pomona Valley. A total of nine fixed routes are included in this alternative (Figure 6-12). All represent modifications to existing RTD lines of Alternative 1. In addition to the route modifications, several existing RTD lines are eliminated, only those lines that provide regional fixed-route service are included in this basic system.

The existing RTD lines that have been modified under Alternative 3 include Lines 187, 185, 480, and 482. As in Alternative 2, Line 187 has been modified to serve the planned Transcenter in Montclair. This line would follow a routing in Pomona Valley along Foothill Boulevard, Mills Avenue, and Sixth Street. It would provide east-west service for residents in San Dimas, LaVerne, and Claremont. Line 185 has been modified to serve downtown Pomona and the southern part of the city. This line currently operates along Bonita Avenue and Sixth Street to Montclair. Under Alternative 3, Line 185 would follow a routing east on Bonita in San Dimas, north on D Street in LaVerne, east on Foothill Boulevard, and south on Garey Avenue in Pomona to a southern terminus around a loop on Olive Street, Towne Avenue, Country Road, and Garey Avenue. This new routing on Garey Avenue would replace the service currently operated by line 291 which would be discontinued. Line 480 is another line which would be modified to serve the Transcenter. The modification is the same as described under Alternative 2--an extension north on Indian Hill Boulevard to Sixth Street in Claremont and west across the San Bernardino county line to the Transcenter. The line currently terminates at the Indian Hill Village Shopping Center. Line 482 under Alternative 3 would be terminated at the California Polytechnical Institute rather than continuing east on Holt Boulevard to Indian Hill Boulevard as is the case with Alternatives 1 and 2. This line currently duplicates service on Holt Boulevard.

The existing RTD lines of Alternative 1 that would be discontinued under Alternative 3 include Lines 291, 192, 293, and 194. Service currently provided by these lines would be replaced through modifications of existing lines and/or new demand-responsive service. All other existing RTD lines serving Pomona Valley would remain unchanged.

Service characteristics of the eleven fixed routes in Alternative 3 are shown in Table 6-4. Days and hours of service would be nearly identical to those for Alternative 1. Saturday and Sunday service would be added on Line 185. This route would provide north-south service in Pomona Valley on weekends. Currently, only east-west service is provided. Frequency of service would be changed to thirty minutes during midday and evening periods on Line 480 and to fifteen minutes during peak periods on Line 484. Service frequencies on

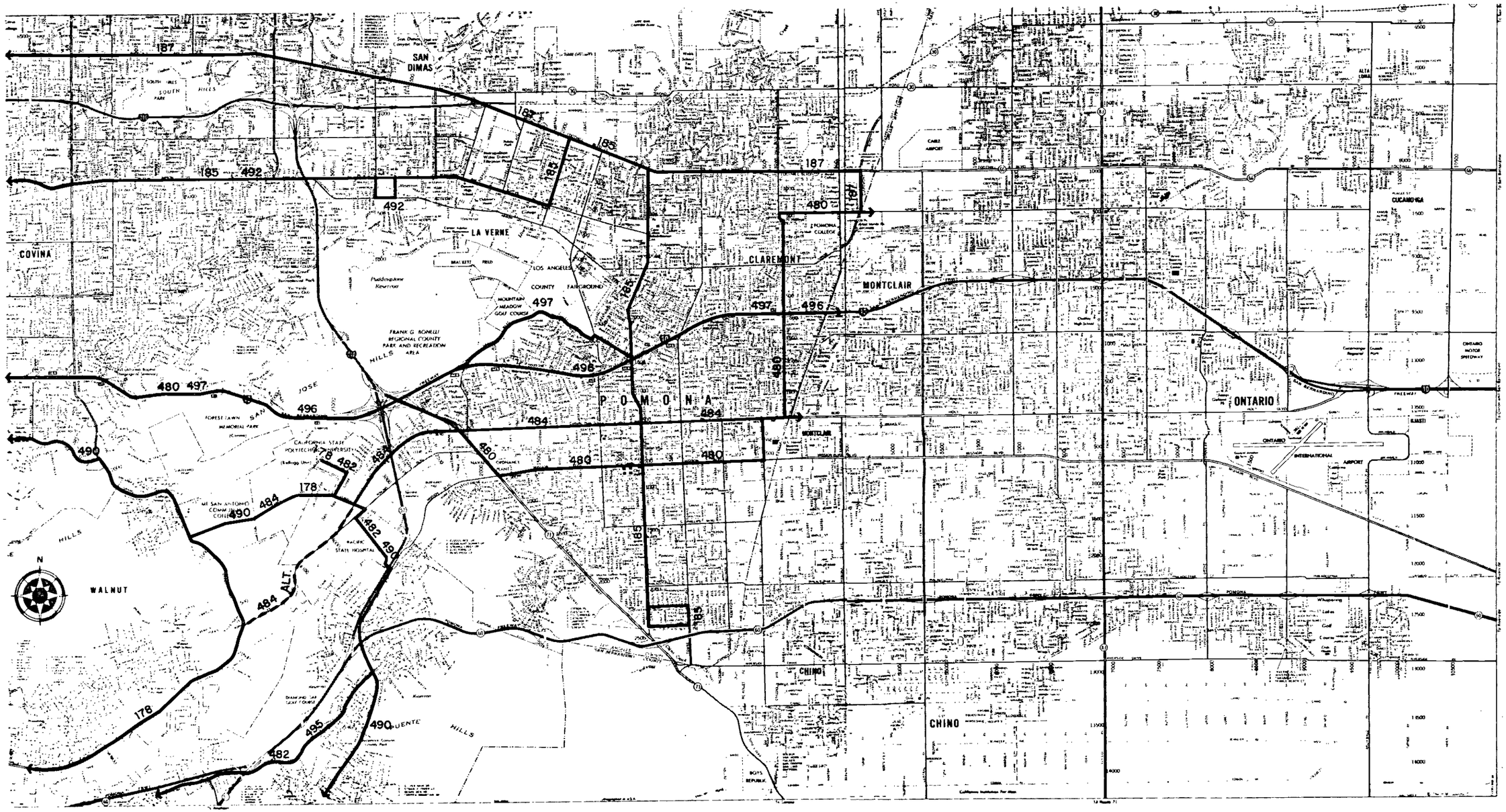


Figure 6-12
ALTERNATIVE 3
FIXED ROUTE SYSTEM

TABLE 6-4

ALTERNATIVE 3:
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
187/Pasadena - Claremont	Monday - Friday Saturday Sunday	5:00 a.m. - 7:30 p.m. 5:00 a.m. - 7:00 p.m. 7:00 a.m. - 7:00 p.m.	30	30	30	0	60
185/Hacienda Avenue - Irwindale Highway - Bonita Avenue - Garey Avenue	Monday - Friday Saturday Sunday	6:30 a.m. - 7:30 p.m. 6:30 a.m. - 7:30 p.m. 6:30 a.m. - 7:30 p.m.	30	30	30	0	60
178/El Monte - Baldwin Park - West Covina - Valina - Walnut	Monday - Friday	6:08 a.m. - 10:10 p.m.	60	60	60	0	0
480/Los Angeles - El Monte - West Covina - Pomona - Claremont - Montclair	Monday - Friday Saturday Sunday	5:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m.	15	15	15	30	30
482/Los Angeles - Hacienda Heights - Cal Poly	Monday - Friday Saturday Sunday	5:00 a.m. - 11:30 p.m. 6:00 a.m. - 11:30 p.m. 6:00 a.m. - 8:30 p.m.	30	23	60	40	60
484/Los Angeles - Pomona - Ontario Airport	Monday - Friday Saturday Sunday	5:30 a.m. - 2:00 a.m. 5:30 a.m. - 2:00 a.m. 5:00 a.m. - 2:00 a.m.	15	15	30	60	30/60
490/Los Angeles - Covina - Walnut - Cal Poly - Pomona	Monday - Friday Saturday Sunday	6:02 a.m. - 7:54 p.m. 7:08 a.m. - 7:10 p.m. 7:08 a.m. - 7:10 p.m..	42	32	60	0	60
492/Los Angeles - South Arcadia - San Dimas	Monday - Friday	5:47 a.m. - 6:35 a.m. 6:03 p.m. - 7:10 p.m.	25	40	0	0	0
497/Montclair - Pomona Park-and-Ride	Monday - Friday	5:26 a.m. - 8:06 a.m. 4:08 p.m. - 6:54 p.m.	13	16	0	0	0

Source: Schimpeler Corradino Associates.

other RTD lines included in this alternative would remain unchanged from Alternative 1.

6.4.4 Alternative 4--Fixed-Route System with Demand-Responsive Service for the General Public Limited to Evening Hours and Weekends

Alternative 4 proposes the combination of the fixed-route service of Alternative 2 with the demand-responsive service of Alternatives 2 and 3. Unlike Alternative 3, the demand-responsive service for the general public under Alternative 4 would be limited to evening hours and Saturdays and Sundays. Service for elderly and handicapped would be the same as under Alternative 2. Figure 6-13 shows the multizonal service area for the general public demand-responsive system and the fixed-route transfer points. It should be noted that only those lines that operate during evening hours and on weekends are shown. As under Alternative 2, demand-responsive service for the elderly and handicapped would be operated on an areawide many-to-many basis rather than a zonal many-to-many and many-to-few basis.

The service characteristics of the fixed-route system under Alternative 4 would be the same as proposed for Alternative 2. For the general public demand-responsive system, service would be provided from 7:30 p.m. to 12:00 p.m., Monday through Friday and from 6:00 a.m. to 8:00 p.m. on Saturdays and Sundays. Service to the elderly and handicapped would be provided 6:00 a.m. to 7:30 p.m., Monday through Friday, with Saturday and Sunday service provided during the same hours as for the general public.

6.4.5 Alternative 5: Combination of Fixed-Route and Demand-Responsive Service

Alternative 5 is the same as Alternative 3 except that under Alternative 5 the fixed-route service proposed for Alternative 3 would be expanded by two additional routes. As a result, this alternative would provide a somewhat higher level of fixed-route service than Alternative 3. The demand-responsive service under Alternative 5 would be the same as Alternative 3. Thus, the combination of fixed-route and demand-responsive service under Alternative 5 would be more balanced than any of the other alternatives.

The fixed-route system of Alternative 5, as shown in Figure 6-14, includes all of the routes identified in Alternative 3 along with a new local service route in Pomona and a modified Line 276. The new route would connect the California Polytechnical Institute and the residential areas near Ganesha High School and between Mission and Phillip Boulevards with downtown Pomona. The route would follow basically the same streets in these areas as Lines 192 and 194 in Alternative 1. Line 276 would be extended to downtown Pomona via Foothill Boulevard, Baseline Road, Towne Avenue, and Third Street. The segment of Line 276 that operates between San Dimas and Glendora along Foothill and Amelia Avenue would be deleted.

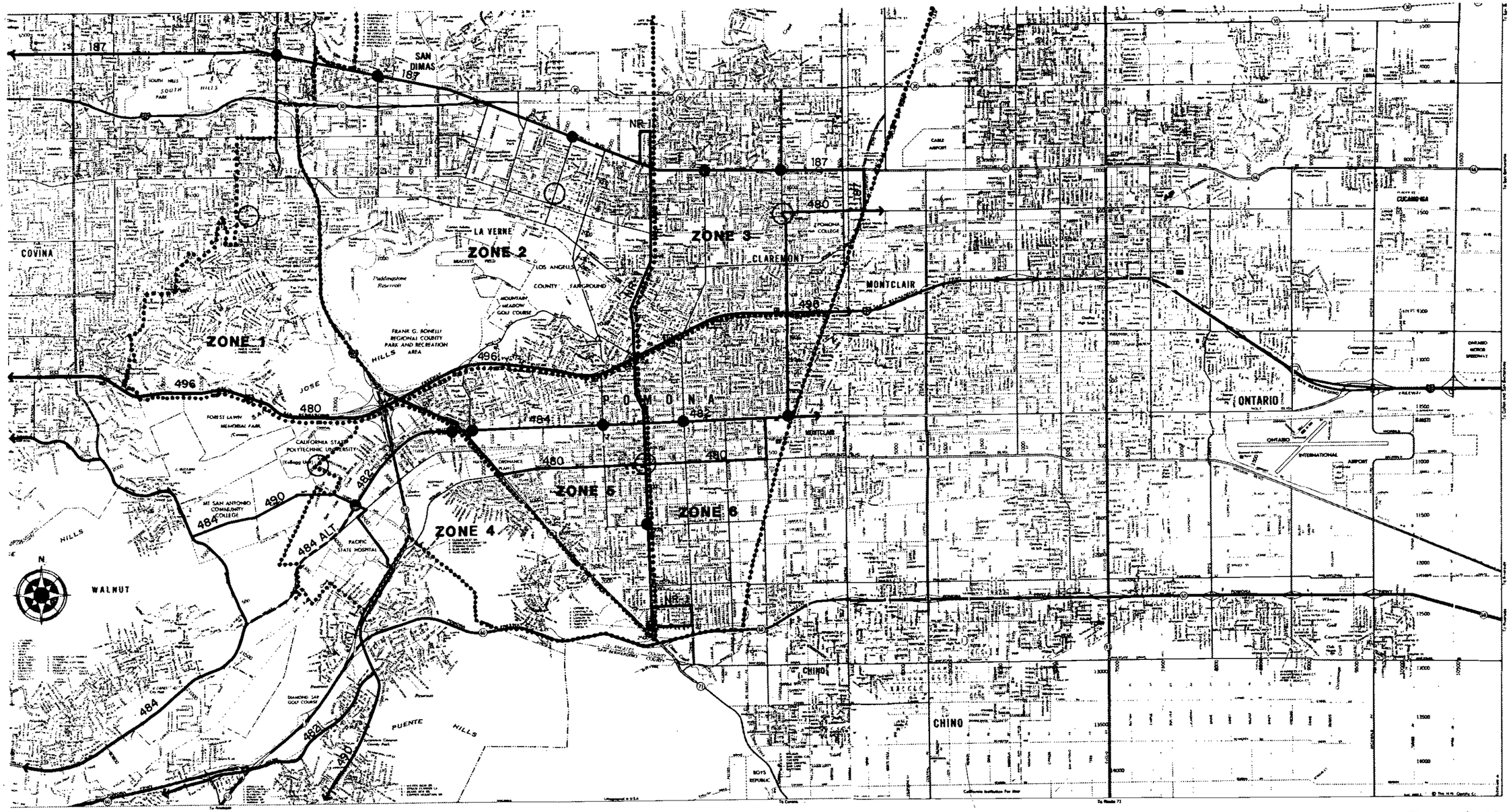


Figure 6-13
ALTERNATIVE 4
DEMAND RESPONSIVE SYSTEM

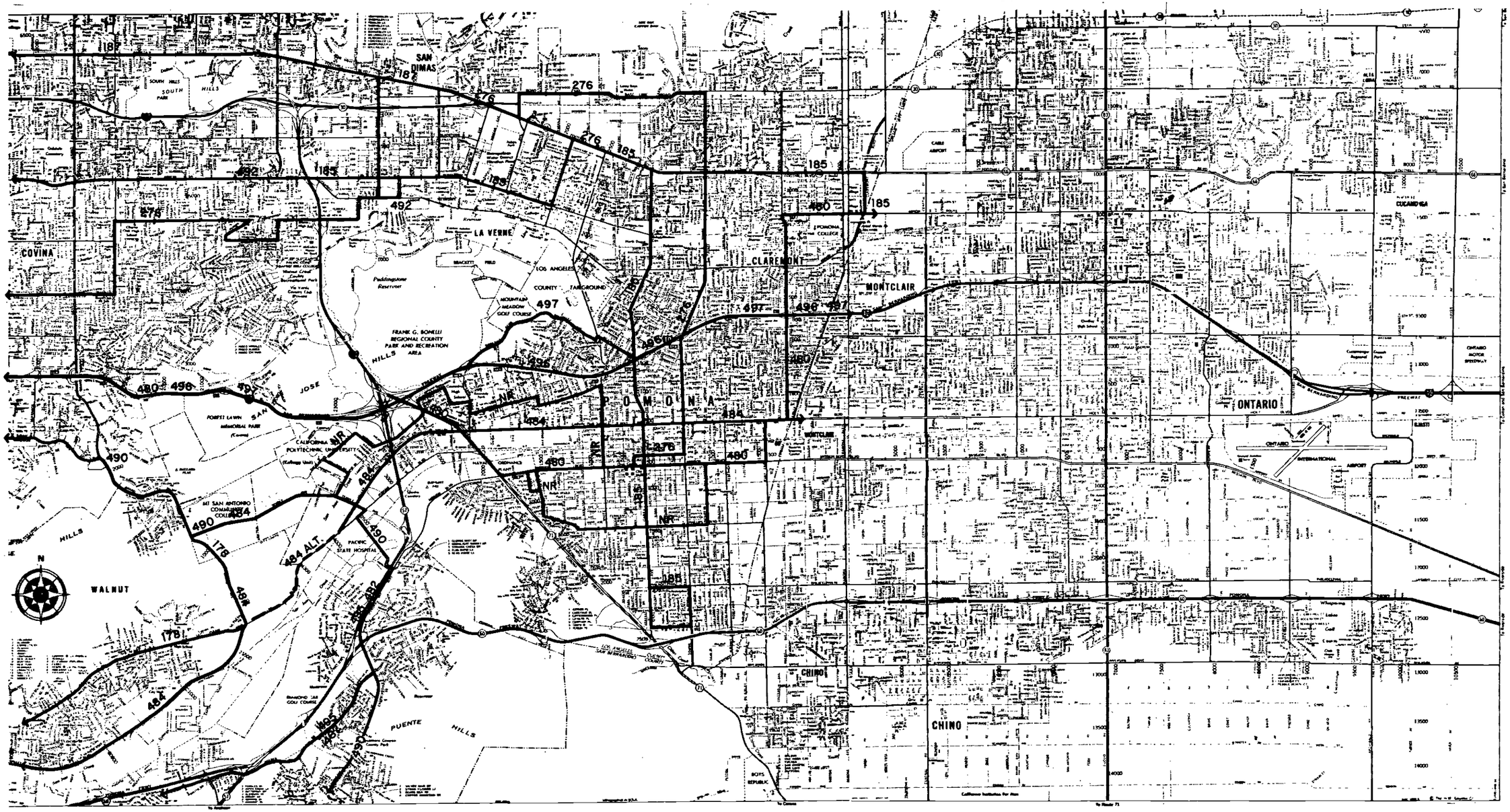


Figure 6-14

ALTERNATIVE 5
FIXED ROUTE SYSTEM

Characteristics of the fixed-route system under Alternative 5 are shown in Table 6-5. The new route to the California Polytechnical Institute would operate between 6:00 a.m. and 8:00 p.m., Monday through Friday only; no service would be provided on Saturday and Sunday service. Hours of service would be from 6:00 a.m. to 7:30 p.m., seven days a week. The new route would operate at thirty-minute frequencies during both peak and midday periods. The service frequency on Line 276 would be increased from sixty to thirty minutes throughout the day. Service characteristics for all other routes in Alternative 5 are the same as Alternative 3.

The demand-responsive system under Alternative 5 would have the same service and operating characteristics as previously defined for the Alternative 3 system. Figure 6-15 shows the zones and transfer points for the demand-responsive system proposed under Alternative 5.

TABLE 6-5

ALTERNATIVE 5:
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
187/Pasadena - Montclair	Monday - Friday Saturday Sunday	5:00 a.m. - 7:30 p.m. 5:00 a.m. - 7:00 p.m. 7:00 a.m. - 7:00 p.m.	30	30	30	0	60
276/Sunset Avenue - Covina Avenue - San Dimas Avenue - Foothill Boulevard - Towne Avenue	Monday - Friday	6:00 a.m. - 7:30 p.m.	30	30	30	0	0
185/Hacienda Avenue - Irwindale Avenue - Bonita Avenue - Garey Avenue	Monday - Friday Saturday Sunday	6:30 a.m. - 7:30 p.m. 6:30 a.m. - 7:30 p.m. 6:30 a.m. - 7:30 p.m.	30	30	30	0	60
178/El Monte - Baldwin Park - West Covina - Valina - Walnut	Monday - Friday	6:08 a.m. - 10:10 p.m.	60	60	60	0	0
480/Los Angeles - El Monte - West Covina - Pomona - Claremont - Montclair	Monday - Friday Saturday Sunday	5:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m.	15	15	15	30	30
482/Los Angeles - Hacienda Heights - Cal Poly	Monday - Friday Saturday Sunday	5:00 a.m. - 11:30 p.m. 6:00 a.m. - 11:30 p.m. 6:00 a.m. - 8:30 p.m.	30	23	60	40	60
484/Los Angeles - Pomona - Ontario	Monday - Friday Saturday Sunday	5:30 a.m. - 2:00 a.m. 5:30 a.m. - 2:00 a.m. 5:00 a.m. - 2:00 a.m.	15	15	30	60	30/60

--continued

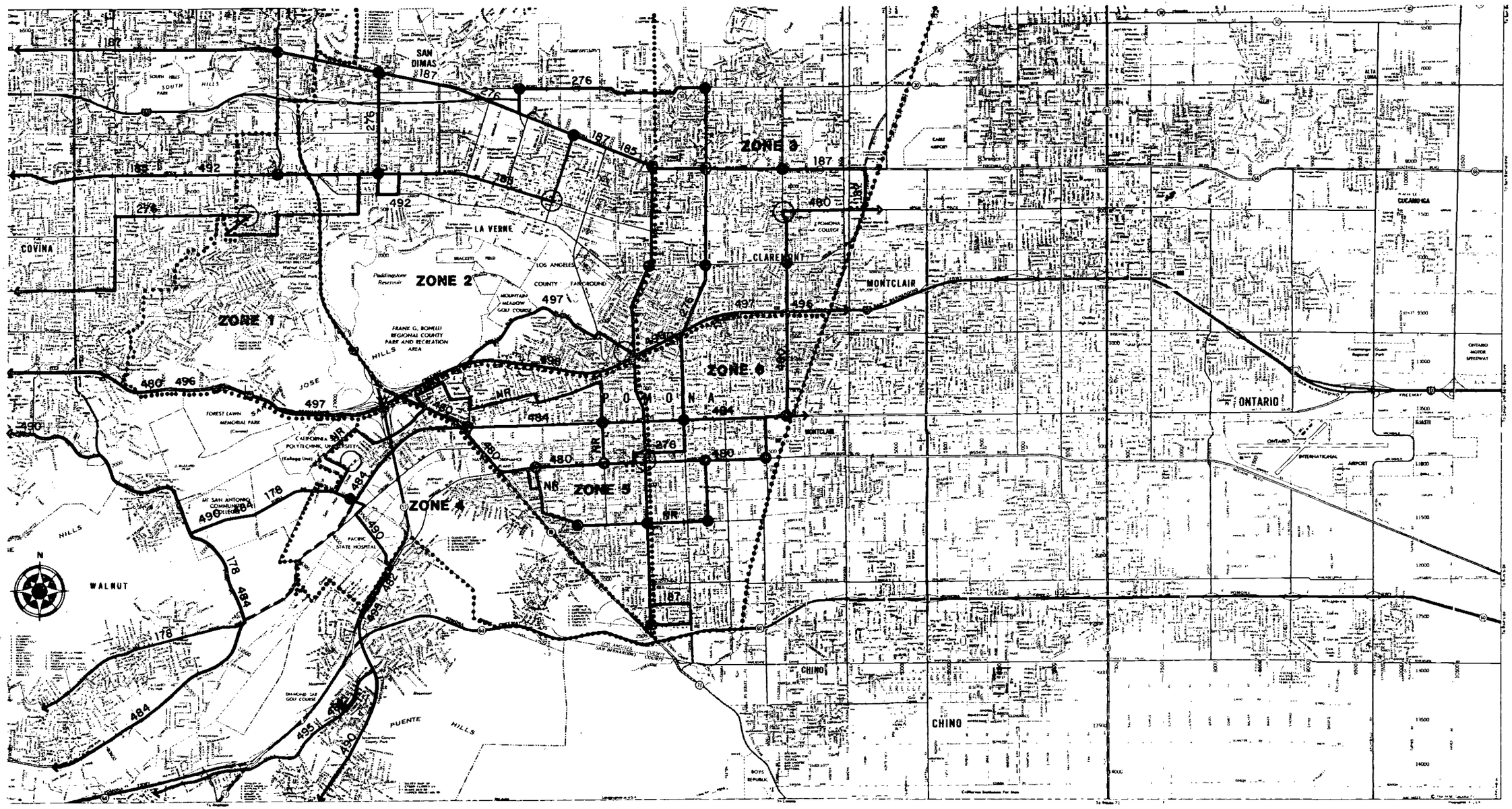
TABLE 6-5 (CONTINUED)

ALTERNATIVE 5:
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes) Peak a.m.[1]	Peak p.m.[2]	Mid-day	Night	Saturday/ Sunday
490/Los Angeles - Covina - Walnut - Cal Poly - Pomona	Monday - Friday Saturday Sunday	6:02 a.m. - 7:54 p.m. 7:08 a.m. - 7:10 p.m. 7:08 a.m. - 7:10 p.m.	42	32	60	0	60
492/Los Angeles - South Arcadia - San Dimas	Monday - Friday	5:47 a.m. - 6:35 a.m. 6:03 p.m. - 7:10 p.m.	25	40	0	0	0
497/Montclair - Pomona Park-and-Ride	Monday - Friday	5:26 a.m. - 8:06 a.m.	13	16	0	0	0
NR/Cal Poly - Pomona	Monday - Friday	6:00 a.m. - 8:00 p.m.	30	30	30	0	0

[1]Represents headways inbound to Los Angeles.
[2]Represents headways outbound from Los Angeles.

Source: RTD Route Timetables.
1982 Bose Bus Network, UNET Daily Line Summary.



- Fixed Route Transfer Point
- Zonal Transfer Point
- Zonal Boundary

Figure 6-15
ALTERNATIVE 5
DEMAND RESPONSIVE SYSTEM

7. OWNERSHIP/ MANAGEMENT ALTERNATIVES

7. OWNERSHIP/MANAGEMENT ALTERNATIVES

Numerous transit system ownership/management alternatives for public transit service in Pomona Valley can be identified. The results of the interviews with city officials, local elected leaders, and staff members of regional planning agencies, and the professional judgments of the consultant were employed in developing the ownership/management alternatives believed to be most viable for Pomona Valley. These alternatives are discussed in this chapter.

The term "ownership," as used in this chapter, refers to the organization framework by which transit vehicles and facilities are owned and/or controlled and policy direction is provided. The term "management," on the other hand, is used herein to refer to the daily control exercised over the administration, planning, and delivery of transit services.

7.1 OWNERSHIP STRUCTURES

Each alternative requires public ownership and/or control of the transit system. One reflects direct ownership by governmental unit (e.g., Pomona, Claremont, San Dimas, and LaVerne); another is based on an ownership/management structure like that of RTD or OMNITRANS; and the third proposes creation of a new authority or joint powers agency to serve Pomona Valley. Each is discussed below.

7.1.1 Ownership by Governmental Units

In this ownership framework, units of government own the transit vehicles and ancillary equipment and control operation of the system through an existing or newly established department. They may also choose between leasing the system for operation by private enterprise or hiring a private management firm. Existing governmental procedures and personnel can accommodate the functions associated with financing and budgeting, payroll, accounting, purchasing, and personnel administration. Existing or newly constructed garage and maintenance facilities can be used to maintain the transit vehicles. Because of government ownership, federal excise, fuel, city, and other local taxes which would be paid by a private business are eliminated or substantially reduced.

Public ownership by governmental unit has several disadvantages. Transit services are often limited to the political jurisdiction of the governmental unit that owns the system even though a demand for transit service may exist beyond its jurisdiction. Although difficult to resolve, this problem is sometimes overcome by means of a contractual agreement with other governmental units. However, the fragmented approach that results from such agreements decreases the system's efficiency (in terms of routes, fares, schedules, etc.). One solution to this problem is to place public ownership with the governmental unit having the largest political jurisdiction.

Another disadvantage of public ownership by governmental unit is the commitment of public facilities and personnel to the administration and operation of the transit system. Depending on the ultimate size of the

service area and the nature and degree of services rendered, the increased administrative burden on existing governmental procedures and personnel may be excessive. Regular government employees are often not trained to handle transit operations and maintenance activities; new personnel and equipment may be necessary, especially to maintain vehicles.

Alternatives that appear viable include ownership of transit by one or more of the cities of Pomona, Claremont, San Dimas, or LaVerne.

7.1.2 Ownership by Transit Authority

Many of the disadvantages associated with public ownership by governmental unit can be minimized or eliminated with the establishment of a transportation authority. Within this framework, a board of directors is either appointed by elected representatives of participating political subdivisions or is made up of the elected officials themselves. The board usually has the authority to purchase, own, operate, or provide for the operation of transportation facilities; to contract for public services; to exercise the power of condemnation (limited to property located within the corporate boundaries of the political subdivision by which the authority is incorporated); and to contract with other governmental agencies, private companies, and individuals. The board of directors has the authority, therefore, to establish, own, and operate a public transportation system within the jurisdiction of participating political subdivisions. An executive director and staff are normally responsible for the transit system's day-to-day management and operation.

The advantages of a transit authority are several. Transit service can cross political boundaries, thereby eliminating some of the problems associated with public ownership by a single unit of government. The planning and implementation or expansion of transit service is often more efficiently accomplished on an areawide level. Also, the board is clearly the agency to which both citizens and political bodies can communicate their need for transit. Finally, the same tax exemptions as can be realized from public ownership by a unit of government are applicable here because an authority is a public corporate entity.

Like all providers of urban transit services today, the transit authority must be supported by local funds because the transit system is not likely to pay its expenses through farebox revenues. However, when an authority is given an independent funding source (e.g., a transit tax), another problem can arise: if composed of appointed citizens, the authority may not be completely responsive to citizens and the political structure that established it because of its autonomy.

Under this ownership structure, alternatives that could be carried forward include the present situation, wherein RTD serves Pomona Valley and the creation of a new jointly-sponsored authority.

7.1.3 Ownership by Joint Powers Agency

Title 1, Division 7, Chapter 5, of the Government Code of the State of California enables two or more public agencies to exercise jointly or through

a third party an authority held in common with each other. Under joint powers agreements, cities may either join together to acquire vehicles and facilities and operate a transit system or jointly establish a public entity separate and distinct from each of the parties for the purpose of owning vehicles and facilities and operating a transit system. This joint powers agency is governed by a body consisting of elected or appointed officials from the cities involved in the agreement. As such, it has similar advantages and disadvantages as the transit authority.

The only viable alternative under this ownership structure would involve the creation of joint powers agency by the cities Pomona, Claremont, San Dimas, and LaVerne to purchase, own, and operate transit vehicles.

7.2 MANAGEMENT STRUCTURES

Given that public ownership and/or control of the transit system will be vested in units of local government, a transit authority, or a joint powers agency, there are several alternatives for operation and management of the system. The consultant identified five basic management structures that could be established to provide transit service to Pomona Valley: management by governmental units (e.g., Pomona, Claremont, San Dimas, and LaVerne), by a public transportation authority (e.g., RTD, OMNITRANS, West Valley Division, or a new authority), by a joint powers agency, by contract with a private firm, or by brokerage of services through private enterprise (e.g., Claremont Dial-a-Ride and OMNITRANS Demand Responsive System). Each is discussed below.

7.2.1 Management by Governmental Units

In small communities, management of a transit system by existing governmental units may involve one person with the authority to prepare a budget for operation of the transit system within the existing administrative framework of the governmental unit. The authority of a transit system administrator may include the ability to contract for management of the system.

In larger communities, a specific office, bureau, or department with a supporting staff is established to manage and operate the transit system. Budgeting, financing, procurement, administration of personnel, and other related activities are part of the administrative structure of the governmental unit. Thus, the governing body acts on the requests and recommendations of the administrative/management entity. Existing governmental garage and maintenance facilities are normally used to maintain transit vehicles. Maintenance and storage facilities controlled solely by the administrative/management entity are desirable because of the special needs of such equipment. However, the feasibility of this course of action is dependent on the size of the fleet and the availability of funds.

When a transit system is managed by a unit of government, the day-to-day delivery of transit services is conducted within carefully defined limits of administrative responsibility and authority. Ultimate control of the expansion and contraction of services and expenditures (and therefore the effectiveness and efficiency of transit) is retained by the governing body through ordinary administrative and legislative channels. The level of financing of a transit system is derived from the overall budgetary process

or from funds earmarked specifically for transit. Thus, administration and regulation of the transit system is vested in the governing body.

The following advantages are associated with public management:

- Management by governmental units generally requires active involvement by public decision-makers and bestows a sense of permanence upon the transit services provided.
- The making of long-term decisions in the areas of administration and management of operations is facilitated.
- The ability to develop local talent can improve the longevity and continuity of executive leadership, as well as its dedication to the community.
- The management of operations is directly responsive to the community's needs and resources and more sensitive to political considerations.

Several disadvantages of public management are as follows:

- Management by governmental units may be encumbered by the political and administrative process of local government.
- Available governmental personnel may lack the expertise necessary to operate a transit system in its initial, most critical stages.
- The transit system will have to compete with other governmental programs for limited financial and human resources.

7.2.2 Management by Public Transportation Authority

A public transportation authority is similar to a private corporation, except that it has the status of a public entity. Board members can either be elected officials holding office in the jurisdictions represented within the authority, or people appointed by those local elected officials. The responsibility for managing transit operations is vested in an executive director appointed or hired by the authority's board of directors. This individual is supported by a professional staff, which administers the short- and long-term operational needs of the transit system. The daily decision-making process is controlled by the executive director, who reports to the board of directors.

Major policy decisions about fare adjustments, route alignments, expansion or contraction of service, and expenditures (exceeding prescribed amounts) are made by the board after receiving the advice, guidance, and

recommendations of the executive director. In turn, the actions of the board are monitored by the participating governing bodies represented on the authority. If a board made up of appointed citizens is established (rather than a board of officials holding elected offices in local government), there may be a certain degree of autonomy associated with the board's activities. In this case, the influence of the governing bodies lies in the appointment of representatives to the board and the authority to make decisions about funding.

The primary advantages of management by an authority are associated with its single purpose and autonomy. Resources and time are dedicated to operation of the transit system over a large area. This allows the system's operational characteristics, such as vehicle scheduling and fares, to be adjusted in accordance with changes in the transit ridership market.

Paradoxically, the authority's single purpose and autonomy are also the cause of its primary disadvantages. Unless there are stipulations requiring coordination between an appointed-citizen authority and other governmental agencies, the authority's dedication to a single purpose can impede the development of an integrated, multimodal transportation system. The authority's autonomy can become too strongly developed, reducing its responsiveness to the community's needs.

Other advantages associated with this approach are noted below.

- A single organization is responsible to both the political structure and citizens of the community.
- Areawide services are provided through a single-purpose organization dedicated to providing the best service at the lowest cost.
- Decisions pertaining to personnel administration, recordkeeping, purchase and maintenance of vehicles, and system operations are removed from the general administrative structure of the community.
- The initiation of operational adjustments is a flexible process based on demand and market conditions.

Additional disadvantages of this approach are as follows:

- A source of funds must be established to support the authority's activities, staff, and operating deficits.
- Autonomy can decrease responsiveness to the community's needs, especially if an independent source of funds (e.g., transit tax) is established.
- Initial capital outlays may be greater as the authority undertakes to acquire new properties necessary to operate and maintain the transit system (although a relatively small system could contract with existing governmental maintenance facilities).

7.2.3 Management by Joint Powers Agency

A joint powers agency like the public transportation authority is a public entity with board members being either elected officials holding office in the cities participating in the agreement or appointed representatives of those officials. In addition to a board of directors, a joint powers agency also has an executive director, appointed or hired by the agency's governing board, with responsibilities for managing transit operations and a supporting staff which administers the needs of the transit system. As such, management by a joint powers agency has similar advantages and disadvantages as management by a public transportation authority.

7.2.4 Management by Private Sector

Units of local government, transit authority, or a joint powers agency can, as an alternative to the assumption of day-to-day management responsibilities, contract with an organization that specializes in the management of transit systems. The contract management approach is often chosen because of a desire to optimize the quality of managerial capabilities from the outset of transit system development.

The advantages of the contract management approach are noted below.

- Specialists employed by the contracting management firm are experts in transit management.
- Contracting provides a method for assessing management practices according to criteria established by the community. The control of policy is retained by local officials or the board of directors of an authority or joint powers agency.
- Contracting allows for alteration of the management team, in accordance with the community's judgment of its past performance, at contract renewal times.
- Contract management firms are experienced in transit management, allowing the introduction of improvements in management and operation that have evolved from the experience of other communities.
- Management costs and responsibilities are clearly identified.

The disadvantages associated with this approach are:

- Contract management firms lack a propensity for involvement in the community and usually do not exhibit a strong commitment to the local area.
- There is a high rate of turnover among senior management personnel, which leads to recurring periods of inefficient management during the contract as new

personnel familiarize themselves with the system's operation.

- Contract management personnel are less sensitive to the limitations of local resources and political considerations.
- Innovations and adjustments implemented by a contract management firm may deviate from local convention and interrupt organizational procedures.
- The performance of contract management personnel must be monitored by the public body.
- Smaller transit systems may be managed by professionals with the least number of years of experience.

7.2.5 Brokerage of Services Through the Private Sector

This management approach, like contract management, establishes an arrangement between the government units, transit authority, or joint powers agency and an independent, privately controlled enterprise. The private enterprise is given complete control over the operation of equipment--either that owned by the private concern or that leased from the public entity. The public entity can retain the responsibility for administering the provision of services, planning, marketing, developing routes and schedules, and maintaining the desired level of service. If necessary, municipal facilities can be used for maintenance of transit vehicles.

All terms relating to these specific facets of the transit system must be clearly defined in a contract or lease agreement. Performance review procedures to be undertaken at the time of contract or lease renewal may be included. The advantages and disadvantages associated with brokerage agreements differ from those of the other approaches. The advantages of such an approach are now presented.

- Private enterprise is encouraged.
- Because the profit motive is present, the expertise of businesses in the management and operation of a transit system can be enhanced.
- Personnel, payroll, and other day-to-day administrative processes are the responsibility of the contractor or lessee.
- Operating costs are borne by the contractor or lessee.

The disadvantages of this approach are now briefly described.

- Complicated contract or lease arrangements that stipulate responsibilities and authorities for both parties are required.

- The actions of the contractor or lessee must be carefully monitored, with special attention given to the transit operator's profit and loss statements.
- The primary objectives of the contractor or lessee will be to maximize profits, which may conflict with the level of service desired by the community.
- The local government relinquishes control over salaries, wages, and other expenditures associated with the delivery of transit services.
- The local government assumes the role of regulator.
- The tax savings associated with public ownership or ownership by an authority may not be realized because of the profits retained by the operator.

7.3 OWNERSHIP/MANAGEMENT ALTERNATIVES DEVELOPED FOR POMONA VALLEY

Several transit system ownership/management alternatives are possible using the ownership and management structures identified above. The alternatives all require public ownership and/or control with either self-management, contract for management, or brokerage of services through private enterprise. A total of ten alternatives were developed with ownership and/or control by individual cities, authority, or joint powers agency. The alternatives are shown on Figure 7-1 and described below.

7.3.1 Ownership and Management by Individual Cities

Under this ownership/management alternative, the individual cities of Pomona, Claremont, San Dimas, and LaVerne would own and operate separate transit systems. All vehicles and ancillary equipment would be owned by the cities. Operation of the system would be managed through an existing or newly established department. Budgeting, financing, procurement, administration of personnel and other related activities would be part of the administrative structure of the city government. Existing or newly constructed garage and maintenance facilities would be used to maintain the transit vehicles.

7.3.2 Ownership by Individual Cities and Contract for Management

The individual cities of Pomona, Claremont, San Dimas, and LaVerne could, as an alternative, contract for management services with either RTD or OMNITRANS or with a private organization that specializes in the management of transit systems. With this alternative, management responsibilities would be clearly defined in a contract and removed from the local governmental structures. Ownership of vehicles and facilities for maintenance would remain with the individual cities.

Figure 7-1

OWNERSHIP/MANAGEMENT ALTERNATIVES

System Management (Daily Operations) / System Ownership (Policy Direction)	Individual Cities	Contract for Mgmt. (RTD, Omnitrans, or Private Firm)	Brokerage through Private Enterprise	Existing Authority (RTD or Omnitrans)	New Authority	Joint Powers Agency
Individual Cities	✓	✓	✓			
Existing Authority (RTD or Omnitrans)				✓		
New Authority		✓	✓		✓	
Joint Powers Agency		✓	✓			✓

✓ VIABLE ALTERNATIVE

Source: Schimpeler-Corradino Associates

7.3.3 Ownerships by Individual Cities and Brokerage Through Private Enterprise

As another alternative, the individual cities of Pomona, Claremont, San Dimas, and LaVerne could enter into a brokerage agreement with private enterprise. The cities would own all transit vehicles and ancillary equipment and the privately controlled enterprise would be given complete control over operation of the equipment. Municipal facilities could be used for maintenance of the vehicles. If the vehicles are leased by the broker from the cities, maintenance of the vehicles would be the responsibility of the broker. Otherwise, the cities would be responsible for vehicle maintenance. All facets of operation of the system would be clearly defined in a contract or lease agreement. The cities would retain responsibility for administering the provision of services, planning, marketing, developing routes and schedules, and maintaining service. The contract or lease agreement would specify the rate and charge for operation of the vehicles.

7.3.4 Ownership/Management by an Existing Authority

Pomona Valley cities could contract for transit service with RTD, thus, allowing a continuation of the present situation whereby RTD operates all fixed route service in Pomona Valley. This service could be expanded to include more routes or more frequent service on existing routes. New types of service could also be added. In turn, the cities would give up their rights to operate public transportation and receive state and federal funds for transit. Proposition A funds received by the cities would be used to purchase service from RTD.

As an alternative to contracting with RTD for transit service, the Pomona Valley cities could contract with the OMNITRANS West Valley Authority in San Bernardino County.

7.3.5 Ownership/Management by New Authority

This alternative involves the creation of a new authority to serve Pomona Valley. New state legislation may be necessary to form such an organization. Under this alternative, a board of directors would have the authority to establish, own, and operate transit services within the legal limits of the Pomona Valley cities. Day-to-day management and operation of transit services would be the responsibility of an executive director and staff.

Major policy decisions about fare adjustments, route alignments, expansion or contraction of service, and expenditures (exceeding prescribed amounts) would be made by the board after receiving the advice, guidance, and recommendations of the executive director. In turn, the actions of the board are monitored by the cities represented on the authority.

7.3.6 Ownership by New Authority and Contract for Management

The new authority could, as an alternative, contract for management services with either RTD or OMNITRANS or with a private organization that specializes in the management of transit systems. With this alternative, management responsibilities would be removed from the authority. No executive director and professional staff would be required. The authority would consist only of

a board of directors which would be responsible for major policy decisions about fare adjustments, route realignments, expansion or contraction of service, and expenditures. Such decisions would be made on the basis of recommendations of private management.

7.3.7 Ownership by New Authority and Brokerage Through Private Enterprise

Instead of self-management or contract for management, the new authority could enter into a brokerage agreement with private enterprise. Like the other authority alternatives, ownership of transit vehicles and ancillary equipment would remain with the authority. However, under this alternative, control over operation of the equipment would be given to the broker. Lease arrangements for equipment owned by the authority would be defined in a contract or lease agreement. This contract or agreement would also define the rate and charge for operation of the vehicles. If the vehicles are leased by the privately controlled enterprise, maintenance of the vehicles would be the responsibility of the broker. Otherwise, the authority would be responsible for vehicle maintenance.

7.3.8 Ownership/Management by Joint Powers Agency

This alternative involves the creation of a joint powers agency by the cities of Pomona, Claremont, San Dimas, and La Verne. This joint powers agency would be governed by a board of directors consisting of members appointed by elected officials of the cities or made up of the elected officials themselves. This board would have the authority to establish, own, and operate transit services in Pomona Valley. An executive director and professional staff employed by the board would be responsible for day-to-day management and operation of the services.

7.3.9 Ownership by Joint Powers Agency and Contract for Management

Under this alternative, the joint powers agency would contract for management with either RTD or OMNITRANS or with a private management firm that specializes in the management of transit systems. The joint powers agency would consist only of a board of directors of which Pomona, Claremont, San Dimas, and LaVerne would be members, responsible for major policy decisions. No executive director and supporting professional staff would be necessary since all management responsibilities would be removed from the agency. The private management firm or agency under contract for management services would be responsible for advising the board of directors on policy decisions.

7.3.10 Ownership by Joint Powers Agency and Brokerage Through Private Enterprise

The joint powers agency could enter into a brokerage agreement with a privately controlled enterprise. The private enterprise would be given complete control over operation of equipment owned by the agency. Lease arrangements for the equipment owned by the agency would be defined in a contract or lease agreement with the broker. This contract or agreement would also define the rate and charge for operation of the vehicles by the privately controlled enterprise.

8. EVALUATION OF ALTERNATIVES

8. EVALUATION OF ALTERNATIVES

This chapter presents the results of the evaluation of the transit service and ownership/management alternatives developed for Pomona Valley.

8.1 ALTERNATIVES SELECTED FOR EVALUATION

The alternatives selected by the PMC for evaluation consist of alternatives for regional and local transit service and alternatives for ownership and management of that service.

8.1.1 Service Alternatives

All five transit service alternatives reviewed by the PMC were selected for evaluation. The alternatives selected include combinations of fixed-route and demand-responsive alternatives. The five service alternatives are described below.

Alternative 1 is the combination, without modification, of all existing transit services in the Pomona Valley. It is considered the base condition for comparison with the other alternatives. The existing service includes the Southern California Rapid Transit District (RTD) fixed-route service, the Claremont Dial-a-Ride demand-responsive system for the general public and elderly/handicapped within the city limits of Claremont, and Get About Transportation which provides the elderly and handicapped residents of Pomona Valley with accessible demand-responsive service.

Alternative 2 is a modified fixed-route system with areawide demand-responsive service for the elderly and handicapped. The fixed-route service in this alternative include new routes, as well as modifications and deletions of existing routes. This alternative was designed to provide a somewhat higher level of transit service at a minimum cost.

Alternative 3 consists of an areawide demand-responsive system for both the general public and elderly and handicapped with regional fixed-route service. The demand-responsive system is designed to serve local trips within the Pomona Valley, while the fixed-route system is designed to serve longer distance trips in the region. The demand-responsive system also would serve as a feeder service for the fixed-route system.

Alternative 4 is a combination of the fixed-route service of Alternative 2 with demand-responsive service for the general public in the evenings and on Saturdays and Sundays. Service for the elderly and handicapped would be the same as for Alternative 2.

Alternative 5 is the same as Alternative 3, except that the fixed-route service proposed for Alternative 3 would be expanded by two additional routes. This alternative would provide a somewhat higher level of fixed-route service than Alternative 3. Thus, the combination of fixed-route and demand-responsive service under Alternative 5 would be more balanced than any of the other alternatives.

8.1.2 Ownership/Management Alternatives

A total of ten ownership/management alternatives were reviewed by the PMC. Each of the alternatives reviewed requires public ownership with either self-management, contract for management, or brokerage of service through private enterprise. The ownership alternatives include ownership by individual cities, existing authority, new authority, and joint powers agency. The management alternatives include management by governmental units, management by transportation authority, management by the joint powers agency, management by private sector, and brokerage of services through private enterprise.

Of the ten different ownership/management alternatives, the PMC selected six for detailed evaluation. The alternatives that PMC selected include new authority or joint powers agency ownership and either self-management, contract for management, or brokerage of service through private enterprise.

8.1.3 Combined Service and Ownership/Management Alternatives

The service alternatives were combined with the ownership/management alternatives to form a matrix of alternatives for evaluation (Figure 8-1). Combinations are necessary in order to evaluate the cost implications of different ownership/management alternatives on the provision of service. A total of thirteen different combinations were formed and evaluated. Under each alternative, it was assumed that RTD would continue to own and operate all regional fixed-route service within Pomona Valley. It was also assumed that any local fixed-route or demand-responsive service would be locally owned and operated. Alternatives for local service were evaluated under three scenarios: (1) ownership and management by new authority or a joint powers agency, (2) ownership by new authority or a joint powers agency and contract for management, and (3) ownership by new authority or joint powers agency and brokerage through private enterprise.

8.2 EVALUATION CRITERIA AND MEASURES

The combined service and ownership/management alternatives selected by the PMC were evaluated using the evaluation criteria and measures adopted by the PMC. The evaluation measures (Table 8-1) are grouped by category so that an overall evaluation of the different alternatives by each category can be made by the PMC. The evaluation was concentrated in four impact categories: system form and function, social impacts, efficiency and economics, and organizational/institutional development.

8.2.1 System Form and Function

The purpose of this category of evaluation measures was to evaluate alternatives in terms of being functionally sound, meeting area needs, and encouraging transit use. Included in this goal category are the evaluation measures of the transit patronage (total daily transit boardings) and system coverage.

Figure 8-1

COMBINED SERVICE AND OWNERSHIP/MANAGEMENT ALTERNATIVES

Service Alternatives		Ownership/Management Alternatives				
Alternative	Service Types	Ownership/Management by Existing Operators (RTD, Claremont, and Get-About)	Ownership/Management by RTD	Ownership/Management by New Authority by Joint Powers Agency	Ownership by New Authority or Joint Powers Agency and Contract for Management	Ownership by New Authority or Joint Powers Agency and Brokerage through Private Enterprise
1	• Regional Fixed-Route	✓				
	• Local Fixed-Route	✓				
	• Demand Responsive	✓				
2	• Regional Fixed-Route		✓			
	• Local Fixed-Route			✓	✓	
	• Demand Responsive			✓	✓	✓
3	• Regional Fixed-Route		✓			
	• Demand Responsive			✓	✓	✓
4	• Regional Fixed-Route		✓			
	• Local Fixed-Route			✓	✓	
	• Demand Responsive			✓	✓	✓
5	• Regional Fixed-Route		✓			
	• Local Fixed-Route			✓	✓	
	• Demand Responsive			✓	✓	✓

✓ Alternative selected for evaluation.

Source: Schimpeler·Corradino Associates.

TABLE 8-1

EVALUATION MEASURES

Categories	Measures
System Form and Function	Total Passenger Boardings
	Square Miles of Coverage
	Population Served
	Major Generators Served
Social Impacts	Total Households Served
	Low-Income Households Served
	Zero or One Auto Households Served
	Percentage Coverage to High Propensity Areas
Efficiency and Economics	Total Capital Costs
	Total Operating Costs
	Total Vehicle Miles
	Total Vehicle Hours
	Total Passenger Boardings
	Total Passenger Revenues
	Operating Cost/Vehicle Mile
	Operating Cost/Vehicle Hour
	Operating Cost/Passenger
	Passengers/Vehicle Mile
	Passengers/Vehicle Hour
	Revenue/Cost

Source: Schimpeler-Corradino Associates.

8.2.1.1 Transit Patronage

Estimates of transit patronage were prepared for each of the fixed-route and demand-responsive systems of Alternatives 2 through 5. For Alternative 1, current patronage was used for comparison with the other alternatives. A summary of daily systemwide patronage by service alternative is shown in Table 8-2. The patronage shown represents total weekday boardings including transfers. Daily patronage for the fixed-route systems ranges from 7,250 under Alternative 1 to 9,095 boardings under Alternative 5. This latter alternative shows an increase of 1,845 boardings daily over the base system of Alternative 1. Alternatives 2 through 4 also show an increase in ridership over Alternative 1. It should be noted that patronage for the fixed-route systems of Alternatives 3 and 5 include passengers transferring from the general market demand-responsive systems since these systems would be coordinated with local and regional fixed-route transit. For these alternatives, it is assumed that ten percent of the demand-responsive system passengers would transfer. Transfers for the target market (i.e., elderly and handicapped) system of Alternative 2 and the evening service demand-responsive system of Alternative 4 would be negligible.

TABLE 8-2

SUMMARY OF DAILY SYSTEM
PATRONAGE BY SERVICE ALTERNATIVE

Alternative	Fixed-Route Daily Passengers	Demand-Responsive Daily Passengers	Total Daily Passengers
1	7,250	545	7,795
2	8,618	759	9,377
3	7,901	4,086	11,987
4	8,618	1,391	10,009
5	9,095	3,531	12,626

Source: Schimpeler•Corradino Associates.

Daily patronage for the demand-responsive systems ranges from 545 under Alternative 1 to 4,086 boardings under Alternative 3. This represents a significant increase in patronage. However, the demand-responsive system of Alternative 3 represents an areawide expansion of general market demand-responsive service, whereas under Alternative 1, demand-responsive service for the general public is limited to the city limits of Claremont. Alternatives 2, 4, and 5 also show an increase in patronage.

Total daily patronage for both the fixed-route and demand-responsive systems ranges from 7,795 under Alternative 1 to 12,626 boardings under Alternative 5. The next highest patronage is estimated for Alternative 3 with 11,987 daily boardings followed by Alternatives 4 and 2 with 10,009 and 9,377 boardings, respectively.

8.2.1.2 System Coverage

System coverage was evaluated from the standpoint of square miles of coverage, service area population, and activity and employment centers served.

- Square Miles of Coverage

A summary of square miles of coverage of the five service alternatives is presented in Table 8-3. For each alternative, the number of square miles of fixed-route, demand-responsive, and total system coverage is presented. Fixed-route system coverage is based on a quarter mile distance on either side of the routes included in the system. This quarter mile distance is considered to be the maximum reasonable walking distance for most transit trips. Excluded from the total of square miles of fixed-route coverage are the park-and-ride routes that provide no local stop service. General market demand-responsive system coverage includes all the area outside the fixed-route service area and fifty percent of the area within the fixed-route service area. In the case of the target market (i.e., elderly and handicapped) systems, the area of coverage would include all of Pomona Valley.

A review of fixed-route system coverage by alternatives reveals that Alternative 1 provides the most coverage. The area of coverage of this alternative represents approximately 32 square miles or fifty percent of the total land area in Pomona Valley. The other alternatives range in coverage from approximately 48 square miles under Alternatives 2 and 4 to 32 square miles under Alternative 3.

Demand-responsive system coverage is broken down into general market and target market coverage. All but Alternative 2 include general market demand-responsive service. The area served by the general market systems range from about five square miles under Alternative 1 to 54 square miles under Alternative 3. Alternative 1 coverage is limited to the city limits of Claremont while coverage of Alternative 3 is provided to almost all of Pomona Valley. Square miles of coverage for the general market systems of Alternatives 4 and 5 total approximately fifty square miles each. For the target market demand-responsive systems, 100 percent coverage of Pomona Valley is assumed. This amounts to a service area for each system of about 65

TABLE 8-3

SUMMARY OF SQUARE MILES OF COVERAGE
BY ALTERNATIVE

Alternative	Fixed-Route System Coverage		Demand Responsive System Coverage				Total System Coverage	
			General Market		Target Market			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1	32.45	50.03	5.03	7.76	64.86	100	64.86	100
2	31.39	48.40	0.00	0.00	64.86	100	64.86	100
3	20.79	32.05	54.47	83.98	64.86	100	64.86	100
4	31.39	48.40	50.43	77.75	64.86	100	64.86	100
5	28.78	44.37	50.47	77.81	64.86	100	64.86	100

Source: Schimpeler·Corradino Associates.

square miles. Since all alternatives include a target market system providing areawide coverage, total system coverage for each alternative would encompass 100 percent of the land area in the valley.

- Service Area Population

The second measure evaluated under system coverage is population served. A summary of population served by each of the five service alternatives by fixed-route, demand-responsive, and total system coverage is presented in Table 8-4. Again a quarter mile distance on each side of the transit routes was assumed for fixed-route coverage, and the area of coverage for the general market demand-responsive systems included all the area outside the fixed-route service area plus fifty percent of the area within the fixed-route service area. Target market demand-responsive systems are again assumed to be areawide coverage.

Population coverage for the fixed-route systems is the greatest under Alternative 1 with a service area population of over 124,000, or 67 percent of the total population of Pomona Valley. Alternatives 2 and 4 have the second largest fixed-route service populations with a total of approximately 117,000 persons (63%) each. The service population for Alternative 5 is the next largest with about 112,000 persons (61%). Alternative 3 has the smallest fixed-route service population of all of the alternatives with a total of approximately 78,000 persons (or 42%).

Service populations for the general market demand-responsive systems range from 22,000 for the Claremont system under Alternative 1 to 149,000 under Alternative 3, which is considered to be the maximum demand-responsive service alternative. Alternatives 4 and 5 have service populations of approximately 117,000 and 137,000, respectively. The service populations of the target market-demand responsive systems include the elderly and handicapped population which is estimated to total 19,650. This estimate is based on the 1980 census and regional incidence rates of handicapped persons. Under Alternatives 3 and 5, the target market systems would serve only the handicapped. Elderly, non-handicapped persons would be served by the general market system. Since all alternatives include a target market system providing areawide coverage, total population served by the system would equal the 184,000 total population of Pomona Valley.

- Service to Activity and Employment Centers

System coverage from the standpoint of activity and employment centers served was also evaluated. Table 8-5 lists the number and type of major generators served by the fixed-route service alternatives. The types of major generators served include:

- Major employers (greater than 100 employees)
- Hospitals
- Major shopping centers
- Elementary and high schools
- Colleges and universities
- Elderly and nursing homes.

TABLE 8-4

SUMMARY OF POPULATION COVERAGE
BY ALTERNATIVE

Alternative	Fixed-Route System Coverage		Demand Responsive System Coverage				Total System Coverage	
			General Market		Target Market			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1	124,288	67.47	22,026	11.96	19,650	10.67	184,213	100
2	116,729	63.37	0	0	19,650	10.67	184,213	100
3	78,276	42.49	148,584	80.66	3,057	1.66	184,213	100
4	116,729	63.37	117,695	63.89	19,650	10.67	184,213	100
5	111,857	60.72	137,007	74.37	3,057	1.66	184,213	100

Source: Schimpeler-Corradino Associates.

TABLE 8-5

SUMMARY OF NUMBER OF MAJOR
GENERATORS SERVED BY ALTERNATIVE
FIXED-ROUTE SYSTEMS

Type of Major Generator	Alternative 1	2	3	4	5
Employers - 100 to 500 Employees	50	47	39	47	45
Employers - 500 to 1,000 Employees	2	3	2	3	2
Employers - Over 1,000 Employees	4	4	4	4	4
Hospitals	4	3	3	3	4
Shopping Centers	8	8	8	8	8
Elementary/High Schools	15	16	7	16	15
Colleges/Universities	7	10	10	10	10
Elderly/Nursing Homes	1	1	1	1	1
TOTAL	91	92	74	92	89

Source: Schimpeler-Corradino Associates.

The number of generators served is approximately the same for all alternatives, with the exception of Alternative 3. This alternative would serve fewer schools and employment centers than the other alternatives, principally because its fixed-route service coverage is not nearly as extensive. The number of hospitals and shopping centers served by this alternative is about the same as the other alternatives.

Major generators not served by the fixed-route systems of Alternatives 3, 4, and 5 would be served by the demand-responsive systems of these alternatives. Under the demand-responsive systems of Alternatives 1 and 2, the general public would not have access to the generators not served by the fixed-route system since use of the demand-responsive systems would be limited to the elderly and handicapped, and the fixed-route system would not serve all of Pomona Valley.

8.2.2 Social Impacts

Under the goal category of social impacts, several evaluation measures were calculated, including number of total households: low-income households, zero or one auto households served, and coverage of areas with a propensity for transit use.

8.2.2.1 Service Area Households

A summary of total households served by each of the five service alternatives is presented in Table 8-6. For each alternative, the number of households served by the fixed-route and demand-responsive systems is identified along with a combined system total.

Based on an one-quarter mile distance on each side of the transit routes, the number of total households served by the fixed-route service alternatives ranges from a low of about 26,000 under Alternative 3 to a high of 41,000 under Alternative 1. Percentage of total households served for these two alternatives amounts to 44 and 69 percent, respectively. Alternatives 2 and 4 serve slightly fewer households than Alternative 1, with both serving about 39,000 or 66 percent of the areawide total. Alternative 5 is next with 37,000 households served or 63 percent.

Although the fixed-route system of Alternative 3 serves the smallest number of households, the general market demand-responsive system in this alternative serves the largest number of households of the systems evaluated. Approximately 46,000 households, or 78 percent of the area total, are provided demand-responsive service under this alternative. This is considerably more than the 31,000 and 41,000 households provided service under Alternatives 4 and 5, respectively. The general market system of Alternative 1 serves the fewest households of the four alternatives providing general market demand-responsive service. This alternative serves approximately 7,000 households or twelve percent of the area total. Alternative 2 provides no general market service. All of the target market systems provide areawide service to all households in Pomona Valley.

The number of low-income households and households with zero or one auto was also identified for each service alternative. Summaries of these statistics are shown in Tables 8-7 and 8-8. Comparison of the low-income and zero or one

TABLE 8-6

SUMMARY OF HOUSEHOLDS SERVED
BY ALTERNATIVE

Alternative	Fixed-Route System Coverage		Demand Responsive System Coverage				Total System Coverage	
			General Market		Target Market			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1	41,185	69.18	6,932	11.64	59,530	100	59,530	100
2	39,075	65.64	0	0	59,530	100	59,530	100
3	26,209	44.03	46,436	78.00	59,530	100	59,530	100
4	39,075	65.64	31,456	52.84	59,530	100	59,530	100
5	37,316	62.68	40,885	68.68	59,530	100	59,530	100

Source: Schimpeler·Corradino Associates.

TABLE 8-7

SUMMARY OF ZERO OR ONE AUTO HOUSEHOLDS SERVED BY ALTERNATIVE

Alternative	Fixed-Route System Coverage		Demand-Responsive System Coverage				Total System Coverage	
			General Market		Target Market			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1	19,042	78.82	3,076	12.73	24,158	100	24,158	100
2	18,259	75.58	0	0	24.158	100	24.158	100
3	12,489	51.70	17,914	74.15	24.158	100	24.158	100
4	18,259	75.58	10,894	45.09	24.158	100	24,158	100
5	17,464	72.29	15,426	63.85	24,158	100	24,158	100

Source: Schimpeler-Corradino Associates.

TABLE 8-8

SUMMARY OF LOW-INCOME HOUSEHOLDS SERVED BY ALTERNATIVE

Alternative	Fixed-Route System Coverage		Demand-Responsive System Coverage				Total System Coverage	
			General Market		Target Market			
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
1	11,494	81.67	1,371	9.74	14,075	100	14,075	100
2	10,867	77.21	0	0	14.075	100	14.075	100
3	7,394	52.53	10,378	73.73	14.075	100	14.075	100
4	10,867	77.21	6,168	43.82	14.075	100	14.075	100
5	10,468	74.50	8,841	62.81	14.075	100	14.075	100

Source: Schimpeler·Corradino Associates

auto households served by the five alternatives revealed essentially the same results as the evaluation of total households served.

8.2.2.2 Service to Areas of Greatest Need

Service to areas of greatest need was evaluated based on fixed-route coverage of areas with a propensity for transit use. Socioeconomic characteristics indicative of transit use included total population density, population 65 and older density, minority population density, percentage of households with low-income, and percentage of households with one or no autos. Stratification of these indicators into high, medium, and low propensities to use transit and the plotting of Pomona Valley census tracts according to propensity to use transit is discussed in Chapter .

Based on a composite profile of the transit use indicators and overlays of the five fixed-route service alternative, coverage to areas with a propensity for transit use was determined for each alternative. A summary by alternative of coverage to areas with a low, medium, and high propensity for transit use is presented in Table 8-9. Of the five fixed-route service alternatives, Alternative 1 has the highest pecent coverage of areas with a propensity for transit use followed by Alternatives 2, 4, 5, and 3.

TABLE 8-9

SUMMARY OF FIXED-ROUTE COVERAGE
TO AREAS WITH A PROPENSITY
FOR TRANSIT USE

	Percent Coverages		
Alternative	Low Propensity	Medium Propensity	High Propensity
1	34.62	74.41	93.03
2	32.78	74.29	88.60
3	20.43	51.67	61.05
4	32.78	74.29	88.60
5	29.11	69.01	85.54

Source: Schimpeler•Corradino Associates.

8.2.3 Efficiency and Economics

Under the category of efficiency and economics, three major evaluation measures were calculated: capital costs, operating costs, and ridership and revenue. Capital costs include the costs of vehicles and supporting equipment and facilities. Estimates of such costs were evaluated by service alternative. Operating costs, ridership, and revenue for each service alternative were evaluated using the performance measures and standards identified in Table 8-10. These measures address the efficiency of transit service by measuring cost and passengers per vehicle mile and hour and the ratio of revenue to cost of each service alternative. The standards reflect the levels of efficiency to be achieved by the fixed-route and demand-responsive systems in each alternative. Also included in the goal category of efficiency and economics are funding sources for operating costs.

8.2.3.1 Capital Costs

The evaluation of capital costs assumes that ownership of all local fixed-route and demand-responsive service will be by either new authority or joint powers agency. All vehicles and supporting facilities and equipment necessary to operate this service would be borne by the new authority or joint powers agency, unless the decision is made to broker the demand-responsive services through private enterprise. In this case, no vehicles or supporting equipment and facilities would be required for the provision of the demand-responsive services since the broker would provide the vehicles used in service and would be responsible for maintenance of the vehicles. However, like the other ownership/management alternatives, ownership of vehicles and equipment with brokerage of services could remain under the authority or joint powers agency if desired. Under this alternative, the capital costs would be the same as under ownership by authority or joint powers agency. The evaluation of capital costs also assumes that RTD would retain ownership of all regional service and would bear the costs of any additional vehicles needed for expansion of service under the five fixed-route alternatives. It is further assumed that the facilities now available can accommodate any expansion in the regional fleet.

The estimated capital costs and requirements of the five service alternatives are listed in Tables 8-11 and 8-12. Costs and requirements in the first table are estimated based on the assumption that the new authority or joint powers agency would own and maintain the demand-responsive service fleet, while the second table assumes that the private broker would own and maintain all vehicles used in the provision of service.

The capital cost estimates developed for the service alternatives are based on the 1983 unit cost estimates. The capital items required include vehicles (i.e., vans, small buses, full size buses, service vehicles), maintenance facilities, administrative offices, maintenance equipment and parts, and communications equipment. All capital estimates are based on the requirements calculated for the individual alternatives using industry recognized standards and procedures. Transit vehicles for the fixed-route service alternatives were estimated using route mileages, operating speeds, and service frequencies as inputs. Vehicles for the demand-responsive service alternatives were estimated using nationwide statistics on vehicles per person served. All but the regional vehicle requirements include a

TABLE 8-10

SELECTED PERFORMANCE STANDARDS
FOR SERVICE ALTERNATIVES

Performance Measure	Fixed-Route Service	Demand-Responsive Service	
		General Market	Target Market
1. Total Passengers	Greater than existing	Greater than existing	
2. Passengers per mile	2.0	0.62	0.41
3. Passengers per hour	25.0	7.75	5.05
4. Operating Cost per mile	2.50	1.90	3.40
5. Operating cost per hour	50.00	23.90	41.90
6. Operating cost per passenger	2.50	3.15	7.45
7. Operating ratio	0.45	0.29	0.17

Source: Project Management Committee.

TABLE C-11

SUMMARY OF CAPITAL COST BY SERVICE ALTERNATIVE WITH RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY OWNERSHIP/MANAGEMENT OR CONTRACT FOR MANAGEMENT

		Alternatives									
		1		2		3		4		5	
Capital Items	Unit Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost
Vehicles											
• Van Demand-Responsive Service	15,000	0	0.00	15	225,000	22	330,000	33	495,000	26	390,000
• Small Bus Local Service	43,000	0	0.00	9	387,000	0	0	9	387,000	4	172,000
• Full Size Bus Local Service	150,000	0	0.00	6	900,000	0	0	6	900,000	0	0
SUBTOTAL LOCAL VEHICLES		0	0.00	30	1,512,000	22	330,000	48	1,782,000	30	562,000
• Full Size Bus Regional Service	150,000	0	0.00	4	600,000	0	0	4	600,000	9	1,350,000
Service Vehicles	25,000	0	0.00	2	50,000	1	25,000	3	75,000	2	50,000
SUBTOTAL		0	0.00	36	2,162,000	23	355,000	55	2,457,000	41	1,962,000
Facilities											
• Maintenance (Per Sq. Ft.)	100	0	0.00	13,500	1,350,000	6,600	660,000	18,900	1,890,000	10,200	1,020,000
• Office (Per Sq. Ft.)	60	0	0.00	1,250	75,000	1,250	75,000	1,250	75,000	1,250	75,000
SUBTOTAL		0	0.00	14,750	1,425,000	7,850	735,000	20,150	1,965,000	11,450	1,095,000
Maintenance Equipment/Parts	1,000	0	0.00	30	30,000	22	22,000	48	48,000	30	30,000
Mobile Radios	1,500	0	0.00	30	45,000	22	33,000	48	72,000	30	45,000
Base Radios	5,000	0	0.00	1	5,000	1	5,000	1	5,000	1	5,000
SUBTOTAL REGIONAL SERVICE			0.00		600,000		0		600,000		1,350,000
SUBTOTAL LOCAL SERVICE			0.00		3,067,000		1,150,000		3,947,000		1,787,000
TOTAL			0.00		3,667,000		1,150,000		4,547,000		3,137,000

Source: Schimpeler-Corradino Associates.

TABLE 8-12

SUMMARY OF CAPITAL COST BY SERVICE ALTERNATIVE WITH RTO AND NEW AUTHORITY OR JOINT POWERS AGENCY OWNERSHIP/MANAGEMENT AND BROKERAGE THROUGH PRIVATE ENTERPRISE

		Alternatives									
		1		2		3		4		5	
Capital Items	Unit Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost	Number	Total Cost
Vehicles											
• Van Demand-Responsive Service	15,000	0	0.00	0	0	0	0	0	0	0	0
• Small Bus Local Service	43,000	0	0.00	9	387,000	0	0	9	387,000	4	172,000
• Full Size Bus Local Service	150,000	0	0.00	6	900,000	0	0	6	900,000	0	0
SUBTOTAL LOCAL VEHICLES		0	0.00	15	1,287,000	0	0	15	1,287,000	4	172,000
• Full Size Bus Regional Service	150,000	0	0.00	4	600,000	0	0	4	600,000	9	1,350,000
• Service Vehicles	25,000	0	0.00	1	25,000	0	0	1	25,000	1	25,000
SUBTOTAL		0	0.00	29	1,912,000	0	0	20	1,912,000	14	1,547,000
Facilities											
• Maintenance (Per Sq. Ft.)	100	0	0.00	9,000	900,000	0	0	9,000	900,000	2,400	240,000
• Office (Per Sq. Ft.)	60	0	0.00	1,250	75,000	1,250	75,000	1,250	75,000	1,250	75,000
SUBTOTAL		0	0.00	10,250	975,000	1,250	75,000	10,250	975,000	3,650	315,000
Maintenance Equipment/Parts	1,000	0	0.00	15	15,000	0	0	15	15,000	4	4,000
Mobile Radios	1,500	0	0.00	15	22,500	0	0	15	22,500	4	6,000
Base Radios	5,000	0	0.00	1	5,000	0	0	1	5,000	1	5,000
SUBTOTAL RETIONAL SERVICE			0.00		600,000		0		600,000		1,350,000
SUBTOTAL LOCAL SERVICE			0.00		2,329,500		75,000		2,329,500		527,000
TOTAL			0.00		2,929,500		75,000		2,929,500		1,877,000

Source: Schimpeler-Corradino Associates.

twenty percent allowance for spares. Maintenance and administrative offices, communications equipment, and service vehicles are based on fleet procurement.

The cost comparison of the service alternatives presented in Table 8-11 is based on RTD and new authority or joint powers agency ownership and indicates a wide-range of total capital costs ranging from as low as $1,500,000 under Alternative 2 (excluding Alternative 1 which is the do-nothing alternative) to as high as $4,547,000 under Alternative 4.

Alternative 2 would require approximately $3,667,000 in total capital funds. This includes thirty new local vehicles at a cost of $1,512,000, four new regional buses at a cost of $600,000, and sufficient facilities and equipment for the local fleet.

The capital costs of Alternative 3 would be considerably less expensive since no new fixed-route vehicles or supporting facilities for them would be required. The regional fixed-route service of this alternative would be provided by RTD with the existing fleet and facilities. The demand-responsive system costs for Alternative 3 would total $1,150,000. This includes the cost of 22 new vehicles and supporting equipment and facilities.

Alternative 4 is the most expensive of the alternatives in terms of capital costs alone. This alternative includes a significantly expanded fixed-route system plus expanded demand-responsive service for the elderly and handicapped and evening and weekend demand-responsive service for the general public. This alternative would require purchase of 33 demand-responsive vehicles and fifteen fixed-route buses at a cost of $1,782,000, and supporting facilities and equipment for a total cost of $3,137,000.

Alternative 5 is the second least costly of the four alternatives evaluated. This alternative would cost a total of $3,137,000. However, Alternative 5 is still considerably more expensive than Alternative 3 which is expected to cost $1,150,000. Included in this cost estimate are thirty new local vehicles, nine new regional vehicles, and supporting facilities and equipment.

Table 8-12 lists the estimated capital costs and requirements of the five service alternatives assuming brokerage of demand-responsive services under Alternatives 2 through 5. Capital costs under this ownership/management alternative range from as low as $75,000 under Alternative 3 to $2,929,500 under Alternatives 2 and 4. Alternative 5 would have a total cost of $1,877,000.

8.2.3.2 Operating Costs

Operating costs of the five service alternatives were calculated on the basis of vehicle miles and vehicle hours of operation, including layover. The operating characteristics of the service alternatives as defined in Chapter 7 (Service Alternatives) were used to estimate vehicle miles and vehicle hours for each alternative. The cost rates employed in calculating operating costs of the service alternatives varied according to types of service provided (i.e., fixed-route or demand responsive) and ownership/management alternative.

For the fixed-route service alternatives, current RTD operating costs per vehicle mile were used in calculating the costs of all regional service. The cost rates used for local service routes were based on current RTD operating costs per mile for local routes in Pomona Valley and rates for other systems in the Los Angeles region. It is assumed that the local service routes would be operated by a new authority or joint powers agency.

Any difference between the operating costs of the new authority or joint powers agency and RTD operating costs would likely be attributed to labor costs. This is evidenced by the findings reported in Table 8-13. Selected systems from the Los Angeles region show an average of 32 percent lower labor costs per vehicle mile than RTD. Currently, the average operating cost per vehicle mile for the Pomona Valley local routes is $3.56. Based on the data presented in Table 8-13, 48.7 percent or $1.73 of this amount is labor. Assuming that the labor costs in Pomona Valley are also 32 percent lower, then the labor costs per mile for local service routes would be $1.18 or $0.55 lower per vehicle mile than current RTD costs on the Pomona Valley local routes. Therefore, the operating cost per vehicle mile for local service routes would be $3.01 under new authority or joint powers agency ownership/management. For park-and-ride routes operated locally, the operating cost per mile would be $4.12 per vehicle mile because of the higher operating costs experienced by RTD on such routes. Under contract for management, the operating cost per vehicle mile for local service routes would be $3.08 and the cost per vehicle mile for park-and-ride routes would be $4.21. These cost rates are based on an annual management fee of $100,000 and the rates used for authority or joint powers agency management.

For the demand-responsive service alternatives, a cost per vehicle hour rate was used to estimate operating costs. Like the fixed-route service alternative, the cost per hour varied according to management alternative. Under new authority or joint powers agency ownership/management, a cost per hour of $24.46 was used for Alternatives 2 through 5. This rate is based on a review of operating costs experienced by other demand-responsive systems in the state. Table 8-14 shows the operating costs per vehicle hour for selected systems which were used to develop the operating costs rate for the service alternatives under the new authority or joint powers agency ownership/management service alternatives. These selected systems were found to have an average cost per hour of $22.10 in fiscal year 1980 and 1981. This cost rate was escalated to 1983 dollars using the Consumer Price Index for public transportation. Under the contract for management alternative, a cost per vehicle hour rate of $24.46 was used to estimate total operating costs of Alternatives 2 through 5. This cost rate is based on an annual management fee of $100,000 and the rate used for authority or joint powers agency management. Under the brokerage of service alternative, a rate of $21.37 per vehicle hour was used to estimate operating costs. This cost rate is based on interviews with industry providers and an annual administrative rate of 12.5 percent. This administrative rate is consistent with the rates experienced by Claremont Dial-a-Ride and by Ann Arbor Dial-a-Ride (which is a recognized leader in the provision of demand-responsive transit service).

- Operating Cost Performance of Fixed-Route Systems

The operating cost performance of the fixed-route systems was evaluated using the evaluation measures cost per vehicle mile of service, cost per vehicle

TABLE 8-13

COMPARISON OF FIXED-ROUTE SERVICE LABOR COSTS
PER VEHICLE MILE BY FUNCTION
FOR SELECTED SYSTEMS[1]

System	Total Operating Cost/Mile[2]	Vehicle Operations				Vehicle Maintenance			
		Percent Operating Cost	Cost/Mile	Percent Labor	Labor Cost/Mile	Percent Operating Cost	Cost/Mile	Percent Labor	Labor Cost/Mile
Southern California RTO	$3.05	56.8	$1.73	55.6	$0.96	23.8	$0.73	49.0	$0.36
Riverside Transit Agency	$2.66	46.2	$1.23	55.4	$0.68	18.2	$0.48	37.6	$0.18
Omnitrans	$2.41	43.6	$1.05	53.3	$0.56	14.8	$0.36	28.3	$0.10
South Coast Area Transit	$2.16	55.3	$1.19	51.0	$0.61	22.7	$0.49	24.0	$0.12
Long Beach PTC	$2.09	71.1	$1.49	59.6	$0.89	11.6	$0.24	43.1	$0.10
Santa Monica MBL	$2.21	68.1	$1.50	56.1	$0.84	16.0	$0.35	37.2	$0.13
Culver City MBL	$2.36	61.6	$1.45	49.0	$0.71	18.7	$0.44	0.0	$0.00

Non-Vehicle Maintenance				Administration				Total			
Percent Operating Cost	Cost/Mile	Percent Labor	Labor Cost/Mile	Percent Operating Cost	Cost/Mile	Percent Labor	Labor Cost/Mile	Percent Operating Cost	Cost/Mile	Percent Labor	Labor Cost/Mile[3]
1.9	$0.06	39.3	$0.02	17.5	$0.53	27.2	$0.14	100	$3.05	48.7	$1.49
2.7	$0.07	32.5	$0.02	32.9	$0.88	26.9	$0.24	100	$2.66	42.1	$1.12
3.9	$0.09	73.4	$0.07	37.8	$0.91	5.2	$0.05	100	$2.41	32.3	$0.78
0.3	$0.01	0.0	$0.00	21.7	$0.47	33.5	$0.16	100	$2.16	40.4	$0.87
4.5	$0.09	60.8	$0.05	12.7	$0.27	19.3	$0.05	100	$2.09	51.6	$1.08
1.4	$0.03	29.8	$0.01	14.4	$0.32	21.0	$0.07	100	$2.21	47.7	$1.05
0.0	$0.00	0.0	$0.00	19.7	$0.46	13.3	$0.06	100	$2.36	32.8	$0.77

[1]The fleet sizes are: SCRTD, 3,362 buses; Riverside, 102 buses; Omnitrans, 97 buses; South Coast Area Transit, 43 buses, Long Beach PTC, 215 buses; Santa Monica MBL, 130 buses; and Culver City, 22 buses.

[2]Represents FY 1980-1981 dollars.

[3]The weighted average difference between labor costs of RTO and other selected systems is $0.48 or 32 percent.

Source: Transportation Systems Center, National Urban Mass Transportation Statistics, 1981 Section 15 Report, prepared for Urban Mass Transportation Administration, November, 1982.

TABLE 8-14

COMPARISON OF DEMAND-RESPONSIVE SERVICE COSTS PER VEHICLE HOUR BY FUNCTION FOR SELECTED SYSTEMS[1]

System	Total Operating Cost/Hour[2]	Vehicle Operations		Vehicle Maintenance		Non-Vehicle Maintenance		Administration		Total	
		Percent Operating Costs	Cost/Hour	Percent Operating Costs	Cost/Hour	Percent Operating Costs	Cost/Hour	Percent Operating Costs	Cost/Hour	Percent Operating Costs	Cost/Hour[3]
San Mateo County TO	$20.9	82.8	$17.30	7.4	$1.55	0.0	$0.00	9.9	$ 2.07	100	$20.9
Sacramento RTO	$26.7	28.1	7.50	11.7	3.12	0.8	0.21	59.5	15.89	100	26.7
Fresno Transit System	11.9	72.9	8.68	0.6	0.07	0.0	0.00	26.5	3.15	100	11.9
Stockton MTO	24.7	64.9	16.03	6.0	1.48	2.3	0.57	26.8	6.62	100	24.7
Montebello MBL	14.8	67.2	9.94	2.6	0.38	3.4	0.50	26.7	3.95	100	14.8
City of Torrace TS	21.8	6.1	1.33	18.8	4.10	0.0	0.00	75.1	16.37	100	21.8
Gardenta MBL	16.5	8.9	1.47	2.6	0.43	0.0	0.00	88.5	14.60	100	16.5
Norwalk Transit System	23.8	70.7	16.83	18.7	4.45	0.1	0.02	10.6	2.52	100	23.8
City of Commerce	28.2	67.6	19.06	24.0	6.77	0.0	0.00	8.5	2.40	100	28.2
County of Monterey	32.8	15.3	5.02	2.3	0.75	0.0	0.00	82.4	27.03	100	32.8

[1]The systems range in size from one to 88 vehicles.
[2]Represents FY 1980-1981 dollars.
[3]The average weighted cost per vehicle hour is $22.10.

Source: Transportation Systems Center, National Urban Mass Transportation Statistics, 1981 Section 15 Report, prepared for Urban Mass Transportation Administration, November, 1982.

hour of service, and cost per passenger. Table 8-15 presents the results of the evaluation of the fixed-route systems under Alternatives 1 through 5 with ownership/management by RTD and new authority or joint powers agency, while Table 8-16 presents the results of the operating performance evaluation with ownership by RTD and new authority or joint powers agency and management by RTD and a private management firm. Results on the performance of individual routes within each service alternative are contained in Appendix D. Both sets of results are broken down by regional and local service. For sake of brevity, only the total costs of the fixed-route systems are discussed in this section.

The total cost of operating the fixed-route service in Alternative 1, the system now in operation in Pomona Valley, is estimated to be approximately $19,483 daily. This system operates for a total of 322 vehicle hours daily or a cost per hour of $60.57. Total daily vehicle miles operated under Alternative 1 amounts to 5,901, yielding a cost per vehicle mile of $3.30. The cost per passenger carried by Alternative 1 is $2.69.

Alternative 2 has a higher total operating cost than Alternative 1 due to its expanded vehicle hours and miles of operation. This system is estimated to cost about $22,471 daily to operate. Total daily vehicle hours and vehicle miles operated is estimated to be 381 and 7,190, respectively. Its cost performance per vehicle hour is about $58.90 and $3.13 per vehicle mile. Both represent a savings over Alternative 1. Under Alternative 2, the cost per passenger carried is $2.61, compared to the $2.69 cost of Alternative 1. This increased performance results from the higher number of passengers carried.

The basic fixed-route system of Alternative 3 has the lowest operating cost of the five alternatives with a total daily cost of $15,646. This system would operate a total of 228 vehicle hours and 4,989 vehicle miles daily. While its $68.59 cost per vehicle hour is the highest of the fixed-route alternatives, it has the second lowest cost per vehicle mile of $3.14. The reason for this is its higher average speed. This system does not have any local service routes which normally have lower operating speeds than regional routes. The cost per passenger of $1.98 for Alternative 3 is the lowest of the alternatives evaluated.

Alternative 4 is the same as Alternative 2, except for its demand-responsive system.

Alternative 5 expands the fixed-route service of Alternative 3 with two additional routes. This alternative would cost $19,202 daily to operate. It is the second least expensive of the five service alternatives. Alternative 5 would operate for a total of 305 vehicle hours and 6,134 vehicle miles daily. This equates a cost performance of $62.97 per vehicle hour and $3.13 per vehicle mile. Like Alternative 3, this alternative has one of the highest costs per vehicle hour, but has a low cost per vehicle mile. At $3.13 per vehicle mile, Alternative 5 ranks among the highest in performance. Its cost per passenger is the second lowest with a cost of $2.11.

The operating cost performance of the fixed-route systems versus management by a private management firm was found to differ only slightly from ownership/management by new authority or joint powers agency. The relative

TABLE 8-15

SUMMARY OF OPERATING COST PERFORMANCE OF ALTERNATIVE FIXED-ROUTE SYSTEMS WITH OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY

Alternative	Total Daily Operating Costs	Total Daily Vehicle Hours	Cost Per Vehicle Hour	Total Daily Vehicle Miles	Cost Per Vehicle Mile	Total Daily Passengers	Cost Per Passenger
1							
• Regional	$19,483	322	$60.57	5,901	$3.30	7,250	$2.69
2							
• Regional	17,557	266	65.96	5,590	3.14	6,863	2.56
• Local	4,914	115	42.59	1,600	3.07	1,755	2.80
• Total	22,471	381	58.90	7,190	3.13	8,618	2.61
3							
• Regional	15,646	228	68.59	4,989	3.14	7,901	1.98
4							
• Regional	17,557	266	65.96	5,590	3.14	6,863	2.56
• Local	4,914	115	42.59	1,600	3.07	1,755	2.80
• Total	22,471	381	58.90	7,190	3.13	8,618	2.61
5							
• Regional	17,293	263	65.77	5,500	3.14	8,373	2.07
• Local	1,909	42	45.45	634	3.01	722	2.64
• Total	$19,202	305	$62.97	6,134	$3.13	9,095	$2.11

Note: Totals may differ slightly due to rounding.

Source: Schimpeler-Corradino Associates.

TABLE 8-16

SUMMARY OF OPERATING COST PERFORMANCE OF ALTERNATIVE FIXED-ROUTE SYSTEMS WITH OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY RTD AND PRIVATE MANAGEMENT FIRM

Alternative	Total Daily Operating Costs	Total Daily Vehicle Hours	Cost Per Vehicle Hour	Total Daily Vehicle Miles	Cost Per Vehicle Mile	Total Daily Passengers	Cost Per Passenger
1							
• Regional	$19,483	322	$60.57	5,901	$3.30	7,250	$2.69
2							
• Regional	17,557	266	65.96	5,590	3.14	6,863	2.56
• Local	5,027	115	43.57	1,600	3.14	1,755	2.86
• Total	22,584	381	59.19	7,190	3.14	8,618	2.62
3							
• Regional	15,646	228	68.59	4,989	3.14	7,901	1.98
4							
• Regional	17,557	266	65.96	5,590	3.14	6,863	2.56
• Local	5,027	115	43.57	1,600	3.14	1,755	2.86
• Total	22,584	381	59.19	7,190	3.14	8,618	2.62
5							
• Regional	17,293	263	65.77	5,500	3.14	8,373	2.07
• Local	2,029	42	48.32	634	3.20	722	2.81
• Total	$19,322	305	$63.36	6,134	$3.15	9,095	$2.12

Note: Totals may differ slightly due to rounding.

Source: Schimpeler·Corradino Associates.

ranking of the alternatives on the basis of operating cost performance is the same under both management alternatives.

The operating cost performance of all five alternatives was compared with the performance standards established for fixed-route service. This comparison revealed that no single alternative passed all standards. In fact, only the standards for operating cost per passenger was met by any alternative. While the standards for operating cost per mile and cost per hour were failed by all alternatives, the standard for cost per passenger was met by Alternatives 3 and 5.

- Operating Cost Performance of Demand-Responsive Systems

The operating cost performance of the demand-responsive systems was evaluated using the evaluation measures cost per vehicle hour of service and cost per passenger. Vehicle miles were not estimated for the demand-responsive alternatives since costs of demand-responsive service are normally determined on the basis of the number of vehicle hours of service provided. Like the evaluation of the fixed-route systems, separate operating cost estimates were prepared for each of the ownership/management alternatives for the demand-responsive systems. These included management by new authority or joint powers agency, contract for management, and brokerage of service through private enterprise. All alternatives assume ownership by new authority or joint powers agency.

The results of the operating cost performance of the demand-responsive systems with new authority or joint powers agency management are shown in Table 8-17. Alternative 1, which is the do-nothing alternative, is estimated to have a total daily operating cost of $2,998. Total daily vehicle hours operated amount to 120 hours for a cost per hour of $24.98. This cost per hour represents the weighted average cost per hour of operating the Get About Transportation and Claremont Dial-a-Ride systems. Passengers carried by both systems total 545 daily for a cost per passenger of $5.50.

Alternative 2 has a total daily operating cost of $2,691, the lowest of any of the alternatives evaluated. This alternative consists of an expanded areawide demand-responsive system for the elderly and handicapped. Vehicle hours operated by this system are estimated to total 110 hours daily at a cost of $24.46 per hour. Total passengers carried by this system number 759 daily for a cost per passenger of $3.54. This cost performance per passenger ranks third among the alternatives.

Alternative 3 offers the highest level of demand-responsive service with 546 vehicle hours operated daily. This alternative would serve both the elderly and handicapped and the general public with areawide demand-responsive service. The cost of operating this service is estimated at $13,606 daily at a cost per hour of $24.46. Alternative 3 also has the highest estimated daily ridership with over 4,086 passengers. The cost per passenger is $3.27, slightly lower than Alternative 2.

The demand-responsive system of Alternative 4 limits service for the general public to evening hours and weekends. Service to the elderly and handicapped would be the same as Alternative 2. Alternative 4 is estimated to have a total daily cost of $7,094. It would operate for a total of 290 vehicle hours

TABLE 8-17

SUMMARY OF OPERATING COST PERFORMANCE OF DEMAND-RESPONSIVE SYSTEMS WITH OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY

Alternative	Total Daily Operating Costs	Total Daily Vehicle Hours	Cost Per Hour	Total Daily Passengers	Cost Per Passenger
1	2,998	120	24.98	545	5.50
2	2,691	110	24.46	759	3.54
3	13,355	546	24.46	4,086	3.27
4	7,094	290	24.46	1,391	5.10
5	11,301	462	24.46	3,531	3.20

TABLE 8-18

SUMMARY OF OPERATING COST PERFORMANCE OF DEMAND-RESPONSIVE SYSTEMS WITH OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT MANAGEMENT

Alternative	Total Daily Operating Costs	Total Daily Vehicle Hours	Cost Per Hour	Total Daily Passengers	Cost Per Passenger
1	2,998	120	24.98	545	5.50
2	2,741	110	24.92	759	3.61
3	13,606	546	24.92	4,086	3.33
4	6,728	270	24.92	1,391	4.84
5	11,513	462	24.92	3,531	3.26

TABLE 8-19

SUMMARY OF OPERATING COST PERFORMANCE OF DEMAND-RESPONSIVE SYSTEMS WITH OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE THROUGH PRIVATE ENTERPRISE

Alternative	Total Daily Operating Costs	Total Daily Vehicle Hours	Cost Per Hour	Total Daily Passengers	Cost Per Passenger
1	2,998	120	24.98	545	5.50
2	2,351	110	21.37	759	3.10
3	11,669	546	21.37	4,086	2.86
4	5,770	270	21.37	1,391	4.15
5	9,873	462	21.37	3,531	2.80

Note: Totals may differ slightly due to rounding.

Source: Schimpeler-Corradino Associates.

daily at a cost of $24.46 per hour. The number of daily passengers carried by Alternative 4 is estimated to total 1,391 at a cost of $5.10 per passenger.

This cost per passenger rate is second highest to Alternative 1. This high cost per passenger is attributed to the low ridership that the system would attract during evening hours.

Alternative 5 has a total daily operating cost of $11,301, second highest among the alternatives. This alternative is the same as Alternative 3 except that the service population would be smaller due to the expanded fixed-route coverage of Alternative 5. The demand-responsive system of Alternative 5 would operate for a total of 462 vehicle hours daily. This level of service is second highest to Alternative 3. Total passengers carried daily by Alternative 5 is estimated to be 3,531 with a cost per passenger of $3.26. This cost performance is first overall.

The operating cost performance of the demand-responsive systems versus contract management is shown in Table 8-18. A comparison of the cost evaluation results of contract management versus management by new authority or joint powers agency reveals that the total daily operating costs of Alternatives 2 through 5 would increase only slightly. The relative ranking of the alternatives on the basis of operating cost performance would remain the same under both management alternatives.

Total daily operating costs for each alternative versus brokerage of service through private enterprise are shown in Table 8-19. Costs under this brokerage of service alternative are the lowest of the three management alternatives evaluated. Alternative 1 is the base condition for comparison with the other alternatives. The total daily operating costs of this alternative would not change. These costs are estimated at $2,998. Total daily operating costs for the other alternatives would range from a low of $2,351 under Alternative 2 to a high of $11,669 under Alternative 3. Alternatives 4 and 5 would have total daily operating costs of $5,770 and $9,873, respectively. These cost estimates are based on a cost per hour of $21.37. The cost per passenger ranges from a low of $2.80 under Alternative 5 to a high of $4.15 under Alternative 4. Alternatives 2 and 3 have cost per passenger rates of $3.10 and $2.86, respectively. All four alternatives have significantly lower costs per passenger than Alternative 1.

The operating cost performance of all five service alternatives under each ownership/management alternative was compared with the performance standards for demand-responsive service. Although separate standards were established for general market and target market service, both types of service were evaluated collectively, because the cost per vehicle hour for both were assumed to be the same. Only the rate of productivity in terms of cost per passenger would differ. However, very little difference was found as evidenced by a comparison of cost per passenger between the target market service of Alternative 2 and the cost per passenger of Alternatives 3 and 5, which largely contain general market service. In terms of operating cost per hour, the only systems meeting the standards of $23.90 for general market service were Alternatives 2 through 5 under the brokerage of service management options. None of the alternatives under new authority or joint powers agency management or contract for management met this standard. In terms of cost per passenger, Alternatives 2, 3, and 5 under the brokerage of

service option met the standard of $3.15 per passenger. Again, none of the alternatives under the other management options met the standard.

8.2.3.3 Ridership and Revenue

Estimates of ridership and revenue were developed for each of the fixed-route and demand-responsive systems of Alternatives 2 through 5. Ridership estimates of Alternative 1 for comparison with the other alternatives were obtained from the existing operators. The procedures used to estimate ridership for Alternatives 2 through 5 are described in Appendix E.

Estimates of passenger revenue were developed to determine how much revenue could be obtained to offset the operating costs discussed in the previous section. Passenger revenue consists of receipts collected from the farebox. Estimates of farebox revenues for each alternative are based on the ridership estimates developed for the service alternatives and an assumed base fare of $1.00 per passenger. This fare was applied to both the fixed-route and demand-responsive ridership estimates. Incremental distance charges based on the current RTD fare structure were added to the base fare of the express routes in the fixed-route service alternatives. It was assumed that ten percent of all passengers on non-express routes would be transfers for which no fare would be charged.

- Ridership Performance of Fixed-Route Systems

The ridership performance of the fixed-route systems were evaluated using the evaluation measure passengers per vehicle hour of service and passengers per vehicle mile of service. Table 8-20 presents the results of the ridership performance evaluation of the fixed-route systems under Alternatives 1 through 5. The results are the same for all management alternatives. Results of the performance of individual routes within each service alternative are contained in Appendix F. Both sets of results are broken down by regional and local service. For the sake of brevity, only the results of the total fixed-route systems are discussed in this section.

Passenger boardings for Alternative 1 for the system now in operation in Pomona Valley are estimated to total 7,250 daily over 322 vehicle hours and 5,901 vehicle miles. This translates into 25.54 passengers per hour and 1.23 passengers per mile.

Alternative 2 is estimated to have a higher number of passenger boardings because of the increase in the level of service over Alternative 1. Approximately 8,618 passenger boardings are expected daily. Based on 381 vehicle hours daily, approximately 22.59 passengers per hour can be expected. Passengers per vehicle mile are estimated to average 1.20 over 7,190 vehicle miles. Compared to Alternative 1, the ridership performance of Alternative 2 per vehicle hour and vehicle mile is about the same.

Alternative 3, with 7,901 passenger boardings daily, ranks third highest in boardings of all the alternatives evaluated. These boardings include passengers transferring from the general public demand-responsive system under this alternative. Passengers per vehicle hour and vehicle mile are estimated to be 34.64 and 1.58, respectively. This represents a significant improvement over Alternatives 1 and 2. Of the five alternatives evaluated, Alternative 3 has the best ridership performance.

TABLE 8-20

SUMMARY OF RIDERSHIP PERFORMANCE OF ALTERNATIVE FIXED-ROUTE SYSTEMS

Alternative	Total Daily Passenger Boardings	Total Daily Vehicle Hours	Passengers Per Vehicle Hour	Total Daily Vehicle Miles	Passengers Per Vehicle Mile
1					
• Regional	7,250	322	22.54	5,901	1.23
2					
• Regional	6,863	266	25.79	5,590	1.23
• Local	1,755	115	15.21	1,600	1.10
• Total	8,618	381	22.59	7,190	1.20
3					
• Regional	7,901	228	34.64	4,989	1.58
4					
• Regional	6,863	266	25.79	5,590	1.23
• Local	1,755	115	15.21	1,600	1.10
• Total	8,618	381	22.59	7,190	1.20
5					
• Regional	8,373	263	31.84	5,500	1.52
• Local	722	42	17.19	634	1.14
• Total	9,095	305	29.82	6,134	1.48

Note: Totals may differ slightly due to roundings.

Source: Schimpeler-Corradino Associates.

Alternative 4 is the same as Alternative 2 except for its demand-responsive system. Therefore, its ridership performance would also be the same.

Alternative 5 expands the fixed-route service of Alternative 3 with two additional routes. With 9,095 estimated passenger boardings daily, Alternative 5 ranks highest in boardings of the five alternatives evaluated. Passengers per vehicle hour are estimated to average 29.82 over 305 vehicle hours, while passengers per vehicle mile are estimated to average 1.48 over 6,134 vehicle miles. Only Alternative 3 fares better in terms of ridership performance.

The ridership performance of all five alternatives was compared with the performance standards established for fixed-route service for passengers per vehicle hour and vehicle mile of service. The standard of 25 passengers per vehicle hour was met by Alternatives 3 and 5 only. The passengers per vehicle mile standard of 2.0 was failed by all alternatives.

- Ridership Performance of Demand-Responsive Systems

The ridership performance of the demand-responsive systems was evaluated using the single evaluation measure passengers per vehicle hour. Vehicle miles were not estimated for the demand-responsive systems, therefore, no estimate of passengers per vehicle mile could be developed. Table 8-21 presents the results of the ridership performance of the demand-responsive systems of Alternatives 1 through 5. The results are the same for all management alternatives.

TABLE 8-21

SUMMARY OF RIDERSHIP PERFORMANCE OF ALTERNATIVE DEMAND-RESPONSIVE SYSTEMS

Alternative	Total Daily Passengers	Total Daily Vehicle Hours	Passengers Per Vehicle Hour
1	545	120	4.54
2	759	110	6.90
3	4,086	546	7.48
4	1,391	270	5.15
5	3,531	462	7.64

Note: Totals may differ slightly due to rounding.

Source: Schimpeler•Corrad no Associates.

Alternative 1, the do-nothing alternative, has 545 daily passenger boardings. Passengers per vehicle hour average 4.54 over 120 vehicle hours daily. The other alternatives have total passenger boardings ranging from a low of 759 daily under the elderly and handicapped system of Alternative 2 to 4,086 under the areawide general public and elderly and handicapped system of Alternative 3. Alternatives 4 and 5 have estimated daily passenger boardings of 1,391 and 3,531, respectively. Passengers per vehicle hour for Alternatives 2 through 5 range from 5.15 under Alternative 4 to 7.64 under Alternative 5. The passenger per vehicle hour performance of Alternative 5 is well above the per hour rate of Alternative 1. This is primarily attributed to the thirty-minute response time that would be provided by Alternative 5 for all trip purposes. Alternative 4 does not perform well in terms of passengers per vehicle hour because of its low evening ridership.

Comparison of the ridership performance of the five service alternatives with passengers per hour standard of 7.75 for general market demand-responsive service reveals that none of the alternatives evaluated met the standard. Of the alternatives evaluated, Alternative 5 comes the closest to the established standard with a performance of 7.64 passengers per hour.

- Revenue to Cost Evaluation of Fixed-Route Systems

The ratio of passenger revenues to operating cost was calculated to assist in evaluating the relative merits of each fixed-route service alternative. This evaluation measure is one of the more basic quantitative criteria for evaluating alternative transit systems. Table 8-22 presents the results of the revenue to cost evaluation of the fixed-route systems under Alternatives 1 through 5 with ownership/management by RTD and new authority or joint powers agency, while Table 8-23 presents the results of the evaluation with ownership by RTD and new authority or joint powers agency and management by RTD and a private management firm. Results of the revenue to cost comparison of individual routes within each service alternative are contained in Appendix G. Both sets of results are broken down by regional and local service. For the sake of brevity, only the total revenue to cost ratios of the fixed-route systems are discussed in this section.

Alternative 1, the base system for comparison with the other alternatives, is estimated to have a total daily operating cost of $19,483 compared to passenger revenues of $3,750, yielding an operating ratio of 0.19. The operating ratios of the other alternatives under new authority or joint powers agency management range from 0.21 for Alternatives 2 and 4 to 0.28 for Alternative 3. The higher operating ratio of Alternative 3 is due to its lower operating costs and increased passenger revenues. This alternative is estimated to generate $4,346 in daily passenger revenues compared to $15,646 in daily operating costs. These passenger revenues are based on the average fares for the Pomona Valley lines as reported by RTD on a line-by-line basis. The average fare for all routes serving Pomona Valley is estimated at $0.55 per passenger. Alternative 5 has the second highest operating ratio at 0.24. This is based on daily passenger revenues of $4,689 and daily operating costs of $19,202.

The revenue to cost evaluation of the fixed-route systems versus management by a private management firm was found to differ only slightly from management by new authority or joint powers agency. The relative ranking of

TABLE 8-22

SUMMARY OF REVENUE TO COST COMPARISON OF ALTERNATIVE FIXED-ROUTE SYSTEMS WITH OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY

Alternative	Total Daily Operating Costs	Total Daily Passenger Revenues	Ratio of Revenue to Cost
1			
• Regional	$19,483	$3,750	0.19
2			
• Regional	17,557	4,144	0.24
• Local	4,914	670	0.14
• Total	22,471	4,814	0.21
3			
• Regional	15,646	4,346	0.28
4			
• Regional	17,557	4,144	0.24
• Local	4,914	670	0.14
• Total	22,471	4,814	0.21
5			
• Regional	17,293	4,498	0.26
• Local	1,909	191	0.10
• Total	19,202	4,689	0.24

Note: Totals may differ slightly due to rounding.

Source: Schimpeler-Corradino Associates.

TABLE 8-23

SUMMARY OF REVENUE TO COST COMPARISON OF ALTERNATIVE FIXED-ROUTE SYSTEMS WITH OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY RTD AND PRIVATE MANAGEMENT FIRM

Alternative	Total Daily Operating Costs	Total Daily Passenger Revenues	Ratio of Revenue to Cost
1			
• Regional	$19,483	$3,750	0.19
2			
• Regional	17,557	4,144	0.24
• Local	5,027	670	0.13
• Total	22,584	4,814	0.21
3			
• Regional	15,646	4,346	0.28
4			
• Regional	17,557	4,144	0.24
• Local	5,027	670	0.13
• Total	22,584	4,814	0.21
5			
• Regional	17,293	4,506	0.26
• Local	2,029	191	0.09
• Total	19,322	4,697	0.24

Note: Totals may differ slightly due to rounding.

Source: Schimpeler-Corradino Associates.

the alternatives on the basis of revenue to cost is the same under both alternatives.

The comparison of the results of the revenue to cost evaluation with the operating ratio performance standard of 0.45 for fixed-route service revealed that none of the five alternatives met the standard. Alternative 3 came closest to the standard with an operating ratio of 0.28.

- Revenue to Cost Evaluation of Demand-Responsive Systems

A separate revenue to cost evaluation was conducted for each of the ownership/management alternatives developed for the demand-responsive systems. These included management by new authority or joint powers agency, contract for management, and brokerage of service through a private enterprise. All alternatives assume ownership by new authority or joint powers agency.

The results of the revenue to cost evaluation of the demand-responsive systems with management by new authority or joint powers agency are shown in Table 8-24. Alternative 1, which is the do-nothing alternative for comparison with the other alternatives, is estimated to have a total daily operating cost of $2,998 compared to passenger revenues of $523, resulting in an operating ratio of 0.17. The four other alternatives have operating ratios ranging from 0.19 under Alternative 4 to 0.30 under Alternative 5. The improved operating ratio of Alternative 5 is a result of the increased passengers per vehicle hour performance. The lower operating ratio for Alternative 4 results from the low ridership that the system would attract during evening hours.

The revenue to cost performance of the demand-responsive systems versus contract management is shown in Table 8-25. A comparison of the revenue to cost evaluation results of contract management versus new authority or joint powers agency management reveals that the operating ratios of Alternatives 2 through 5 would be about the same. The relative ranking of the alternatives on the basis of operating cost performance would remain the same under both management alternatives.

Table 8-26 shows the revenue to cost performance of the demand-responsive systems with brokerage of service through private enterprise. Costs under this management alternative are the lowest of the three management alternatives evaluated. Consequently, the operating ratios for the systems under this alternative are an improvement over the other two alternatives. The operating ratio of 0.17 for Alternative 1 is the same as under the other management alternatives since it represents the base condition. Alternatives 2 through 5 have operating ratios ranging from a low of 0.23 under Alternative 4 to a high of 0.34 under Alternatives 3 and 5. Alternative 2 has an operating of 0.31, slightly below that of Alternatives 3 and 5. Overall, the operating ratios of Alternatives 2 through 5 under brokerage of service improved by an average of 0.04 over new authority or joint powers agency, ownership/management and contract for management. This is attributable to the lower cost per vehicle hour.

A comparison of the results of the revenue to cost evaluation with the operating ratio performance standard of 0.29 for general market demand-

TABLE 8-24

REVENUE TO COST COMPARISON OF DEMAND-RESPONSIVE SYSTEMS WITH OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY

Alternative	Total Daily Operating Costs	Total Daily Passenger Revenues	Ratio of Revenue To Cost
1	$ 2,998	$ 523	0.17
2	2,691	729	0.27
3	13,355	3,923	0.29
4	7,093	1,335	0.19
5	11,301	3,390	0.30

TABLE 8-25

REVENUE TO COST COMPARISON OF DEMAND-RESPONSIVE SYSTEMS WITH OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT MANAGEMENT

Alternative	Total Daily Operating Costs	Total Daily Passenger Revenues	Ratio of Revenue To Cost
1	$ 2,998	$ 523	0.17
2	2,741	729	0.27
3	13,606	3,923	0.29
4	6,728	1,335	0.20
5	11,514	3,390	0.29

TABLE 8-26

REVENUE TO COST COMPARISON OF DEMAND-RESPONSIVE SYSTEMS WITH OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE THROUGH PRIVATE ENTERPRISE

Alternative	Total Daily Operating Costs	Total Daily Passenger Revenues	Ratio of Revenue To Cost
1	$ 2,998	$ 523	0.17
2	2,351	729	0.31
3	11,668	3,923	0.34
4	5,770	1,335	0.23
5	9,873	3,390	0.34

Note: Total may differ slightly due to rounding.

Source: Schimpeler-Corradino Associates.

responsive systems revealed that only Alternatives 3 and 5 performed well enough to meet the standard under all management alternatives. However, under the brokerage of service management alternative, Alternative 2 also met the standard. It should be noted that the performance of these alternatives is based on a combined general market and target market system, whereas the standard used is for general market systems. The standard for combined systems would be lower.

8.2.4 Organizational/Institutional Development

This evaluation category covers the analysis of the ownership/management alternatives. It also includes a measure of equity of service for the cities in the Pomona Valley.

8.2.4.1 Advantages and Disadvantages of the Ownership/Management Alternatives

The advantages and disadvantages of all selected ownership/management alternatives are discussed in this section.

- Ownership Alternatives

The two ownership alternatives evaluated include a new transit authority and a new joint powers agency. There are significant differences between these two ownership alternatives. One major difference is that state legislation would be required to establish the new authority. The legislation would define the powers of the new authority. Such legislation could be difficult to pass and would likely restrict the powers of a Pomona Valley Transit Authority because of its geographic overlap with RTD. On the other hand, a joint powers agency could be created to have any of the powers that the member cities themselves exercise. The precise powers to be delegated to the joint powers agency would be contained in the agreement creating the agency. The powers could be narrowed or broadened by vote of the participating parties. Either of the two ownership options would satisfy the goal of responsiveness to local policy concerns. In both cases, decisions would be made at the local level by elected or appointed officials.

There are no significant differences between the two ownership alternatives in terms of the cost of providing service. However, the revenue that could be produced by each could differ. For example, enabling legislation for a new authority could include a provision for dedicated funding through existing programs or perhaps a new tax, although current economic conditions make such dedicated funding doubtful. Both the authority and the joint powers agency, as transit providers, would be eligible to receive TDA and STA Program funding and would be eligible to compete for discretionary Proposition A funds from the Los Angeles County Transportation Commission (LACTC). However, to be able to utilize funding through the county it would be necessary for LACTC to designate the area transportation zone. The Commission could assign the powers of the zone to the new authority, the joint powers agency, or create a new board.

- Management Alternatives

The three management alternatives evaluated include self-management by the new authority or joint powers agency, contract management, and brokerage of

service. Many of the advantages and disadvantages of the alternative management plans are presented in Chapter 7. With self-management, the new authority or the agency would be responsible for providing the service. The manager, secretary, drivers, etc. would be employees. The authority or joint powers agency would own the vehicles and would be responsible for storage, fuel, and maintenance. This type of management can be very efficient and is used successfully all across the county. One major disadvantage of self-management pertains to starting the new system; it can be very costly and inefficient initially. Staff must be hired in a difficult market, vehicles must be purchased, maintenance facilities must be made ready, and personnel and equipment must go through a training and "shakedown" phase to become efficient.

The second management alternative is contract management. With this alternative, the authority or joint powers agency would hire a private management firm to manage the transit system. Typically, the firm would provide two full-time management personnel. One benefit of this management alternative is that expertise could be brought in by the management firm immediately. The management firm would supply people who are knowledgeable about starting up and running a small transit system. Another benefit is "home office" personnel who could be brought in to address special problems as they occur. Other than the two management personnel, all the other staff would be employees of the authority or joint powers agency. Problems of recruiting and training would still exist, but they would be lessened by the availability of the skilled managers who could assist in recruiting. Based on interviews with private management firms, it is estimated that a management firm would charge about $100,000 per year. The cost of directly hiring a manager and assistant manager would be about $70,000 per year. Because of the expertise needed in starting-up a new operation, the extra expense of the management firm in the first two to three years of operation, at least, probably is a good investment. The firm could provide valuable assistance to the new authority or joint powers agency board of directors.

The third management alternative is brokerage of service. In this alternative, the authority or joint powers agency would contract with a private enterprise for the desired transit service. The private enterprise would supply the vehicles and drivers and provide the service as specified in the contract with the authority or joint powers agency. The authority or joint powers agency would not have to acquire or maintain any vehicles and would have a full-time staff of maybe two to four people to monitor the contractor's performance, coordinate with other transportation agencies, and perform other administrative functions. One disadvantage of this alternative is that it has not been used often for fixed-route type service. However, it has been used extensively for demand-responsive service in California and other states. Another disadvantage is that it may be difficult to hire a provider for services to the handicapped, who require specially-equipped vehicles. The expense to the broker could be prohibitive if he is required to go through another bidding process for the service after a year or so.

8.2.4.2 Equity of Service

One of the adopted measures under this evaluation measure is equity of service: How much service does each of the cities get as compared to the

amount of money they might be asked to contribute? To assess equity service, vehicle hours of service provided to each city by alternative were estimated as a measure of service. Actually, both vehicle hours and vehicle miles are directly related to the amount of service delivered, but it is easier to identify the geographic distribution of vehicle hours than vehicle miles.

Table 8-27 shows vehicle hours of service provided by each alternative to the cities of San Dimas, LaVerne, Claremont, and Pomona. Proposition A funds to be allocated to each of the four cities in 1983 are also shown so that a comparison to be made between the percent of service in each city and that city's percent of the total Proposition A funds available to Pomona Valley. The results of this evaluation indicate Alternatives 2 through 5 would improve equity of service over that of Alternative 1.

8.3 SUMMARY OF EVALUATION

The fixed-route and demand-responsive service and management alternatives were evaluated to determine their impacts in the goal categories of system form and function, social impacts, and efficiency and economics. The impacts are summarized in Tables 8-28, 8-29, and 8-30 and discussed in the following sections.

8.3.1 Fixed-Route Service Alternatives

Alternative 3 is the preferred fixed-route system for Pomona Valley. Of the five service/management alternatives evaluated, Alternative 3 performs best in the category of efficiency and economics. This impact area provides the best insight into selection of an alternative for implementation. This does not mean that the system form and function and social impact areas are less important, however, they do not provide insight into whether the systems are cost-effective. In these two impact areas, Alternative 3 is out-performed by the other alternatives.

From the standpoint of system form and function, Alternative 1 performs the best under two of the four evaluation measures in this impact category. It provides the most coverage in square miles and population served. However, it ranks lowest in total passenger boardings and second in major generators served. Alternative 5 has the largest number of total passenger boardings, while Alternatives 2 and 4 serve the most major generators.

Alternative 1 also performs the best in the social impacts area. This alternative serves the largest number of total households, low-income households, and households with zero or one auto. It also provides the greatest coverage to areas with a high propensity for transit.

In the category of efficiency and economics, Alternative 3 clearly outperforms the other alternatives including Alternative 1. Of the twelve evaluation measures included in this impact area, the most important are operating cost per passenger, passengers per vehicle mile, passengers per vehicle hour, and revenue/cost. Alternative 3 ranks first when evaluated against each of these measures. Alternative 1, on the other hand, ranks last against three of the six measures. Revenue/cost is probably the single most important indicator of transit efficiency. Again, Alternative 3 performs best.

TABLE 8-27

TRANSIT SERVICE LEVEL BY CITY
(VEHICLE HOURS OF SERVICE)

Alternatives	San Dimas		LaVerne		Claremont		Pomona		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1	63	14.25	27	6.11	53	11.99	299	67.64	442	100
2	78	15.89	49	9.98	73	14.87	291	59.27	491	100
3	133	17.18	87	11.24	125	16.15	429	55.43	774	100
4	108	16.07	72	10.71	105	15.63	387	57.59	572	100
5	132	17.21	83	10.82	116	15.12	436	56.84	767	100
1983/1984 Proposition A Funds	$186,000	14.19	$179,000	13.66	$238,000	18.17	$707,000	53.97	$1,310,000	100

Source: Schimpeler·Corradino Associates.

TABLE 8-28
SUMMARY OF EVALUATION OF FIXED ROUTE SERVICE VERSUS MANAGEMENT ALTERNATIVES

EVALUATION CATEGORIES	EVALUATION MEASURES \ ALTERNATIVE	1	2 AND 4		3	5	
		OWNERSHIP/MANAGEMENT BY RTD	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY RTD AND PRIVATE FIRM	OWNERSHIP/MANAGEMENT BY RTO	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY RTD AND PRIVATE FIRM
SYSTEM FORM AND FUNCTION	TOTAL PASSENGER BOARDINGS	7,250	8,618	8,618	7,901	9,095	9,095
	SQUARE MILES OF COVERAGE	32	31	31	21	29	29
	POPULATION SERVED	124,288	116,729	116,729	78,276	111,857	111,857
	MAJOR GENERATORS SERVED	91	92	92	74	89	89
SOCIAL IMPACTS	TOTAL HOUSEHOLDS SERVED	41,185	39,075	39,075	26,209	37,316	37,316
	LOW INCOME HOUSEHOLDS SERVED	11,494	10,867	10,867	7,394	10,468	10,468
	ZERO OR ONE AUTO HOUSEHOLDS SERVED	19,042	18,259	18,259	12,489	17,464	17,464
	PERCENTAGE COVERAGE TO HIGH PROPENSITY AREA	93	89	89	61	86	86
EFFICIENCY AND ECONOMICS (DAILY)	TOTAL CAPITAL COSTS	NA	2,929,500	2,929,500	NA	1,877,000	1,877,000
	TOTAL OPERATING COSTS	19,483	22,471	22,584	15,646	19,202	19,322
	TOTAL VEHICLE MILES	5,901	7,190	7,190	4,989	6,134	6,134
	TOTAL VEHICLE HOURS	322	381	381	228	305	305
	TOTAL PASSENGER BOARDINGS	7,250	8,618	8,618	7,901	9,095	9,095
	TOTAL PASSENGER REVENUES	3,750	4,814	4,814	4,346	4,689	4,697
	OPERATING COST/VEHICLE MILE	3.30	3.13	3.14	3.14	3.13	3.15
	OPERATING COST/VEHICLE HOUR	60.57	58.90	59.19	68.59	62.97	63.36
	OPERATING COST/PASSENGER	2.69	2.61	2.62	1.98	2.11	2.12
	PASSENGERS/VEHICLE MILE	1.23	1.20	1.20	1.58	1.48	1.48
	PASSENGERS/VEHICLE HOUR	22.54	22.59	22.59	34.64	29.82	29.82
	REVENUE/COST	0.19	0.21	0.21	0.28	0.24	0.24

NA = NOT APPLICABLE

TABLE 8-29

SUMMARY OF EVALUATION OF DEMAND RESPONSIVE SERVICE VERSUS MANAGEMENT ALTERNATIVES

EVALUATION CATEGORIES	EVALUATION MEASURES / ALTERNATIVE	1	2			3			4			5		
		OWNERSHIP/MANAGEMENT BY EXISTING OPERATORS	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE
SYSTEM FORM AND FUNCTION	TOTAL PASSENGER BOARDINGS	545	759	759	759	4,086	4,086	4,086	1,391	1,391	1,391	3,531	3,531	3,531
	SQUARE MILES OF COVERAGE	5-65	65	65	65	55-65	55-65	55-65	50-65	50-65	50-65	50-65	50-65	50-65
	POPULATION SERVED	22,026 - 19,650	19,650	19,650	19,650	148,584 - 3,057	148,584 - 3,057	148,584 - 3,057	117,695 - 19,650	117,695 - 19,650	117,695 - 19,650	137,007 - 3,057	137,007 - 3,057	137,007 - 3,057
	MAJOR GENERATORS SERVED	All	All	All	All	All	All	All	All	All	All	All	All	All
SOCIAL IMPACTS	TOTAL HOUSEHOLDS SERVED	6,932 - 59,530	59,530	59,530	59,530	46,436 - 59,530	46,436 - 59,530	46,436 - 59,530	31,456 - 59,530	31,456 - 59,530	31,456 - 59,530	40,885 - 59,530	40,885 - 59,530	40,885 - 59,530
	LOW INCOME HOUSEHOLDS SERVED	1,371 - 14,075	14,075	14,075	14,075	10,378 - 14,075	10,378 - 14,075	10,378 - 14,075	6,168 - 14,075	6,168 - 14,075	6,168 - 14,075	8,841 - 14,075	8,841 - 14,075	8,841 - 14,075
	ZERO OR ONE AUTO HOUSEHOLDS SERVED	3,076 - 24,158	24,158	24,158	24,158	17,914 - 24,158	17,914 - 24,158	17,914 - 24,158	10,894 - 24,158	10,894 - 24,158	10,894 - 24,158	15,426 - 24,158	15,426 - 24,158	15,426 - 24,158
	PERCENTAGE OF COVERAGE TO HIGH PROPENSITY AREAS	100	100	100	100	100	100	100	100	100	100	100	100	100
EFFICIENCY AND ECONOMICS (DAILY)	TOTAL CAPITAL COSTS	NA	737,500	737,500	75,000	1,150,000	1,150,000	75,000	1,617,500	1,617,500	75,000	1,260,000	1,260,000	75,000
	TOTAL OPERATING COSTS	2,998	2,691	2,741	2,351	13,355	13,606	11,669	7,094	6,728	5,770	11,301	11,513	9,873
	TOTAL VEHICLE MILES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL VEHICLE HOURS	120	110	110	110	546	546	546	290	290	290	462	462	462
	TOTAL PASSENGER BOARDINGS	545	759	759	759	4,086	4,086	4,086	1,391	1,391	1,391	3,531	3,531	3,531
	TOTAL PASSENGER REVENUES	523	729	729	729	3,923	3,923	3,923	1,335	1,335	1,335	3,390	3,390	3,390
	OPERATING COST/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	OPERATING COST/VEHICLE HOUR	24.98	24.46	24.92	21.37	24.92	24.92	21.37	24.46	24.92	21.37	24.46	24.92	21.37
	OPERATING COST/PASSENGER	5.50	3.54	3.61	3.10	3.27	3.33	2.86	5.10	4.84	4.15	3.20	3.26	2.80
	PASSENGERS/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	PASSENGERS/VEHICLE HOUR	4.54	6.90	6.90	6.90	7.48	7.48	7.48	5.15	5.15	5.15	7.64	7.64	7.64
	REVENUE/COST	0.17	0.27	0.27	0.31	0.29	0.29	0.34	0.19	0.20	0.23	0.30	0.29	0.34

NA = NOT APPLICABLE

TABLE 8-30
SUMMARY OF EVALUATION OF COMBINED FIXED ROUTE AND DEMAND RESPONSIVE SERVICE VERSUS MANAGEMENT ALTERNATIVES

EVALUATION CATEGORIES	EVALUATION MEASURES \ ALTERNATIVE	1	2			3			4			5		
		OWNERSHIP/MANAGEMENT BY EXISTING OPERATORS	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF D.R. SERVICE	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF D.R. SERVICE	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF D.R. SERVICE	OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWER AGENCY	OWNERSHIP BY NEW AUTHORITY OR JOINT POWERS AGENCY AND CONTRACT FOR MANAGEMENT	OWNERSHIP/MANAGEMENT BY NEW AUTHORITY OR JOINT POWERS AGENCY AND BROKERAGE OF SERVICE
SYSTEM FORM AND FUNCTION	TOTAL PASSENGER BOARDINGS	7,795	9,377	9,377	9,377	11,987	11,987	11,987	10,009	10,009	10,009	12,626	12,626	12,626
	SQUARE MILES OF COVERAGE	37-65	31-65	31-65	31-65	65	65	65	65	65	65	65	65	65
	POPULATION SERVED	146,314 - 143,938	116,729 - 136,379	116,729 - 136,379	116,729 - 136,379	81,333 - 184,213	81,333 - 184,213	81,333 - 184,213	136,379 - 184,213	136,379 - 184,213	136,379 - 184,213	114,914 - 184,213	114,914 - 184,213	114,914 - 184,213
	MAJOR GENERATORS SERVED	All	All	All	All	All	All	All	All	All	All	All	All	All
SOCIAL IMPACTS	TOTAL HOUSEHOLDS SERVED	48,117 - 59,530	39,075 - 59,530	39,075 - 59,530	39,075 - 59,530	59,530	59,530	59,530	59,530	59,530	59,530	59,530	59,530	59,530
	LOW INCOME HOUSEHOLDS SERVED	12,865 - 14,075	10,867 - 14,075	10,867 - 14,075	10,867 - 14,075	14,075	14,075	14,075	14,075	14,075	14,075	14,075	14,075	14,075
	ZERO OR ONE AUTO HOUSEHOLDS SERVED	22,118 - 24,158	18,259 - 24,158	18,259 - 24,158	18,259 - 24,158	24,158	24,158	24,158	24,158	24,158	24,158	24,158	24,158	24,158
	PERCENTAGE OF COVERAGE TO HIGH PROPENSITY AREAS	100	100	100	100	100	100	100	100	100	100	100	100	100
EFFICIENCY AND ECONOMICS (DAILY)	TOTAL CAPITAL COSTS	NA	3,667,000	3,667,000	2,929,500	1,150,000	1,150,000	75,000	4,547,000	4,547,000	2,929,500	3,137,000	3,137,000	1,877,000
	TOTAL OPERATING COSTS	22,481	25,162	25,325	24,822	29,001	29,252	27,315	29,565	29,312	28,241	30,503	30,835	29,075
	TOTAL VEHICLE MILES	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	TOTAL VEHICLE HOURS	442	491	491	491	774	774	774	671	671	671	767	767	767
	TOTAL PASSENGER BOARDINGS	7,795	9,377	9,377	9,377	11,987	11,987	11,987	10,009	10,009	10,009	12,626	12,626	12,626
	TOTAL PASSENGER REVENUES	4,273	5,543	5,543	5,543	8,269	8,269	8,269	6,149	6,149	6,149	8,079	8,087	8,079
	OPERATING COST/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	OPERATING COST/VEHICLE HOUR	50.86	51.25	51.28	50.55	37.47	37.79	35.29	44.06	43.68	42.09	39.77	40.20	37.91
	OPERATING COST/PASSENGER	2.88	2.68	2.70	2.65	2.42	2.44	2.28	2.95	2.93	2.82	2.42	2.44	2.30
	PASSENGERS/VEHICLE MILE	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	PASSENGERS/VEHICLE HOUR	17.64	19.10	19.10	19.10	15.49	15.49	15.49	14.92	14.92	14.92	16.46	16.46	16.46
	REVENUE/COST	0.19	0.22	0.22	0.22	0.28	0.28	0.30	0.21	0.21	0.22	0.26	0.26	0.28

NA = NOT APPLICABLE

8.3.2 Demand-Responsive Service Alternatives

Of the thirteen demand-responsive service/management alternatives evaluated, Alternative 3, with brokerage of service through private enterprise, is the preferred service/management alternative. This alternative performs best in all three impact categories. In the category of system form and function, Alternative 3 has the largest number of passenger boardings, provides the most coverage, serves the largest general population and all the elderly and handicapped, and serves all of the major generators in Pomona Valley. Likewise, in the category of social impacts, Alternative 3 is the top performer. It serves the largest number of total households, low-income households, and households with zero or one auto. Alternative 3 is also tied for first place in the percentage of coverage to areas with a high propensity for transit use. In the category of efficiency and economics, Alternative 3 ranks first with Alternative 5, with both being far superior to the other alternatives. These two alternatives, under brokerage of service management option, perform the best against the measures operating cost per passenger, passengers per vehicle hour, and revenue/cost. Against this last measure, Alternatives 3 and 5 under brokerage of service have revenue/cost ratios far superior to the other alternatives.

8.3.3 Combined Fixed-Route and Demand-Responsive Alternatives

Again, Alternative 3 is the preferred service alternative with ownership/management by RTD and new authority or joints powers agency and brokerage of service as the preferred management option. This alternative ranks among the three top performers in the categories of system form and function and social impacts, and outperforms all other alternatives in the impact category of efficiency and economics. Alternative 3 with brokerage of service is clearly the most cost-effective of the alternatives evaluated. It has the lowest operating cost per passenger and cost per vehicle hour and the highest revenue/cost ratio. In addition, Alternative 3 is ranked first in passenger revenues and second in passenger boardings.

8.4 CONSULTANT'S RECOMMENDATIONS AND SELECTION OF AN ALTERNATIVE

Based on the results of the evaluation of service and management alternatives, the consultant recommended that the PMC adopt Alternative 3 as the preferred service alternative. It was also recommended that the regional fixed-route service of Alternative 3 be operated by RTD and that the local demand-responsive service of Alternative 3 be owned by a joint powers agency and provided through a brokerage of service agreement with private enterprise. In addition, it was recommended that Pomona Valley request status as a Transportation Zone in order to qualify for the federal and state funding necessary to support the recommended service levels of Alternative 3. LACTC would have responsibility for deciding whether Pomona Valley warrants status as a Transportation Zone.

The results of the evaluation and the consultant's recommendations were discussed in a meeting with the PMC. At the meeting, the consultant urged adoption of Alternative 3 as the preferred service plan, however, because of the uncertainty of future Proposition A funds for fare subsidies and the possibility of reductions in service, the PMC was hesitant to adopt at this time the reductions in RTD service as proposed by Alternative 3. The PMC was

also unsure as to whether the proposed demand-responsive service of Alternative 3 could substitute for the removed RTD service. The PMC did, however, approve a joint powers agency as the preferred organization to own and manage local transit services in Pomona Valley and brokerage of service as to preferred method to provide local demand-responsive services.

As a result of the PMC meeting and consultant sessions with several PMC members, the consultant selected Alternative 4 as the preferred alternative for development of a recommended service plan and implementation program. Alternative 4 represents a modification of the existing fixed-route service with areawide demand-responsive service for the general public in the evenings and on weekends and expanded demand-responsive service for the elderly and handicapped. Unlike Alternative 3, Alternative 4 provides for no reduction in existing RTD fixed-route service levels and offers only a limited expansion of general public demand-responsive service. In addition, Alternative 4 offers an incremental approach to service improvements in Pomona Valley. Under this alternative, existing fixed-route services would be modified and a limited expansion of demand-responsive services would be initiated now; if RTD service cuts do occur in the future after the Proposition A fare reduction program ends, the demand-responsive services could be expanded to offset the reduction in RTD services. The consultant felt that this approach was more consistent with the views of the PMC.

Alternative 4 was subsequently presented to the Technical Advisory Committee (TAC) established by the PMC to review the consultant's recommendations. After considerable debate, the TAC unanimously agreed to support an incremental approach to service improvements in Pomona Valley. A modified Alternative 4 was approved by the TAC subject to the condition that a pilot demonstration project be included in the Implementation Plan to test the effectiveness of a general public demand-responsive system. This action was taken because the TAC was reluctant to approve any alternative that includes general public demand-responsive service without some prior test of its effectiveness in meeting the travel needs of the general public. Other conditions endorsed by the TAC included the realignment of Line 482 to serve Pomona and Claremont; the realignment of proposed NR-1 to serve the LaVerne City Hall; the retention of proposed NR-4 as a possible long-term service improvement for the area; and consideration of pulse point, scheduling, check point deviation, and brokerage of fixed-route service. The PMC reviewed the conditions recommended by the TAC and approved Alternative 4, as modified.

9. RECOMMENDED SERVICE PLAN

9. RECOMMENDED SERVICE PLAN

The recommended service plan presented in this chapter was developed specifically for Pomona Valley. The plan provides for an improved local and regional fixed-route system with an expanded demand-responsive system for the elderly and handicapped. The recommended system is a modification of Alternative 4. This alternative was modified based on improvements endorsed by the PMC. The recommended system is a result of the study process and is based on the results of the interviews with city officials and local elected leaders, final goals and objectives established for the study, the results of the telephone survey of Pomona Valley residents, the series of public hearings, and the review of existing transit services.

The recommended fixed-route system is shown in Figure 9-1. Under this system, several existing routes are modified and new service is added to provide better fixed-route coverage to areas with a relatively high potential for transit use. The system contains a total of twelve routes. Ten of these routes are regional or inter-area routes providing service to Los Angeles and cities in the San Gabriel Valley. The remaining two routes are local routes operating exclusively within Pomona Valley. The system also provided for service to the neighboring cities in San Bernardino County. Three routes are designed to serve the planned Transcenter in Montclair and interface with the OMNITRANS system, while another provides for park-and-ride service to Montclair Plaza. A fifth route serves the Ontario Airport. The recommended service plan also includes an expanded demand-responsive service for the elderly and handicapped. The recommended demand-responsive system for the elderly and handicapped is an areawide many-to-many system with expanded hours and days of service. The system as recommended would provide door-to-door service to all origins and destinations in Pomona Valley without having to transfer. This service to the elderly and handicapped would be provided throughout the day and on Saturdays and Sundays.

9.1 SERVICE IMPROVEMENTS

The recommended service plan for Pomona Valley includes a number of recommendations that will improve transit service, including modifications to existing fixed-route service, new fixed-route and demand-responsive service, and changes to the level of service. These improvements are described in this section.

9.1.1 Modifications to Existing Service

In an effort to improve transit service and to promote additional ridership, modifications are recommended to four existing RTD lines. These include:

- Modify Line 187, which operates between Pasadena and Pomona, to serve the planned Transcenter in Montclair. The modification consists of the removal of the portion of the line on Towne Avenue between Foothill Boulevard and downtown Pomona, and the extension of the line east on Foothill Boulevard to Mills Avenue, south to Sixth Street, and east across the San Bernardino County line

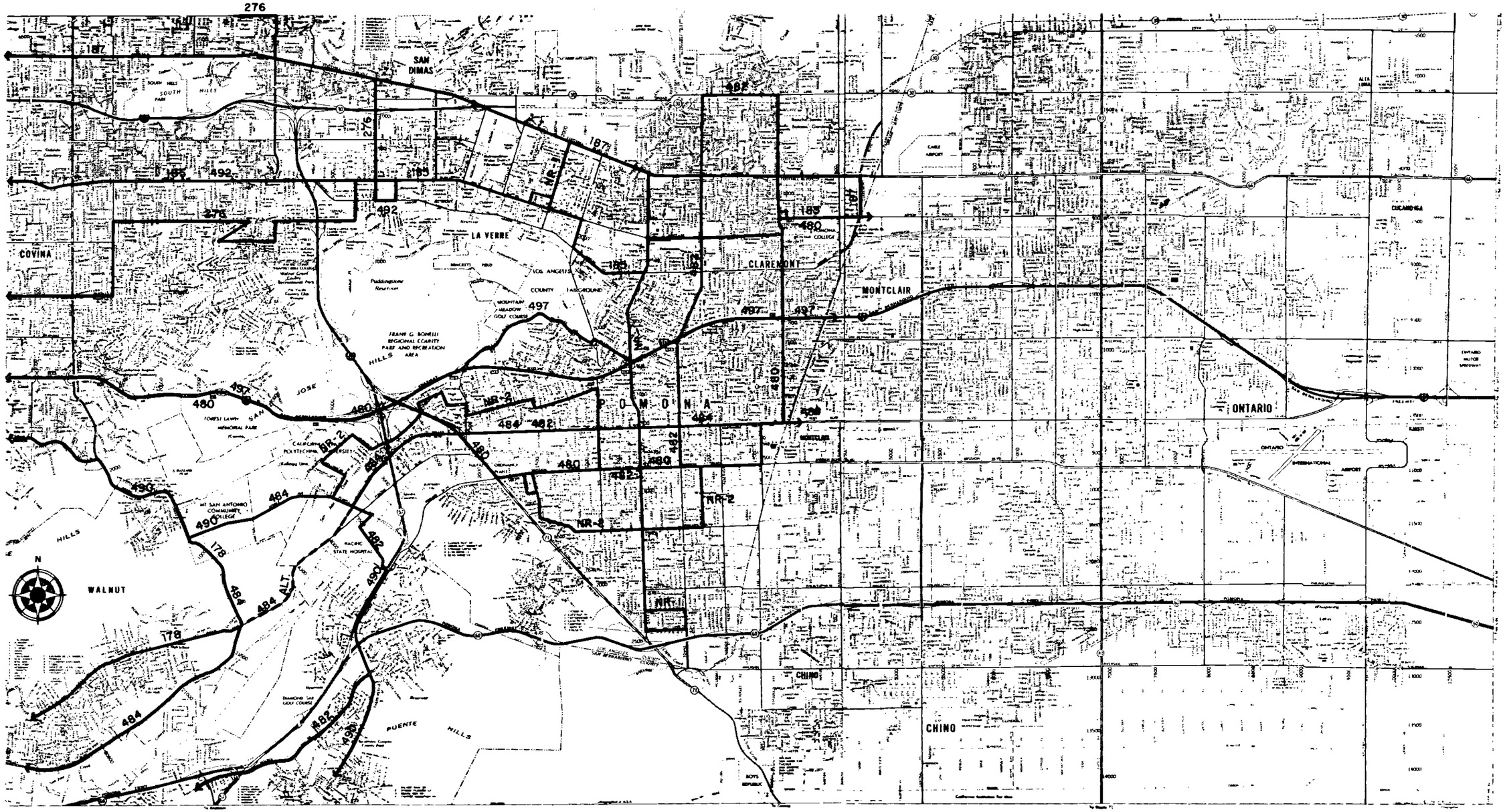


Figure 9-1

RECOMMENDED FIXED ROUTE SYSTEM

to the Transcenter. At the Transcenter, passengers from RTD lines will be able to transfer to OMNITRANS routes for destinations in San Bernardino County. Line 187 under the recommended plan would be one of two routes providing east-west service to Pomona Valley north of the San Bernardino Freeway. This route would interface with north-south routes for trips to areas north and south of Foothill Boulevard.

- Extend Line 480 to the Transcenter via Indian Hill Boulevard and Sixth Street in Pomona Valley. This route would be the second of two routes that would be modified to serve the Transcenter. Line 480 currently terminates at Indian Hill Shopping Center.

- Modify Line 482 to serve Towne Avenue and northern Claremont. This line currently operates along Holt Boulevard in Pomona and terminates at the Indian Hill Shopping Center. As recommended, it would be re-routed to turn south on Garey Avenue, east on Mission Boulevard, north on Towne Avenue to northern Claremont, east on Base Line Road, and south on Indian Hill Boulevard to Foothill Boulevard. At Foothill Boulevard, buses would turn around and return along the same route. The portion of the line on Holt Boulevard between Garey and Indian Hill Boulevard would be discontinued. This change would remove the duplication of service on this segment. Currently, lines 482 and 484 operate along Holt Boulevard in Pomona.

- Discontinue Lines 291/293 and 192/194. Under the recommended plan, these lines would be discontinued and replaced by new routes or modifications to existing routes. Only the service on unproductive portions of the lines in areas with low transit ridership would not be replaced by new routes or modifications to existing routes. The discontinued service would include service currently provided to the area along Reservoir Street in southeastern Pomona, the area southwest of the Corona Freeway and Mission Boulevard in Pomona, and the area along Arrow Highway, San Bernardino Avenue, and San Antonio Avenue, between Town Avenue and Indian Hill Boulevard in Pomona and Claremont.

9.1.2 New Service

In addition to the route structure modifications, the service plan recommends the implementation of new fixed-route and demand-responsive service.

9.1.2.1 Fixed-Route Service

The recommended service plan includes two new routes. The new routes are described below:

- NR-1 would provide north-south service along Garey Avenue between Foothill Boulevard and County Road. This new route will replace service currently provided on Garey Avenue by Line 291, which has been discontinued. The northern terminus will be a loop around Garey Avenue, College Way, and Williams Avenue, and the southern terminus will be a loop around Olive Street, Towne Avenue, County Road, and Garey Avenue.

- NR-2 is a new route that would connect the California Polytechnical Institute at Pomona and the residential areas near Ganesha High School and between Mission and Phillips Boulevards with downtown Pomona. The route would follow basically the same streets in these areas as Lines 192 and 194 in the existing system.

9.1.2.2 Demand-Responsive Service

The service plan also recommends the implementation of an improved areawide demand-responsive system for the elderly and handicapped with expanded service hours and days of service. The system would continue to operate on a many-to-many basis and connect with RTD lines which are accessible to the handicapped and with other demand-responsive systems in the region.

9.1.3 Level of Service

A summary of the level of service characteristics of the recommended fixed-route system is shown in Table 9-1. Summarized in the table are the days of service, hours of service, and morning and afternoon peak hour, base, night, and weekend service frequencies for each route in the recommended system.

The recommended level of service of the recommended fixed-route system would remain almost unchanged from the existing system. The only changes recommended in the level of service are on Lines 480 and 482. Under the recommended system, Line 480 would be extended from the Indian Hill Shopping Center to the Transcenter via Indian Hill Boulevard and Sixth Street in Pomona Valley. The hours and frequency of service on the extension during peak periods and at night would be the same as the existing line. Service during the base period (i.e., 9:00 a.m. to 3:00 p.m. and 6:00 p.m. to 8:00 p.m.) would be half the frequency as on the existing line. Line 482 would be modified to serve Towne Avenue and northern Claremont. The frequency of service on the new route would be the same as on the existing route. However, unlike the existing route, no night or weekend service would be provided on the portion of the new route between downtown Pomona and northern Claremont. Instead, service would terminate in the vicinity of Mission Boulevard and Garey Avenue in downtown Pomona. Service on the two new routes would be operated at thirty-minute frequencies between the hours of 6:00 a.m. and 7:00 p.m., Monday through Friday with no service on Saturdays and Sundays.

Demand-responsive service for the elderly and handicapped would be expanded from six to seven days a week. Hours and service would be from 6:00 a.m. to 7:30 p.m., Monday through Friday. This is an increase of two hours daily over the Get About Service. Service hours on Saturday and Sunday would be the same as on weekdays.

TABLE 9-1

RECOMMENDED PLAN
FIXED-ROUTE SERVICE CHARACTERISTICS

Line Number/Service Area	Days of Service	Hours of Service	Frequency of Service (Minutes)				
			Peak				Saturday/
			a.m.	p.m.	Base	Night	Sunday
187/Pasadena - Montclair	Monday - Friday Saturday Sunday	5:00 a.m. - 7:30 p.m. 5:00 a.m. - 7:00 p.m. 7:00 a.m. - 7:00 p.m.	30	30	30	0	60
276/Sunset Avenue - Covina Avenue - San Dimas Avenue	Monday - Friday	6:00 a.m. - 7:30 p.m.	60	60	60	0	0
185/Hacienda Avenue - Irwindale Avenue - Arrow Highway	Monday - Friday	6:30 a.m. - 7:30 p.m.	60	60	60	0	0
178/El Monte - Baldwin Park - West Covina - Valina - Walnut	Monday - Friday	6:08 a.m. - 10:10 p.m.	60	60	60	60	0
480/Los Angeles - El Monte - West Covina - Pomona - Claremont - Montclair	Monday - Friday Saturday Sunday	5:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m. 6:00 a.m. - 2:00 a.m.	17	15	20/40	45	30
482/Los Angeles - Hacienda Heights - Cal Poly - Pomona- Claremont	Monday - Friday Saturday Sunday	5:00 a.m. - 11:30 p.m. 6:00 a.m. - 11:30 p.m. 6:00 a.m. - 8:30 p.m.	30	30	60	40	60
484/Los Angeles - Pomona - Ontario Airport	Monday - Friday Saturday Sunday	5:30 a.m. - 2:00 a.m. 5:30 a.m. - 2:00 a.m. 5:00 a.m. - 2:00 a.m.	15	15	30	60	30/60
490/Los Angeles - Covina - Walnut - Cal Poly - Pomona	Monday - Friday Saturday Sunday	6:02 a.m. - 7:54 p.m. 7:08 a.m. - 7:10 p.m. 7:08 a.m. - 7:10 p.m.	42	32	60	0	60
492/Los Angeles - South Arcadia - San Dimas	Monday - Friday	5:47 a.m. - 6:35 p.m. 6:03 p.m. - 7:10 p.m.	25	40	0	0	0
497 /Los Angeles - Pomona - Montclair Park-and-Ride	Monday - Friday	5:26 a.m. - 8:06 a.m. 4:09 p.m. - 6:54 p.m.	13	16	0	0	0
NR-1/Gary Avenue	Monday - Friday	6:00 a.m. - 7:00 p.m.	30	30	30	0	0
NR 2/Cal Poly - Pomona	Monday - Friday	6:00 a.m. - 7:00 p.m.	30	30	30	0	0

Source: Schimpeler-Corradino Associates.

9.2 SENSITIVITY ANALYSIS OF LEVEL OF SERVICE AND FARE IMPACTS

A sensitivity analysis was performed on the recommended system to assess the impact of changes in level of service and fares on costs, ridership, passenger boardings, passenger revenues, and the operating deficit that must be funded by revenues from outside funding sources.

9.2.1 Level of Service Impacts

Six sensitivity tests were performed on the recommended plan to determine the sensitivity of vehicle hours, vehicle miles, and passenger boardings to changes in the frequency and hours of service of the recommended plan. These tests also determined the sensitivity of operating costs, passenger revenues, and operating deficits to potential system changes. The results of the sensitivity analysis of level of service impacts are shown in Table 9-2. Both the net change and percent change from the recommended plan as produced by each level of service scenario are shown. An explanation of each scenario follows.

9.2.1.1 Reduce Headways to Thirty Minutes

Several routes in the recommended plan operate at headways greater than thirty minutes for one or more periods during the day. This level of service scenario reduces the headways for these routes to thirty minutes. Routes affected by this scenario include Lines 276, 185, 480, 482, and 484. The headways on Lines 276 and 185 were changed from sixty to thirty minutes throughout the day. Line 480 under the recommended plan would operate at a 45-minute headway at night. This headway was reduced to thirty minutes. Headways for Line 482 were changed from sixty minutes during the base or off-peak period and forty minutes at night to thirty minutes during both periods. Similarly, the sixty-minute headway on Line 484 at night was changed to thirty minutes. The sensitivity analysis of these headway changes showed an annual net increase of $527,991 in the operating deficit, or eleven percent.

9.2.1.2 Increase Headways to Thirty and Sixty Minutes During Off Peak Hours

This level of service scenario examines the impact of a reduction in service during off-peak hours when ridership levels are typically at their lowest. Under this scenario, headways less than thirty minutes (during base and night periods) would be increased to thirty minutes, while headways between thirty and sixty minutes would be increased to sixty minutes. Routes affected by this scenario include Lines 187, 480, 482, NR-1 and NR-2. Headways on Line 187, NR-1 and NR-2 during the base service period were changed from thirty to sixty minutes. The headways on Line 480 were changed from thirty minutes during the base period and sixty minutes at night to fifteen and 45 minutes, respectively. Line 482 under the recommended plan would operate at a forty-minute headway at night. Accordingly, this headway was changed to sixty minutes. Increasing the off-peak headways for these routes was found to produce a net decrease of $556,000 in the annual operating deficit. This amounts to a decrease of approximately eleven percent.

TABLE 9-2

RESULTS OF SENSITIVITY ANALYSIS OF SERVICE LEVEL CHANGES ON RECOMMENDED PLAN

Element	Recommended Plan	Reduce Headways to 30 Minutes		Increase Headways to 30 and 60 Minutes Minutes During Off-Peak		Increase Headways to 60 Minutes on Local Routes		Increase Headways to 60 Minutes on Local Routes During Off-Peak		Shorten Weekend Service Hours Demand-Responsive System		Expand Evening Service Hours for Demand-Responsive System	
		Net Change	% Change	Net Change	% Change	Net Change	% Change	Net Change	% Change	Net Change	% Change	Net Change	% Change
• Annual Vehicle Hours													
- Fixed-Route	$ 92,432	+10,317	+11.16	-10,231	-11.07	-6,470	-7.00	-3,588	-3.88	0	0	0	0
- Demand-Responsive	54,202	0	0	0	0	0	0	0	0	4,752	-8.77	+8,415	+15.52
TOTAL	$ 146,634	+10,317	+ 7.04	10,231	- 6.98	-6,470	-4.41	-3,588	-2.45	4,752	-3.24	+8,415	+5.74
• Annual Vehicle Miles													
- Fixed-Route	1,672,443	+191,482	+11.45	216,714	-12.96	-104,377	-6.24	-57,900	-3.46	0	0	0	0
- Demand-Responsive	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
TOTAL	$1,672,443	+191,482	+11.45	216,714	-12.96	-104,377	-6.24	-57,900	-3.46	0	0	0	0
• Annual Operating Cost													
- Fixed-Route	$5,342,609	$+560,521	+10.49	647,402	-12.12	$-371,581	-6.96	-189,350	-3.54	$ 0	0	$ 0	0
- Demand-Responsive	1,158,296	0	0	0	0	0	0	0	0	-101,555	-8.77	179,829	+15.52
TOTAL	$6,500,905	$+560,521	+ 8.62	647,402	-9.96	$-371,581	-5.72	-189,350	-2.91	$-101,555	-1.56	$179,829	+2.77
• Annual Passenger Boardings													
- Fixed-Route	2,377,047	+76,755	+ 3.23	167,790	-7.06	-102,000	-4.29	-23,205	-0.98	0	0	0	0
- Demand-Responsive	316,602	0	0	0	0	0	0	0	0	-8,427	-2.66	+49,144	+15.52
TOTAL	2,693,649	+76,755	+ 2.85	167,790	-6.23	-102,000	-3.79	-23,205	-0.86	-8,427	-0.31	+49,144	+1.82
• Annual Passenger Revenue													
- Fixed-Route	$1,284,596	$+32,530	+ 2.53	91,030	-7.09	-27,540	-2.14	-6,265	-0.49	$ 0	0	$ 0	0
- Demand-Responsive	316,602	0	0	0	0	0	0	0	0	-8,427	-2.66	49,144	+15.52
TOTAL	$1,601,198	$+32,530	+ 2.03	91,030	-5.68	-27,540	-1.72	-6,265	-0.39	$ -8,427	-0.53	$49,144	+3.07
• Annual Operating Deficit													
- Fixed-Route	$4,058,013	$+527,991	+13.01	556,372	-13.71	$-344,041	-8.48	-183,085	-4.51	0	0	$ 0	0
- Demand-Responsive	841,694	0	0	0	0	0	0	0	0	-93,128	-11.06	130,685	+15.53
TOTAL	$4,899,707	$ 527,991	+10.78	556,372	-11.36	$-344,041	-7.02	-183,085	-3.74	-93,128	-1.90	$130,685	+ 2.67

9.2.1.3 Increase Headways to Sixty Minutes on Local Routes

Headways for the two local routes in the recommended plan are thirty minutes. This scenario increased this frequency of service to sixty minutes for both routes. The sensitivity found that the increased headways would decrease the operating deficit by seven percent or $344,000 annually.

9.2.1.4 Increase Headway to Sixty Minutes on Local Routes During Off-Peak Hours

Unlike the previous scenario in which the headways on the local routes would be increased from thirty to sixty minutes throughout the day, this scenario assesses the impact of increasing the headways to sixty minutes during off-peak hours only. Headways during peak periods would be thirty minutes, or unchanged from the recommended plan. The increase in the off-peak headways was found to produce a net decline of $183,000, or about four percent, in the annual operating deficit.

9.2.1.5 Shorten Weekend Service Hours for the Demand-Responsive System

This scenario proposes the shortening of the Saturday and Sunday service hours from 13.5 to eleven hours per day. Under the recommended plan, demand-responsive service would be provided between the hours of 6:00 a.m. and 7:30 p.m. These hours would be shortened to 6:00 p.m. under this scenario, resulting in an annual decrease of 4,752 vehicle hours. The operating deficit would decline by $93,000, or two percent.

9.2.1.6 Expand Evening Service Hours for the Demand-Responsive System

Demand-responsive service to the elderly and handicapped, as recommended, would be provided from 6:00 p.m. to 7:30 p.m., Monday through Friday. This scenario expands the service hours to the elderly and handicapped to 10:00 p.m. No changes would be made to weekend service. This increase in the span of service would increase vehicle hours by 8,000 annually. The operating deficit, commensurate with the increase in hours of service, would increase by $131,000 annually, or three percent.

9.2.2 Fare Impacts

Three alternative base fares were analyzed to determine the sensitivity of passenger boardings, revenues, and the operating deficit to changes in fares. Like the analysis of service level impacts, comparisons were made with the recommended plan to determine both the net change and percentage change. The results of the sensitivity analysis of fare impacts are shown in Table 9-3.

The estimated annual passenger boardings and revenues under the recommended plan are based on the current structure of RTD and the fare charged by Get About Transportation. The base fare under the RTD fare structure is $0.50 with additional charges for freeway travel and trips outside Los Angeles County. The elderly, handicapped, and students receive discount fares.

Passenger revenues for the recommended fixed-route system are based on the average fares for the Pomona Valley lines by RTD reported on a route-by-route basis. The average fare for all routes serving Pomona Valley is estimated at

TABLE 9-3

RESULTS OF SENSITIVITY ANALYSIS OF FARE IMPACTS
ON RECOMMENDED PLAN

Element	Recommended Plan	75¢ Base Fare for Fixed-Route System		$1.00 Base Fare for Fixed-Route System		$1.50 Base Fare for Demand-Responsive System	
		Net Change	Percentage Change	Net Change	Percentage Change	Net Change	Percentage Change
• Annual Operating Cost							
- Fixed-Route	$5,342,609	$ 0	0	$ D	0	$ 0	0
- Demand-Responsive	1,158,296	0	0	0	0	0	0
TOTAL	$6,500,906	$ 0	0	$ 0	0	$ 0	0
• Annual Passenger Boardings							
- Fixed-Route	$2,377,047	$ -463,324	-19.50	$ -927,048	-39.00	$ 0	0
- Demand-Responsive	316,602	0	0	0	0	-61,737	-19.50
TOTAL	$2,693,649	$ -463,524	-17.21	$ -927,048	-34.42	$ -61,737	-2.29
• Annual Passenger Revenue							
- Fixed-Route	$1,284,596	$ +284,493	+22.15	$ +310,403	+24.16	$ 0	0
- Demand-Responsive	316,602	0	0	0	0	+65,695	+20.75
TOTAL	$1,601,198	$ +284,493	+17.77	$ +310,403	+19.39	$ +65,695	+4.10
• Annual Operating Deficit							
- Fixed-Route	$4,058,013	$ -284,493	-7.01	$ -310,403	-7.65	$ 0	0
- Demand-Responsive	841,694	0	0	0	0	-65,695	-7.79
TOTAL	$4,899,707	$ -284,493	-5.81	$ -310,403	-6.34	$ -65,695	-1.34

Source: Schimpeler-Corradino Associates.

$0.55 per passenger. For the recommended demand-responsive system, an average fare of $1.00 per passenger was used in estimating passenger revenues. This fare represents the existing $1.00 fare charged by Get About Transportation.

The three alternative base fares include a $0.75 base fare for the fixed-route system, a $1.00 base fare for the fixed-route system, and a $1.50 fare for the demand-responsive system. The base fares of $0.75 and $1.00 for the fixed-route system are the fares that RTD estimates may be required to maintain service at the end of the Proposition A Fare Reduction Program in 1985. The exact base fare to be charged is not known at this time. The base fare of $1.50 for the demand-responsive system was established by the consultant for purposes of the sensitivity analysis. The selection of a fare for the demand-responsive system will be a local policy decision. Fares for the fixed-route system are the responsibility of RTD.

The impacts of the alternative fares on ridership were estimated using a fare elasticity of demand measure of -0.39. Elasticity of demand is defined as the percentage change in transit demand or ridership in response to a given percentage change in fares. This elasticity measure of -0.39 is based on recent RTD experience with fare increases. The negative sign signifies an inverse relationship between fares and demand (i.e., an increase in fares results in a decrease in demand).

An examination of the fare impacts shown in Table 9-3 for the three alternative fares reveals that the $1.00 base fare for the fixed-route system would produce the largest reduction in the operating deficit, an estimated $310,000 annually. Ridership was estimated to decline by about 927,000 passenger boardings annually. Increasing fixed-route system base fare by $0.25 to $0.75 would decrease the deficit by $284,000 annually and would reduce passenger boardings by 464,000. The alternative fare for the demand-responsive system would produce a reduction of $66,000 in the annual deficit. At the same time, ridership would decline by 62,000 passengers annually.

9.3 CAPITAL AND OPERATING COSTS

An analysis of capital and operating costs was conducted for the recommended system. The analysis identified all capital facilities and equipment required to support the services provided under the recommended service plan and their estimated costs, as well as the estimated annual operating cost of the recommended system and its efficiency in terms of cost per hour, cost per mile, and cost per passenger.

9.3.1 Capital Costs

The estimated capital costs of equipment and facilities for the recommended system are listed in Table 9-4. Costs and requirements listed in this table are estimated based on the assumption that the joint powers agency would own the demand-responsive fleet and that RTD would provide the fixed-route service with the existing fleet and facilities. The joint powers agency would be responsible for purchasing all vehicles and supporting equipment and facilities necessary to operate the demand-responsive service. These vehicles could then be leased out to the broker under contract for operation of the service. If the agency decides to contract for both provision of

TABLE 9-4

CAPITAL COSTS OF RECOMMENDED SYSTEM

Capital Items	Unit Cost	Number of Units	Total Cost
Vehicles			
• Vans: Demand-Responsive Service	$15,000	13	$195,000
• Wheelchair Lifts	2,000	13	26,000
• Service Vehicles	25,000	1	25,000
SUBTOTAL			$246,000
Facilities			
• Maintenance (per sq. ft.)	$ 100	3,900	$390,000
• Office (per sq. ft.)	60	1,250	75,000
SUBTOTAL		5,150	$465,000
Maintenance Equipment/Parts	$ 1,000	13	13,000
Computer and Communications Equipment			
• Fixed Equipment	$ 5,000	1	$ 5,000
• Mobile Equipment	1,500	13	19,500
SUBTOTAL			$ 24,500
TOTAL			$648,500

Source: Schimpeler-Corradino Associates.

service and vehicles by the broker no capital costs for vehicles and supporting maintenance facilities would be borne by the joint powers agency. However, no significant difference in the cost of the contract for service is anticipated. Both options will have funding implications which will be addressed in the implementation plan presented in Chapter 10.

The capital cost estimates developed for the recommended system are based on the latest available unit cost estimates. These cost estimates are considered preliminary because the final costs will depend on the year of implementation. The capital items required include vehicles, wheelchair lifts, maintenance facilities, administrative offices, maintenance equipment and parts, and computer and communications equipment. All capital estimates are based on the requirements calculated using industry recognized standards and procedures. Vehicles for the demand-responsive systems were estimated using nationwide statistics on vehicles correlated with service population. The estimated vehicle fleet includes a twenty percent allowance for spares. No additional vehicles are estimated to be needed for the fixed-route system. Maintenance and administrative facilities and offices, communications equipment, and service vehicles are based on fleet procurement.

9.3.1.1 Vehicles

It is recommended that all vehicles used for demand-responsive service be either standard or modified vans with seating capacities of up to fifteen passengers. Standard vans are available from automobile manufacturers and are part of their standard production line. Modified vans, on the other hand, are standard vans which have undergone some structural changes, usually made to increase the size, particularly the height, of the van. Such modifications are usually necessary for vans used in service for the handicapped. A cost of $15,000 per vehicle has been estimated for purchase of these vans. It is estimated that thirteen vans will be required, including two spares. However, this number may be reduced if some of the existing vehicles owned by Get-About Transportation can be used. This will depend on any funding program restrictions used to purchase the vehicles.

Wheelchair lifts will be needed to make the vehicles used in service to the handicapped fully accessible. Lifts are available in various types from a number of different manufacturers. A cost per unit of $2,000 has been allowed for purchase of lifts. The total number required is estimated to be thirteen, including two needed for the spare vehicles.

Service vehicles have also been allowed for in the capital program. These vehicles are needed for on-the-road maintenance and parts pick-up and other miscellaneous trips. The cost of such vehicles is estimated to be $25,000 per vehicle. One service vehicle would be required.

9.3.1.2 Facilities

Acquisition of a thirteen-vehicle fleet for demand-responsive service would require facilities for maintenance and storage and offices for administration and dispatching. The maintenance and storage needs of the fleet will require a facility of 3,900 square feet. All necessary "built-in" equipment should be installed at the time of construction. Types of built-in equipment; could include: fuel pumps and tanks; a vacuum cleaning system;

heating, cooling, and ventilation equipment; and dispensing systems for lubricants, coolants, and compressed air. The cost of a maintenance facility with built in equipment is estimated to be approximately $100.00 per square foot. An alternative to construction of a maintenance facility would be to use existing municipal facilities for maintenance of the vehicles. Another alternative would be purchase of a maintenance contract through private enterprise.

Office facilities for administration and dispatching duties will also be required regardless of the vehicle ownership alternative ultimately selected. Approximately 1,250 square feet in office space will be required. Assuming that such facilities are integrated with the maintenance facility, the cost per square foot would be about $60.00 including furnishings.

9.3.1.3 Maintenance Equipment and Parts

Certain additional equipment is required if the fleet is to be maintained effectively. This additional equipment includes movable maintenance equipment (i.e., tools, dollies, etc.) and spare parts. To account for this additional equipment required, $1,000 per vehicle has been allowed.

9.3.1.4 Communications Equipment

The cost of the communications equipment required for scheduling and dispatching is estimated to total about $5,000 for fixed equipment and $1,500 for each mobile unit. The fixed equipment consists of a basic radio communications station for voice communications. The mobile units would consist of a voice communications unit. A total of thirteen mobile units would be required to equip the fleet.

9.3.1.5 Total Capital Costs

The estimated total capital cost of the recommended system is $748,500, including $246,000 in vehicles, maintenance and office facilities at a cost of $465,000, $13,000 in maintenance equipment and parts, and $24,500 in communications equipment.

9.3.2 Operating Costs

Operating costs of the recommended system were calculated using the same cost rates previously used for the evaluation of the alternatives. The cost rates used varied by type of service (i.e., fixed-route or demand-responsive). Costs of the fixed-route system were calculated on the basis of annual vehicle miles and vehicle hours of operation with layover. The operating characteristics of the recommended system as defined earlier in this chapter were used to estimate vehicle miles and vehicle hours for the system. Current RTD operating costs per vehicle mile were used in calculating the costs of all routes in the system. These costs per mile rates vary by line. For the new routes, the average operating cost per mile for the existing Pomona Valley local routes was used to estimate the operating costs of these routes.

Operating costs of the demand-responsive system were estimated using the cost per vehicle hour rate for brokerage of service through private enterprise.

Vehicle hours were calculated based on the number of vehicles and hours of service in which the vehicles are in operation.

Table 9-5 presents the results of the analysis of operating costs of the recommended system. Included in the table are annual operating costs, vehicle hours, vehicle miles, passenger boardings and cost per vehicle hour, vehicle mile, and passenger with totals for both the fixed-route and demand-responsive systems and the individual routes within the fixed-route system. Combined totals for both systems are also included.

The total annual operating cost of the recommended system is estimated to be about $6,501,000. Based on 147,000 vehicle hours operated annually by both the fixed-route and demand-responsive system, this equates to a cost per vehicle hour of $44.33. Vehicle miles were not estimated for the demand-responsive system, therefore, no estimate of total system miles and cost per mile could be developed.

Annual operating costs of the fixed-route system are estimated to total about $5,343,000. It would operate for a total of approximately 92,000 vehicle hours and $1,700,000 vehicle miles annually at a cost per hour of $57.80 and a cost per mile of $3.19. Based on 2,377,000 passengers annually, the system would have a cost per passenger of $2.25. A comparison of the performance of the system with the standards established for fixed-route service revealed that only the standard for operating cost per passenger was met by the system. With a cost of $2.25 per passenger, the system performed favorably with the standard of $2.50 for this measure. However, the standards of $50.00 per vehicle hour and $2.50 per vehicle mile were not met. About half of the routes passed the cost per vehicle hour standard, while all failed to meet the cost per mile standard.

The demand-responsive system is estimated to have an annual operating cost of about $1,158,000. Approximately 54,000 vehicle hours of service would be operated annually at a cost per hour of $21.37. The cost per passenger for the demand-responsive system is estimated to be $3.66.

Comparison of the performance of the system with the standards established for target market service reveals that the system meets the cost per passenger standard of $7.45 and the cost per hour standard of $41.90.

It should be noted that these cost estimates are based on the level of service provided by the recommended plan. As shown by the results of the sensitivity analysis, the costs can be lowered or increased by altering the level of service provided. The level of service ultimately selected will depend upon the level of financing that is available.

9.4 RIDERSHIP AND REVENUE

An analysis of ridership and passenger revenues was also conducted for the recommended system. The analysis of ridership identified the estimated annual ridership of the system and its efficiency in terms of passengers per vehicle mile and hour, while the analysis of passenger revenue identified how much revenue could be obtained to offset the operating costs discussed in the previous section. Passenger revenue consists of receipts collected from the farebox. The estimates of passenger revenue are based on ridership estimates

TABLE 9-5

OPERATING COST ANALYSIS OF
RECOMMENDED SYSTEM

Service	Total Annual Operating Costs	Total Annual Vehicle Hours	Cost Per Vehicle Hour	Total Annual Vehicle Miles	Cost Per Vehicle Mile	Total Annual Passengers	Cost Per Passenger
• Fixed-Route							
- 440	$ 374,140	6,999	$ 53.46	126,398	$2.96	295,029	$1.27
- 443	80,422	1,874	42.91	24,822	3.24	20,400	3.94
- 445	204,722	4,182	48.95	71,581	2.86	78,795	2.60
- 446	54,231	1,043	52.00	16,483	3.29	23,205	2.34
- 480	1,219,061	19,692	61.91	443,295	2.75	692,420	1.76
- 482	570,782	10,549	54.11	184,719	3.09	249,054	2.29
- 484	609,483	11,944	51.03	229,129	2.66	473,490	1.29
- 490	85,333	3,149	27.09	29,527	2.89	23,434	3.64
- 492	26,538	360	73.72	4,468	5.94	9,690	2.74
- 764	1,252,384	16,065	77.96	298,898	4.19	168,555	7.43
- NR-1	330,911	6,630	49.91	92,953	3.56	177,480	1.86
- NR-2	534,602	9,945	53.76	150,169	3.56	165,495	3.23
SUBTOTAL	$5,342,609	92,432	$57.80	1,672,443	$3.19	2,377,047	$2.25
• Demand-Responsive	$1,158,296	202	$21.37	N.A.	N.A.	316,602	$3.66
GRAND TOTAL	$6,500,905	146,634	$44.33	N.A.	N.A.	2,693,649	$2.41

Source: Schimpeler-Corradino Associates.

calculated using the same procedures used for the evaluation of the alternatives and average fares for each system. Average fares for the fixed-route system vary by route. The fares used represent current average fares based on the existing base fare of $0.50. An average fare of $1.00 was used for the demand-responsive system. This fare represents the fare of the Get About Transportation Systems.

9.4.1 Ridership

The results of the ridership analysis of the recommended system are shown in Table 9-6. Included in the table are annual passenger boardings, vehicle hours, and vehicle miles and passengers per vehicle hour and vehicle mile for both fixed-route and demand-responsive service, as well as for individual fixed-routes and the total system as a whole.

Passenger boardings for the recommended system are estimated to total about 2,694,000 annually over 147,000 vehicle hours. This translates into 18.37 passengers per vehicle hour. Vehicle miles were not estimated for the recommended demand-responsive system; therefore, no estimates of total system mileage and passengers per mile could be developed.

Annual passenger boardings for the recommended fixed-route system are estimated to total approximately 2,377,000. Passengers per vehicle hour are estimated to average 25.72 systemwide over 92,000 vehicle hours annually. The number of passengers per vehicle mile is estimated to average 1.42 systemwide over 1,672,000 vehicle miles annually. Compared to the performance standards established for fixed-route service, the recommended system exceeds the standard of 25 passengers per hour, but fails the standard of 2.00 passengers per mile. This standard of 2.00 passengers per mile may be impossible to achieve in view of the fact that only two of the thirteen routes in the system pass the standard.

The demand-responsive system is estimated to have an annual ridership of about 317,000. Passengers per hour are estimated to average 5.84 over 54,000 vehicle hours annually. This performance level is above the standard of 5.05 passengers per hour.

9.4.2 Revenue

Table 9-7 presents the results of the revenue to cost analysis of the recommended system. Potential passenger revenues are presented for both the fixed-route and demand-responsive systems, as well as for the individual routes within the fixed-route system. Total revenues for both systems collectively are also presented. For comparison with the passenger revenues, annual operating costs are presented by individual route and by system.

The recommended system is estimated to generate approximately $1,601,000 in annual farebox revenues compared to annual operating costs of $6,501,000, yielding an operating ratio of 0.25. A breakdown of the recommended system by type of service provided reveals that the fixed-route system would generate about $1,285,000 in annual passenger revenues compared to annual operating costs of $5,343,000, this resulting in a revenue to cost ratio of 0.24. This is significantly below the standard of 0.45 established for fixed-route service. However, it compares favorably to the RTD systemwide value of 0.26.

TABLE 9-6

RIDERSHIP ANALYSIS OF RECOMMENDED SYSTEM

Service	Total Annual Passenger Boardings	Total Annual Vehicle Hours	Passengers Per Vehicle Hour	Total Annual Vehicle Miles	Passengers Per Vehicle Mile
• Fixed-Route					
- 187	295,029	6,999	42.16	126,398	2.33
- 276	20,400	1,874	10.88	24,822	0.82
- 185	78,795	4,182	18.84	71,581	1.10
- 178	23,205	1,043	22.25	16,483	1.41
- 480	692,420	19,692	35.16	443,295	1.56
- 482	249,054	10,549	23.61	184,719	1.35
- 484	473,490	11,944	39.64	229,129	2.07
- 490	23,434	149	7.44	29,527	0.79
- 492	9,690	360	26.92	4,468	2.17
- 497	168,555	16,065	10.49	298,898	0.56
- NR-1	177,480	6,630	26.77	92,953	1.91
- NR-2	165,495	9,945	16.64	150,169	1.10
SUBTOTAL	2,377,047	92,432	25.72	1,672,443	1.42
• Demand-Responsive	316,602	54,202	5.84	N.A.	N.A.
GRAND TOTAL	2,693,649	146,634	18.37	1,672,443	N.A.

Source: Schimpeler-Corradino Associates.

TABLE 9-7

REVENUE TO COST ANALYSIS OF
RECOMMENDED SYSTEM

Service	Total Annual Operating Costs	Total Annual Passenger Revenues	Ratio of Revenue to Cost
• Fixed-Route			
- 187	$ 374,140	$ 88,509	0.24
- 276	80,420	5,916	0.07
- 185	204,722	24,426	0.12
- 178	54,231	5,801	0.11
- 480	1,219,061	491,618	0.40
- 482	570,782	97,131	0.17
- 484	609,483	183,027	0.34
- 490	85,333	10,311	0.12
- 492	26,538	5,426	0.20
- 497	1,252,384	254,518	0.20
- NR-1	330,911	47,920	0.14
- NR-2	534,602	44,684	0.08
SUBTOTAL	$5,342,609	$1,284,596	0.24
• Demand-Responsive	$1,158,296	$ 316,602	0.27
GRAND TOTAL	$6,500,906	$1,601,198	0.25

Source: Schimpeler-Corradino Associates.

Passenger revenues for the demand-responsive system are estimated to total about $317,000 annually. This yields an operating ratio of 0.27 when compared to operating costs of $1,158,000 which is well below the standard of 0.17 for target market service.

9.5 SUMMARY

A summary of the major elements of the recommended service plan and comparison with existing service is presented in Table 9-8. The recommended plan calls for improvements to local and regional RTD fixed-route service, as well as improvements to the local demand-responsive system for the elderly and handicapped. These improvements are expected to increase the total annual operating deficit by four percent. This increase in the operating deficit is attributable to a significant expansion in the demand-responsive service level above that provided today. Annual vehicle hours of demand-responsive service would be increased by seven percent under the recommended plan. As a result, the operating deficit of the demand-responsive system would increase by 23 percent even though a 217 percent increase in passenger boardings and revenues is projected. By contrast, the operating deficit for the fixed-route system is expected to decrease by eight percent. Annual vehicle hours of fixed-route service would be decreased by six percent, while annual vehicle miles would remain almost unchanged. The recommended improvements are expected to increase fixed-route system passenger boardings by fourteen percent and passenger revenue by twenty percent. At the same time, operating costs are projected to decline by three percent. In short, the improvements in the recommended service plan will provide for an improved fixed-route system at a lower cost, however, the greatly expanded demand-responsive system will result in a higher overall operating deficit which must be offset by additional subsidies from federal, state, and local sources. Available subsidies from these sources will be identified in the implementation plan to be presented in the next chapter of this report.

TABLE 9-8

COMPARISON OF RECOMMENDED SYSTEM
TO EXISTING SERVICE
(FY 1983)

Element	Existing Service[1]	Recommended Plan	Percent Change
Annual Vehicle Hours			
- Fixed-Route	98,768	92,432	-6.42
- Demand-Responsive	31,343	54,202	+7.29
TOTAL	130,111	146,634	+12.70
Annual Vehicle Miles			
- Fixed-Route	1,691,231	1,672,443	-1.11
- Demand-Responsive	N.A.	N.A.	N.A.
TOTAL	1,691,231	1,672,443	-1.11
Annual Passenger Boardings			
- Fixed-Route	2,077,592	2,377,047	+14.41
- Demand-Responsive	100,000	316,602	+216.60
TOTAL	2,177,592	2,693,649	+23.70
Annual Operating Costs			
- Fixed-Route	$5,493,670	5,342,609	-2.75
- Demand-Responsive	782,948	1,158,296	+47.94
TOTAL	$6,276,618	6,500,905	+ 3.57
Annual Passenger Revenue			
- Fixed-Route	$1,074,498	1,284,596	+19.55
- Demand-Responsive	100,000	316,602	+216.60
TOTAL	$1,174,498	1,601,198	+36.33
Annual Operating Deficits[2]			
- Fixed Route	$4,419,172	4,058,013	-8.17
- Demand-Responsive	682,948	841,694	+23.24
TOTAL	$5,102,120	4,899,707	+3.97

[1]Excludes Claremont dial-a-ride service.
[2]Excludes local, state, and federal subsidies.

Source: Schimpeler·Corradino Associates.

10. IMPLEMENTATION PLAN

10. IMPLEMENTATION PLAN

The implementation plan presented in this chapter includes a five-year program for implementation and financing of the recommended service plan along with projections of annual ridership, passenger revenues, capital and operating costs, and operating deficits. Responsibilities for implementation of the service plan and assistance needed to finance the deficits are identified. In addition, the plan discusses several critical factors that must be considered in implementation of the service plan and includes an optional operating plan containing contingencies for responding to RTD cutbacks in service, a pilot demonstration project for general public demand-responsive service, and a proposal for implementation of a new park-and-ride route.

10.1 IMPLEMENTATION CONSIDERATIONS

Implementation of the recommended service plan will depend on four critical factors which should be considered in development of an implementation plan and strategy. First, the 1984 Summer Olympic Games are scheduled to occur in the Los Angeles area in August, 1984. Because of the games, RTD is hesitant to make any route or schedule modifications to the system after January of 1984. Any modifications after that date could not be incorporated into the system map and line timetable updates planned for use during the Olympics. Large numbers of visitors to the games are expected to use the system and RTD wants the system map and schedules to be up-to-date so that the Olympic users of the system are not inconvenienced through inaccurate information. Consequently, the recommended improvements to the fixed-route system should be implemented no later than next January or after the completion of the Olympic Games in August.

The second factor affecting the implementation of the recommended plan is the end of the Proposition A Reduced Fare Program on July 1, 1985. This program is one of three programs financed by Proposition A funds. The other two are for local transit improvements and construction of a rail rapid transit system. Every city in Los Angeles county receives a direct allocation of funds for transit improvements. For the first three years of the program to July, 1985, the balance of the funds is for fare reductions. Funds are also provided for additional service necessary to relieve overcrowding induced by the lower fare. After the first three years of the Fare Reduction Program, the allocation of the Proposition A funds changes and the balance of the funds goes into a discretionary public transit improvement program for purposes defined by the Los Angeles County Transportation Commission (LACTC). It is expected that even with projected sizeable allocations of funds by LACTC for fare stabilization, a fare increase is projected after the program ends on July 1, 1985. It is also likely that there may be some cutbacks in service provided by RTD. If this occurs, the likely areas of cutbacks will be the unproductive lines in the system. Likely candidates for cutbacks in Pomona Valley include the local lines operating exclusively within the valley and lines providing interarea service to cities in the San Gabriel Valley. Because of the prospect of such cutbacks in service to Pomona Valley in July, 1985, it would be undesirable to make any modifications to the fixed-route system after the Olympic Games in August and

then, ten months later when the fare reduction program ends, make further modifications in service. This would severely jeopardize the transit user's perception of service. Consequently, if the recommended fixed-route improvements are not implemented by January of 1984, it will be July, 1985 before the implementation of the improvements can begin. Furthermore, in the event that RTD does cut back service when the fare reduction program ends, it is very likely that the fixed-route system serving Pomona Valley would be limited to regional fixed-route service similar to the regional service proposed under Alternative 3. This could preclude implementation of the recommended system since the base system upon which the recommendations have been developed has been altered. Therefore, at such time it will be necessary to decide upon an alternative system or operational plan.

Third, the prospect of any increase in paratransit funding for demand-responsive service in Pomona Valley is uncertain at this time. Currently, all available transit funds in Los Angeles County are apportioned among the transit operators by LACTC. The funds are apportioned according to a formula that uses revenue vehicle miles and both linked and unlinked passenger trips. There is also a maximum limit on funds apportioned to paratransit operators. The limit is currently 0.25 percent of total Section 9, Transportation Development Act, and State Transit Assistance Act allocations. Unfortunately, paratransit funding in Los Angeles County is already at the limit and under the current limit Pomona Valley cannot expect any increase in the amount of funds that it currently receives. This could seriously jeopardize the implementation of the recommended service plan's expanded demand-responsive services for the elderly and handicapped. However, the limit of 0.25 percent for paratransit funding was arbitrarily established by LACTC and could be revised at any time. In fact, this study provides LACTC the opportunity to assess its policy concerning paratransit funding.

The final factor is whether Pomona Valley will be declared a separate Transportation Zone. With transportation zone status, the area may be able to qualify for federal and state funds necessary to support expanded transit services in Pomona Valley. Without such status, it is unlikely that the area could qualify for federal and state funds--the recommended service plan could not be implemented since no increase in overall service levels would be possible; only the fixed-route service portion of the plan could be implemented. LACTC has the responsibility for deciding whether Pomona Valley warrants Transportation Zone status. Declaration of such status will require a major policy decision by the Commission and, as a result, may take time to be resolved. However, it is expected that the Commission will begin to act upon this matter sometime after completion of this study.

10.2 FIVE-YEAR PROGRAM FOR IMPLEMENTATION OF IMPROVEMENTS IN THE RECOMMENDED SERVICE PLAN

A five-year program for implementation of the improvements in the recommended service plan was developed as part of the overall implementation plan. The program (1) describes the staging of service and capital improvements; (2) presents estimates of the recommended system's total annual capital costs, operating costs, ridership, passenger revenues, and operating deficits; and (3) defines responsibilities for implementation of the improvements in the recommended service plan.

10.2.1 Staging of Improvements

Full implementation of the improvements in the recommended service plan is planned over a multi-year period beginning FY 1983/1984 and ending FY 1987/1988. However, primary emphasis of the implementation program has been placed on the two-year period from FY 1983/1984 through FY 1984/1985. During this period, existing RTD fixed-route service in Pomona Valley would be redeployed and the existing elderly and handicapped demand-responsive service would be expanded. Annual vehicle miles and hours of service under the recommended service plan are shown in Table 10-1.

10.2.1.1 Year One - FY 1983/1984

During the first year of the program, it would first be necessary for the city councils of the four Pomona Valley cities to adopt the recommended service plan and implementation program. It would also be necessary to immediately address and resolve the institutional framework for provision of transit service in Pomona Valley. The plan recommends the establishment of a joint powers agency for ownership of the local demand-responsive service. The joint powers agency could be established through expansion of the powers of the existing joint powers agency used for the provision of elderly and handicapped service in Pomona Valley or creation of a new agency. It is also recommended that all fixed-route service continue to be provided by RTD. This includes both local and regional fixed-route service. In addition to establishment of a joint powers agency for provision of local demand-responsive service, a transit board of directors should be formed to provide policy direction for the agency. This board of directors would consist of members from each of the member cities. It may also be desirable for the board to include a representative from RTD. Following the establishment of a joint powers agency and the forming of a board of directors, a request should be made from LACTC for designation of Pomona Valley as a Transportation Zone. This Transportation Zone designation is necessary for the agency to receive Transportation Development Act, State Transit Assistance, and Section 9 funds.

The first year of the five-year program also includes the implementation of the fixed-route service improvements of the recommended plan. The specific improvements are:

- Modify Line 187 to serve the planned Transcenter in Montclair. The modification consists of the removal of the portion of the line and Towne Avenue between Foothill Boulevard and downtown Pomona, and the extension of the line east of Foothill Boulevard to Claremont Boulevard, south to Sixth Street, and east across the San Bernardino County line to the Transcenter. This new extension would operate at the same service frequency and during the same days and hours of service as currently provided on Line 187.

- Extend Line 480 to the Transcenter in Montclair via Indian Hill Boulevard and Sixth Street in Pomona Valley. Line 480 currently terminates at the Indian Hill Shopping Center in Pomona. The frequency of service on

TABLE .10-1

ANNUAL VEHICLE MILES AND HOURS
OF SERVICE UNDER RECOMMENDED SERVICE PLAN

Program Year	Fixed-Route		Demand-Responsive		Total	
	Vehicle Miles	Vehicle Hours	Vehicle Miles	Vehicle Hours	Vehicle Miles	Vehicle Hours
FY 1983/1984	1,681,837	95,600	N.A.	31,328	1,681,837	126,928
FY 1984/1985	1,672,443	92,432	N.A.	54,202	1,672,443	146,634
FY 1985/1986	1,672,443	92,432	N.A.	54,202	1,672,443	146,634
FY 1986/1987	1,672,443	92,432	N.A.	54,202	1,672,443	146,634
FY 1987/1988	1,672,443	92,432	N.A.	54,202	1,672,443	146,634

Source: Schimpeler·Corradino Associates.

the extension during peak periods and at night would be the same as the existing line. Service during the base period (i.e., 9:00 a.m. to 3:00 p.m. and 6:00 p.m. to 8:00 p.m.) would be half the frequency as on the existing line.

- Modify Line 482 to serve Towne Avenue and northern Claremont. This line currently operates along Holt Boulevard in Pomona and terminates at the Indian Hill Shopping Center. As recommended, it would be re-routed to turn south on Garey Avenue, east on Mission Boulevard, north on Towne Avenue to northern Claremont, east on Base Line Road, and south on Indian Hill Boulevard to Foothill Boulevard. At Foothill Boulevard, buses would turn around and return along the same route. The portion of the line on Holt Boulevard between Garey and Indian Hill Boulevard would be discontinued. This change would remove the duplication of service on this segment. Currently, Lines 482 and 484 operate along Holt Boulevard in Pomona. The frequency of service on the new routing would be the same as on the existing route. However, unlike the existing route, no night or weekend service would be provided on the portion of the new routes between downtown Pomona and northern Claremont. Instead, service would terminate in the vicinity of Mission Boulevard and Gary Avenue in downtown Pomona.

- Discontinue Lines 291/293 and 192/194. Under the recommended plan, these lines would be discontinued and replaced by modifications to existing routes or new routes.

In addition to the route modifications, the first year program includes the implementation of two new routes. The new routes are described below:

- NR-1 would provide north-south service along Garey Avenue between Foothill Boulevard and Country Road in Pomona with a west leg along Foothill and "D" Street in LaVerne. Service on the new route would be operated at thirty-minute frequencies between the hours of 6:00 a.m. and 7:00 p.m., Monday through Friday, with no service on Saturdays and Sundays.

- NR-2 is a new route that would connect the California Polytechnical Institute at Pomona and the residential areas near Ganesha High School and between Mission and Phillips Boulevards with downtown Pomona. The route would basically follow the same streets in these areas as existing lines 192 and 194. Service on the new route would be operated at a thirty-minute frequency between the hours of 6:00 a.m. and 7:00 p.m., Monday through Friday. No weekend service would be provided.

The fixed-route improvements identified above should be considered for implementation as soon as possible following the adoption of the recommended service plan. It is expected that because of the Olympic Games they can be implemented no later than January of this fiscal year. This could be difficult due to the public hearing process required for RTO route changes.

No major demand-responsive system improvements are planned during the first year. The existing elderly and handicapped system and service level would remain in effect. The joint powers agency would initiate the recommended plan for expanding the areawide elderly and handicapped system to include more evening and weekend service. However, before the expanded service can be implemented, the agency will have to decide on a broker for provision of service. The broker will be responsible for the actual operation of the system and could be a private non-profit agency or a profit-making enterprise. Under the first type of brokerage operation, the joint powers agency could continue to contract with Get About Transportation for provision of service or execute a contract with a new private non-profit agency which could be created by the agency and would file applications and purchase vehicles under the Section 16(b)2 program. This private nonprofit agency could provide the service directly or subcontract with a profit-making enterprise for the provision of service. The joint powers agency could as a second option contract with a profit-making enterprise for provision of service. The contract would specify the type of service to be provided and arrangements for equipment to be used in the provision of service. The equipment used could be either owned by the private concern or leased from the agency. If the agency elects to purchase its own equipment and lease it to the broker, capital grants will need to be prepared and submitted for the equipment required during year two of the implementation program. Development of vehicle specifications would then need to be undertaken.

During the first year of the program, a total of approximately 127,000 vehicle hours of service would be operated annually by both the fixed-route and demand-responsive systems. This total includes 96,000 vehicle hours of fixed-route service and 31,000 vehicle hours of demand-responsive service. Vehicle miles of service were not estimated for the demand-responsive system, therefore, the estimate of total system miles includes fixed-route service only. It is estimated that approximately 1,700,000 vehicle miles of fixed-route service will be operated during the first program year. This assumes that the fixed-route service improvements described earlier will be implemented by January of next year.

The implementation program provides for no capital improvements during the first program year. The new routes, route extensions, and other fixed-route service improvements would be implemented using existing equipment.

10.2.1.2 Year Two - FY 1984/1985

The second year program of improvements is concerned primarily with demand-responsive service for the elderly and handicapped. All fixed-route service improvements would have been completed during the latter half of the first year. The second year assumes continuation of the routes and fixed-route service levels from the first year.

Service for the elderly and handicapped would be expanded from six to seven days a week. Hours of service would be from 6:00 a.m. to 7:30 p.m. This is an increase of two hours daily over existing service hours. Service hours on Saturdays and Sundays would be the same as on weekdays. The system would continue to operate on a many-to-many basis and connect with RTD lines which are handicapped accessible and with other demand-responsive systems in the region.

The first major capital improvements could occur during year two of the program. This will, however, depend upon the decision concerning ownership of equipment used in the provision of demand-responsive service for the elderly and handicapped. If the joint powers agency elects to contract with a profit-making enterprise for provision of service using vehicles owned by the agency and leased to the private operator, purchase and delivery of thirteen new vans with wheelchairs would occur during this program year. Likewise, if the agency contracts with a new private non-profit agency, which files for Section 16(b)2 funds, purchase and delivery of thirteen new lift-equipped would also be programmed this year. In addition to the vehicles, necessary supporting equipment and facilities would be necessary. With the delivery of the new vehicles, the expanded elderly and handicapped service could be implemented. These capital improvement requirements would be eliminated if the agency elects to continue the contract with Get About Transportation or contracts with a private enterprise for provision of service using vehicles owned by that private concern.

Vehicle hours of service operated annually by both the fixed-route and demand-responsive system is estimated to total approximately 140,000 during the second year of the program. This estimate represents the first full year of operations under the recommended plan and includes 92,000 vehicle hours of fixed-route service and 54,000 hours of demand-responsive service. Vehicle miles of service were not estimated for the demand-responsive system, therefore, the estimate of total system miles includes only the estimated 1,700,000 miles of fixed-route service.

10.2.1.3 Years Three Through Five - FY 1985/1986 Through FY 1987/1988

No improvements are planned during the final three years of the implementation program. All service and capital improvements in the recommended service plan would have been implemented by the end of the second program year. Therefore, the final three program years call for a continuation of the level of service implemented during year two. However, the level of service may need to be re-evaluated with changes in ridership. A program for monitoring such changes is recommended in the second chapter of this report.

10.2.2 Annual Capital and Operating Costs

Annual capital and operating costs were estimated for each year of the five-year program developed for implementation of the recommended service.

10.2.2.1 Capital Costs

Annual capital costs for the recommended system are listed in Table 10-2. The costs are stated in escalated dollars in the year the expenditures are

TABLE 10-2

ANNUAL CAPITAL COSTS OF RECOMMENDED SERVICE PLAN
(ESCALATED DOLLARS)

Capital Items	FY 1983/1984 Number	FY 1983/1984 Total Cost	FY 1984/1985 Number	FY 1984/1985 Total Cost	FY 1985/1986 Number	FY 1985/1986 Total Cost	FY 1986/1987 Number	FY 1986/1987 Total Cost	FY 1987/1988 Number	FY 1987/1988 Total Cost
Vehicles										
• Vans: Oemand-Responsive Service	0	$0.00	13	$255,810	0	$0.00	0	$0.00	0	$0.00
• Wheelchair Lifts	0	0.00	13	30,108	0	0.00	0	0.00	0	$0.00
• Service Vehicles	0	0.00	1	28,950	0	0.00	0	0.00	0	$0.00
SUBTOTAL		$0.00		$284,868		$0.00		$0.00		$0.00
Facilities										
• Maintenance (per sq. ft.)	0	$0.00	3,900	$451,620	0	$0.00	0	$0.00	0	$0.00
• Office (per sq. ft.)	0	0.00	1,250	86,850	0	0.00	0	0.00	0	0.00
SUBTOTAL		$0.00		$538,470		$0.00		$0.00		$0.00
Maintenance Equipment/Parts	0	$0.00	13	$ 15,054	0	$0.00	0	$0.00	0	$0.00
Communications Equipment										
• Fixed Equipment		$0.00	1	$ 5,790	0	$0.00	0	$0.00	0	$0.00
• Mobile Equipment		0.00	13	22,581	0	0.00	0	0.00	0	0.00
SUBTOTAL		$0.00		$ 28,371		$0.00		$0.00		$0.00
TOTAL		$0.00		$866,763		$0.00		$0.00		$0.00

Source: Schimpeler Corradino Associates.

expected to occur. They are based on the 1983 unit cost estimates and estimated capital requirements identified in the previous chapter. Capital requirements for the recommended system were estimated based on the assumption that the joint powers agency would own the demand-responsive fleet and that RTD would provide the fixed-route service with the existing fleet and facilities. The agency would be responsible for purchasing all vehicles and supporting equipment and facilities necessary to operate the demand-responsive service. These vehicles could then be leased out to the broker under contract for operation of the service. However, the joint powers agency could, on the other hand, contract for service with ownership of the vehicles by the broker. In this case, no capital costs would be incurred in the agency.

The capital improvement program schedule was formulated in accordance with the staging of the service improvements in the five-year implementation program. The program recommends the implementation of expanded service to the elderly and handicapped during FY 1984/1985. Therefore, all vehicles and supporting equipment and facilities necessary to operate the expanded service have been scheduled for implementation during FY 1984/1985 or year two of the five-year program. Capital costs in the second year are estimated to total $867,000, including $285,000 in vehicles; maintenance and office facilities at a cost of $538,000; $15,000 in maintenance equipment and parts; and $28,000 in communications equipment.

No capital improvements are scheduled for implementation during any of the other program years. The first program year would not include any capital improvements since the existing service to the elderly and handicapped would continue to be operated by Get About Transportation. During the final three years of the five-year program, the number of vehicle hours of service provided by the demand-responsive system are expected to remain at the same level as year two. Therefore, no additional vehicles will be required.

10.2.2.2 Operating Costs

Annual operating costs for the recommended system for each year of the five-year program are shown in Table 10-3. The costs are based on the cost rates previously used for the evaluation of the service alternatives and the number of vehicle hours and miles of service programmed over each year of the five-year period. The cost rates used varied by type of service (i.e., fixed-route or demand-responsive). For fixed-route service, RTD operating costs per vehicle mile were used in estimating annual operating costs of the recommended system. Operating costs of the recommended demand-responsive system were estimated using the cost per vehicle hour rate for brokerage of service through private enterprise. The cost rates used represent FY 1982/1983 costs and were escalated to represent the effects of future increases in wages, fuel and oil, and equipment maintenance costs. RTD inflation factors were used to escalate the FY 1982/1983 cost rates to the appropriate year of implementation.

TABLE 10-3

ANNUAL OPERATING COSTS OF RECOMMENDED SERVICE PLAN
(ESCALATED DOLLARS)

Program Year	Fixed Route	Demand-Responsive	Total
1983/1984	$5,987,340	$ 807,949	$6,795,298
1984/1985	6,321,835	1,348,004	7,669,839
1985/1986	6,689,772	1,424,971	8,114,743
1986/1987	7,191,505	1,533,375	8,724,880
1987/1988	7,559,442	1,611,425	9,170,867

Source: Schimpeler•Corradino Associates.

As shown in Table 10-3, total annual operating costs are estimated to increase from $6,800,000 in FY 1983/1984 to $9,200,000 in FY 1987/1988. Annual operating costs of the fixed-route system are estimated to increase from $6,000,000 to $7,600,000 over the five-year period. During the same period, operating costs of the demand-responsive system are estimated to increase from $800,000 in FY 1983/1984 to $1,600,000 in FY 1987/1988.

10.2.3 Annual Ridership and Revenue

Annual ridership and passenger revenues were also estimated for each year of the five-year program. The estimates were developed in accordance with the staging of the service improvements and the level of service to be provided during each year of the program. Ridership for the recommended system over the five-year program period is assumed to parallel population growth in Pomona Valley. Population growth projections developed for Pomona Valley by the Southern California Association of Governments were used to develop the forecasts of annual ridership. The projections indicate modest increases in population for the next five years.

Actual ridership and passenger revenues realized under the five-year program will depend to a large extent upon the fares charged by the fixed-route and demand-responsive systems. As shown by the results of the sensitivity analysis of fare impacts conducted earlier for the recommended service plan, increases in fares will result in substantially lower ridership levels and increased passenger revenues. The increased passenger revenues can in turn lower operating deficits to be funded from revenues from outside sources. Consequently, it is important for financial planning purposes to have realistic estimates of passenger revenues. For this reason, annual ridership and revenue for each program year were estimated under three different fare scenarios. The first scenario assumes no fare increases over the next five years. The second scenario assumes moderate fare increases, beginning with an increase in the base fare for the fixed-route system from $0.50 to $0.75

at the end of the Proposition A Fare Reduction Program in FY 1985/1986. Annual increases to $0.85 in FY 1986/1987 and to $0.95 in FY 1987/1988 are assumed in order to account for expected future inflationary costs. This scenario also assumes that the fare for the demand-responsive system would increase from $1.00 to $1.50 in FY 1985/1986, with annual increases to $1.65 in FY 1986/1 987 and to $1.80 in FY 1987/1988. The third scenario assumes steep fare increases over the next five years for the fixed-route system, beginning with an increase in the base fare from $0.50 to $1.00 in FY 1985/1986 and annual increases to $1.15 in FY 1986/1987 and to $1.30 in FY 1987/1988. These fares used in the implementation program are based on realistic assumptions of what is expected today. The actual fare increases, if any, will ultimately depend upon the amount of discretionary funding allocated for fare subsidies by the Los Angeles County Transportation Commission. Nevertheless, the fare scenarios analyzed do show the effects on ridership, revenues, and operating deficits of a range of fare policy assumptions.

10.2.3.1 Ridership

Annual ridership for the recommended system for each year of the five-year program is shown in Table 10-4. Included in the table is a comparison of estimated annual passenger boardings for the recommended system under the three assumed fare scenarios. A breakdown of the total system ridership into fixed-route and demand-responsive ridership is also included. Review of the results of this comparison indicates that:

- Without any increase in the existing fare structure, annual ridership for the total system would increase from 2,369,000 in FY 1983/1984 to 2,724,000 in FY 1987/1988, an increase of approximately fifteen percent. During the same period, annual ridership for the fixed-route system would increase from 2,267,000 to 2,390,000 or by five percent. Demand-responsive system ridership would increase from 102,000 to 334,000 annually, an increase of over threefold. The reason for the large increases in demand-responsive system ridership is that the system would not be implemented until the second year of the program. At that time, service would be greatly expanded and ridership would more than triple over the previous year's level. Modest increases are predicted for the final three years of the program.

- With moderate fare increases, total annual ridership would decline from 2,369,000 in FY 1983/1984 to 2,332,000 in FY 1987/1988, a decline of almost two percent. Annual ridership for the fixed-route system would decrease from 2,267,000 to 2,043,000 or by ten percent over the same period. On the other hand, demand-responsive system ridership would more than double, increasing from 102,000 in FY 1983/1984 to 289,000 in FY 1987/1988. The reason for the contrasting ridership projections for the demand-responsive system is that the ridership losses from the fare increases in the final three years of the program are not great enough to offset

TABLE 10-4

ANNUAL RIDERSHIP OF RECOMMENDED SERVICE PLAN

Program Year	No Fare Increases[1]			Moderate Fare Increases[2,3,4]			Steep Fare Increases[2,4,5]		
	Fixed-Route	Demand-Responsive	Total	Fixed-Route	Demand-Responsive	Total	Fixed-Route	Demand-Responsive	Total
FY 1983/1984	2,267,308	101,700	2,369,008	2,267,308	101,700	2,369,008	2,267,308	101,700	2,369,008
FY 1984/1985	2,305,852	321,984	2,627,836	2,305,852	321,984	2,627,836	2,305,852	321,984	2,627,836
FY 1985/1986	2,333,522	325,848	2,659,370	2,100,700	293,263	2,393,433	1,866,818	293,263	2,160,081
FY 1986/1987	2,361,524	329,758	2,691,282	2,067,987	290,847	2,358,834	1,832,543	290,847	2,123,390
FY 1987/1988	2,389,862	333,715	2,723,577	2,042,576	289,039	2,331,615	1,806,315	289,039	2,095,354

[1]Based on a constant of 50¢ base fare for the fixed-route system and a $1.00 fare for the demand-reponsive system.

[2]Based on SCAG growth projections of 1.7 percent annually between 1980 and 1985 and 1.2 percent annually between 1985 and 1988.

[3]Based on a 75¢ base for the fixed-route system beginning FY 1985/1986 with annual increases to 85¢ in FY 1986/1987 and to 95¢ in 1987/1988, and a $1.60 base fare for the demand-responsive system with annual increases to $1.65 in 1986/87 and to $1.80 in 1987/1988.

[4]Assumes a fare elasticity of demand of -0.20.

[5]Based on a $1.00 base fare for the fixed-route system beginning FY 1985/1986 with annual increases to $1.15 in FY 1986/1987 and to $1.30 in FY 1987/1988; fares for the demand-responsive system would be the same as under the moderate fare assumptions.

Source: Schimpeler·Corradino Associates.

the huge increase in ridership experienced in the second year of the program when the expanded system is implemented. The recommended fixed-route system, on the other hand, will be implemented during the first program year; hence, the ridership increases are more modest during the first two program years before the fare increases are implemented. Thereafter, the ridership gains made during the first two program years are lost due to the reduced ridership resulting from the fare increases. Moreover, any annual growth in ridership due to increases in population and employment is not great enough to offset the ridership loss from the fare increases.

- With steep fare increases, annual ridership for the total system would decline from 2,369,000 in FY 1983/1984 to 2,100,000 in FY 1987/1988, a decline of 269,000 passengers or eleven percent over the five-year period. During the same period, fixed-route system ridership would decrease from 2,267,000 to 1,800,000 annual passenger boardings. This represents a decrease of about 21 percent. Ridership for the demand-responsive system under this fare scenario would be the same as under the moderate fare increases since the fares changed would be the same under both scenarios.

10.2.3.2 Revenues

Table 10-5 presents the results of a comparison of potential passenger revenues and estimated operating deficits for the recommended system for each year of the five-year program under the three assumed fare scenarios. Operating deficit is the portion of operating costs not covered by passenger revenues collected from the farebox. The operating deficit incurred by the system must be met by revenues from outside funding sources. This comparison of passenger revenues and operating deficits established the basis for development of a financing plan for the recommended system which is to be discussed later in this chapter. The important findings from this comparison are that:

- Without any increases in fares, the operating deficit for the recommended system will increase from $5,489,000 in FY 1983/1984 to $7,547,000 in FY 1987/1988, an increase of almost 38 percent. This is based on increases in passenger revenues from $1,326,000 to $1,624,000 compared to increases in operating costs from $6,796,000 to $9,171,000. In short, operating costs for the total system are expected to increase by 35 percent over the next five years while passenger revenues are expected to increase by only 22 percent. During the same five-year period, the operating deficit for the fixed-route system is estimated to increase from $4,763,000 to $6,269,000 or by 32 percent, while the deficit for the demand-responsive system is estimated to increase from

TABLE 10-5

ANNUAL PASSENGER REVENUES AND OPERATING DEFICITS
OF RECOMMENDED SERVICE PLAN

No Fare Increases

Program/Year	Passenger Revenue FR	Passenger Revenue DR	Passenger Revenue Total	Operating Deficit FR	Operating Deficit DR	Operating Deficit Total
FY 1983/1984	$1,224,346	$101,700	$1,326,046	$4,762,994	$ 706,249	$5,469,243
FY 1984/1985	1,245,160	321,984	1,567,144	5,076,675	1,026,020	6,102,695
FY 1985/1986	1,260,102	325,858	1,585,950	5,429,670	1,099,123	6,528,793
FY 1986/1987	1,275,223	329,758	1,604,981	5,916,282	1,203,617	7,119,899
FY 1987/1988	1,290,525	333,715	1,624,240	6,268,917	1,277,710	7,546,627

Moderate Fare Increases

Program/Year	Passenger Revenue FR	Passenger Revenue DR	Passenger Revenue Total	Operating Deficit FR	Operating Deficit DR	Operating Deficit Total
FY 1983/1984	$1,224,346	$101,700	$1,326,046	$4,762,941	$ 706,249	$5,469,243
FY 1984/1985	1,245,160	321,984	1,567,144	5,076,675	1,026,020	6,102,695
FY 1985/1986	1,701,138	439,894	2,141,032	4,988,634	985,077	5,973,711
FY 1986/1987	1,902,548	479,898	2,382,446	5,288,957	1,053,477	6,342,434
FY 1987/1988	2,103,853	520,270	2,624,123	5,455,589	1,091,155	6,546,744

Steep Fare Increases

Program/Year	Passenger Revenue FR	Passenger Revenue DR	Passenger Revenue Total	Operating Deficit FR	Operating Deficit DR	Operating Deficit Total
FY 1983/1984	$1,224,346	$101,700	$1,326,046	$4,762,994	$ 706,249	$5,469,243
FY 1984/1985	1,245,160	321,984	1,567,144	5,076,675	1,026,020	6,102,695
FY 1985/1986	2,016,163	439,894	2,456,057	4,673,609	985,077	5,658,686
FY 1986/1987	2,272,353	479,898	2,752,251	4,919,152	1,053,477	5,972,629
FY 1987/1988	2,528,841	520,270	3,049,111	5,030,601	1,091,155	6,121,756

FR - Fixed-route.
DR - Demand-responsive.

Source: Schimpeler·Corradino Associates.

$706,000 to $1,278,000, or by 81 percent. This large percentage increase for the demand-responsive system is due to greatly expanded service that would be provided. It is evident from this analysis of passenger revenues and operating deficits that the increase in revenues from ridership growth alone will not be able to keep pace with the expected rise in operating costs. Unless sources of outside revenues are discovered, fares will have to be increased and the level of service reduced.

- With moderate fare increases over the five-year program period, the difference between no fare increases and moderate fare increases is an increase of $1,078,000, or twenty percent, in the total deficit rather than $2,078,000, or 38 percent. Under this fare scenario, the total operating deficit would increase from $5,469,000 in FY 1983/1984 to $6,547,000 in FY 1987/1988. This is based on increases in passenger revenues from $1,326,000 to $2,624,000, or a total of $1,298,000, compared to an increase in operating costs from $6,796,000 to $9,171,000, or a total of $2,375,000. At the same time, the operating deficit for the fixed-route system is estimated to increase from $4,763,000 to $5,456,000 or by fifteen percent, while the deficit for the demand-responsive system is estimated to increase from $706,000 to $1,091,000, or by 54 percent. These deficit increases are significantly less than the 32 percent and 81 percent increases estimated for the fixed-route and demand-responsive systems, respectively, under the no fare increase scenario. However, even with the moderate fare increases, a large operating deficit will remain. This deficit must be met by revenues from outside funding sources or the level of service will have to be reduced.

- With steep fare increases, total passenger revenues would increase from $1,326,000 in FY 1983/1984 to $3,049,000 in FY 1987/1988. Compared to an operating cost increase from $6,796,000 to $9,171,000 over the same period, the increase in the total operating deficit will amount to $653,000, or twelve percent. This deficit increase is far below the $2,078,000 deficit noted under the no fare increase scenario or the $1,078,000 deficit under the moderate fare increase scenario. Likewise, the operating deficits for the fixed-route system would also be less. The deficit for the fixed-route system under this scenario would increase from $4,763,000 to $5,031,000 over the five-year period. This represents an increase of $268,000, or six percent, compared to increases of 32 and 15 percent under the no fare and moderate fare increase scenarios, respectively. The operating deficit increase for the demand-responsive system would be the same as under the moderate fare increase scenario since the

change in fares would not differ. The outcome of this final analysis of passenger revenues and operating deficits is that the deficit can be reduced with steep fare increases; however, the reduction is at the expense of losses in ridership even though the losses are not great enough to reduce overall passenger revenues. These ridership losses will however necessitate cutbacks in service which will cause further ridership declines.

10.2.4 Implementation Responsibilities

Responsibilities for implementation of the recommended service plan are identified in Figure 10-1. This figure lists the major strategies necessary to implement the recommended plan and identifies the agencies responsible for implementation of each strategy. Most of the responsibilities would be shared by the individual Pomona Valley cities, the new joint powers agency, and RTD. Other agencies with implementation responsibilities include the Los Angeles County Transportation Commission (LACTC), San Bernardino Association of Governments (SANBAG), Southern California Association of Governments (SCAG), Get About Transportation or the new demand-responsive service broker, and OMNITRANS. LACTC would have primary responsibility for establishment of a transportation zone in Pomona Valley. SANBAG and OMNITRANS would have responsibility for coordination of routes and schedules of the OMNITRANS system with the RTD lines that are planned to serve San Bernardino County. Get About Transportation or the new broker would share in the responsibility for expanding service to the elderly and handicapped residents of Pomona Valley.

10.3 FINANCING OF RECOMMENDED SERVICE PLAN

In addition to the implementation program, a five-year plan for financing the recommended system was developed as part of the overall implementation plan. The financing plan includes projected estimates of annual capital and operating costs and of passenger revenues from the recommended system. It also identifies outside sources for financing the system and provides estimates of available capital and operating assistance. The equity of service in relation to Proposition A funds received by the individual Pomona Valley cities is also evaluated.

10.3.1 Estimated Financial Resources

Assistance in financing the recommended service plan is available from federal, state, and local sources. Section 9 program funds from the Urban Mass Transportation Administration (UMTA) are the primary source of federal assistance available. However, some assistance in financing transportation for the elderly and handicapped is available under social service programs administered by the Department of Health and Human Services (HHS). Other sources of federal assistance include Section 3 and 16(b)2 program funds from UMTA. These two federal programs provide discretionary funds for transit capital improvements. However, since the funds are allocated on a discretionary basis, they cannot be relied upon for financing the recommended service plan and improvement program. Sources of state assistance include Transportation Development Act (TDA) and State Transit Assistance Program

Figure 10-1
IMPLEMENTATION RESPONSIBILITIES

Implementation Strategies	Responsible Agency						
	Pomona Valley Cities	New Joint Powers Agency	Southern California Rapid Transit District	Los Angeles County Transportation Commission	San Bernardino Association of Governments	Get About Transportation/Broker	OMNITRANS
• Adoption of Plan	■		■				
• Establishment of Joint Powers Agency	■						
• Designation of Transportation Zone	■			■			
• Contract for Brokerage of Service		■				■	
• Acquisition of Vehicles, Equipment, and Facilities for Demand-Responsive Service	■	■				■	
• Modify Fixed-Route Service		■	■		■		■
• Expand Demand-Responsive Service						■	

Source: Schimpeler-Corradino Associates.

(STA) funds. Assistance under the former program can be used for financing both operating and capital expenditures while assistance under the latter program can be used only for operating expenditures and capital improvements for rail projects. The primary local source of assistance is Proposition A funds.

Estimates of the funds that may be available to Los Angeles County and Pomona Valley from the above sources are identified in Table 10-6. The five-year forecasts of Section 9, TDA and STA, funds were developed by the Southern California Association of Governments (SCAG) for purposes of this study. These funding forecasts assume that Pomona Valley will be declared a Transportation Zone by LACTC and that the 0.25 percent maximum limit on funds apportioned to paratransit operators will be removed. If these funding assumptions do not prove to be correct, then implementation of the service levels in the recommended service plan could be seriously jeopardized. The forecasts of Proposition A funds were developed by LACTC. They reflect the amounts available to the cities. Estimates of available funds from federal social service programs for FY 1983/1984 were obtained from Get About Transportation and forecast to future years using inflation rates used by SCAG in forecasting funds from the other sources. Appendix H contains memoranda from SCAG and LACTC regarding the development of the financial estimates.

Review of available resources for Los Angeles County indicates that a total of $343 million dollars is potentially available for transit in FY 1983/1984 from federal, state, and local sources. This total is expected to increase to $425 million in FY 1987/1988. The largest single source of assistance is Proposition A funds with $54.4 million available to cities the county in FY 1983/1984. Funds from Proposition A are estimated to increase to $66.1 million in FY 1987/1988. Assistance from federal and state sources is estimated to total $289 million in FY 1983/1984, increasing to $359 million in FY 1987/1988.

Potential financial resources available for transit in Pomona Valley are also shown in Table 10-6. Resources available from Section 9, TDA, and STA sources were estimated based on vehicle hours operated and passengers carried annually under the recommended service plan developed for Pomona Valley. Funds from these sources are normally apportioned to transit operators in Los Angeles County according to a formula that uses revenue vehicle miles (50 percent), unlinked passenger trips (25 percent), and linked passenger trips (25 percent). However, for this study, vehicle hours and passenger boardings were used in lieu of these formula variables. Proposition A resources for Pomona Valley were estimated on the basis of the ratio of population in Pomona Valley to the population of Los Angeles County.

The resources available to Pomona Valley are estimated to total $4.4 million in FY 1983/1984 and increase to $6 million in FY 1987/1988. Of this total, Proposition A funds are estimated to account for $1.3 million in FY 1983/1984 increasing to $1.6 million in FY 1987/1988. This source is the largest single source of assistance for transit in Pomona Valley. Section 9 federal capital assistance is estimated to provide $761,000 in funds in FY 1983/1984 and increase to $1 million in FY 1985/1986 and remain at that level through FY 1987/1988. Operating assistance from the Section 9 program is estimated to total $573,000 in FY 1983/1984 and increase to $654,000 in FY 1984/1985 and

TABLE 10-6

ESTIMATED ANNUAL FINANCIAL RESOURCES FOR TRANSIT SERVICES
IN LOS ANGELES COUNTY AND POMONA VALLEY

Source	Los Angeles County ($1,000's)					Pomona Valley ($1,000's)				
	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
UMTA Section 9 Capital Assistance	$ 73,000	$ 83,000	$ 87,000	$ 87,000	$ 87,000	$ 761	$ 986	$1,034	$1,034	$1,034
UMTA Section 9 Operating Assistance	55,000	55,000	55,000	55,000	55,000	573	654	654	654	654
Transportation Development Act	138,000	150,000	163,000	176,000	187,000	1,438	1,783	1,937	2,092	2,222
State Transit Assistance	23,000	25,000	25,000	28,000	30,000	240	297	297	333	357
Social Service Programs	N.A.	N.A.	N.A.	N.A.	N.A.	88	93	99	105	109
SUBTOTAL	$289,000	$313,000	$330,000	$346,000	$359,000	$3,100	$3,813	$4,021	$4,218	$4,376
Proposition A	54,400	57,100	60,000	63,500	66,100	1,310	1,380	1,450	1,534	1,595
TOTAL	$343,400	$370,100	$390,000	$409,500	$425,100	$4,410	$5,193	$5,471	$5,752	$5,971

Source: Southern California Association of Governments.
Los Angeles County Transportation Commission.
Schimpeler-Corradino Associates.

remain at that level through FY 1987/1988. TDA and STA assistance is estimated to provide $1,438,000 and $240,000 in funds, respectively, in FY 1983/1984. Funds from these two state sources is estimated to increase to $2,200,000 and $357,000, respectively in FY 1987/1988. The remaining source of transit assistance is social service program funds for elderly and handicapped transportation. This source of assistance is expected to generate $88,000 in funds in FY 1983/1984 and increase to $109,000 by FY 1987/1988. Collectively, all federal and state sources are estimated to provide $3.1 million in assistance in FY 1983/1984 and increase to $4.4 million in FY 1987/1988.

The financial resources available for transit in Pomona Valley will be used to fund both the RTD fixed-route service and the local demand-responsive service operated by the joint powers agency. Like the apportionment of Section 9, TDA, and STA funds among the transit operators in the county, it is assumed that all federal and state resources available for transit in Pomona Valley will be apportioned on a formula basis using either vehicle miles or hours of service and passenger boardings. It is assumed that all local Proposition A funds will be used to support the operation of local demand-responsive service. Based on these assumptions and the estimated annual number of vehicle hours and passenger boardings under the recommended service plan, annual financial resources estimated for fixed-route and demand-responsive service for each year of the five-year program are shown in Table 10-7.

Of the total federal and state financial resources available for transit in Pomona Valley, it is estimated that the fixed-route service apportionment will be approximately $2.4 million in FY 1983/1984, compared to a demand-responsive service apportionment of almost $700,000. The latter apportionment is estimated to increase to $1.2 million when the expanded elderly and handicapped demand-responsive service is implemented during FY 1984/1985. By FY 1987/1988, the fixed-route and demand-responsive service apportionments of federal and state assistance are estimated to total $2.9 million and $1,4 million, respectively. In addition to the federal and state apportionments, $1.3 will be available locally from Proposition A funds. These funds are estimated to increase to $1.6 million in FY 1987/1988. Including the Proposition A funds, total financial resources available for local demand-responsive service in Pomona Valley is estimated at $2 million in FY 1983/1984 and is estimated to increase to $3 million in FY 1987/1988.

10.3.2 Five-Year Financing Plans for Capital and Operating Costs

Based on the foregoing funding analysis and the estimated capital and operating costs of the recommended service plan, five-year plans for financing the capital and operating costs of the recommended plan were developed. The plans developed provide RTD and the Pomona Valley policy makers and residents with five-year forecasts of capital and operating costs and passenger revenues and an annual cash flow analysis reflecting operating deficits, federal, state, and local funding requirements, and net deficits.

TABLE 10-7

ESTIMATED ANNUAL FINANCIAL RESOURCES FOR FIXED-ROUTE AND DEMAND RESPONSIVE SERVICE IN RECOMMENDED SERVICE PLAN

Source	RTD Fixed-Route Service					Local Demand-Responsive Service				
	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
UMTA Section 9 Capital Assistance	$ 610,718	$ 679,355	$ 712,095	$ 712,095	$ 712,095	$ 150,088	$ 307,017	$ 321,813	$ 321,813	$ 321,813
UMTA Section 9 Operating Assistance	460,130	450,175	450,175	450,175	450,175	113,080	203,445	203,445	203,445	203,445
Transportation Development Act	1,154,508	1,227,750	1,334,155	1,440,560	1,530,595	283,728	554,850	602,939	651,024	691,713
State Transit Assistance	192,418	204,625	204,625	229,180	245,550	47,288	92,475	92,475	103,572	110,970
Social Service Programs	0	0	0	0	0	87,578	93,052	98,857	104,580	108,726
SUBTOTAL	$2,417,774	$2,561,905	$2,701,050	$2,832,010	$2,938,415	$ 681,762	$1,250,839	$1,319,529	$1,384,434	$1,436,667
Proposition A	N.A.	N.A.	N.A.	N.A.	N.A.	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
TOTAL	$2,417,774	$2,561,905	$2,701,050	$2,832,010	$2,938,415	$1,991,762	$2,630,839	$2,769,529	$2,918,434	$3,031,667

Source: Southern California Association of Governments.
Los Angeles County Transportation Commission.
Schimpeler-Corradino Associates.

10.3.2.1 Capital Cost Financial Plan

Table 10-8 presents the proposed financing plan for capital costs. Included in the table is the estimated annual total capital outlay, loan interest and amortization cost, federal and state capital funding requirements, and net local cost for each program year between FY 1983/1984 and FY 1987/1988. The total cumulative capital outlay over the five-year program is estimated at approximately $867,000. This cost was then amortized at a ten percent interest rate assuming a loan period of four years. Amortization of capital costs and loan interest amounts to approximately $273,000 annually. The period of amortization for the vehicles and equipment is based on the expected life cycle of vehicles. Amortization of the fixed facilities assumes the same loan period as for vehicles and equipment.

Sources of capital assistance include UMTA Section 9 and TDA program funds. Assistance from the Section 9 program can be used to fund up to eighty percent of the cost of capital improvements. The estimates of annual Section 9 capital assistance shown in the financial plan represent eighty percent of the estimated annual cost of loan interest and amortization. No estimate of Section 9 capital assistance is shown for FY 1983/1984 since no capital expenditures would occur during this fiscal year. These estimates of Section 9 capital assistance represent far less than the total annual apportionments of Section 9 assistance for demand-responsive service in Pomona Valley. The capital improvements programmed for implementation are not great enough to utilize all of these funds available. The excess funds would be diverted back to the region.

Assistance from the TDA program can be used to fund both capital and operating expenditures. Of the total TDA apportionment for transit services in Pomona Valley, at least fifteen percent must be allocated for capital assistance, while the remaining 85 percent can be used for operating assistance. However, the capital improvements programmed for implementation are not great enough to utilize the allocated fifteen percent of the total TDA apportionment. The TDA assistance shown in the financial plan represents the balance of assistance required after Section 9 capital assistance is subtracted from the amortized cost and loan interest. The excess TDA capital funds available would be diverted back to the region. The estimates of TDA capital assistance shown in the financial plan represent fifteen percent of the total annual apportionment for demand-responsive transit service in Pomona Valley.

Total capital assistance from both the Section 9 and TDA programs is estimated to amount to $273,000 annually between FY 1984/1985 and 1987/1989. No estimate of capital assistance is provided in the financial plan for FY 1983/1984 because no capital improvements are planned. The estimated annual assistance is expected to fund the entire cost of loan interest and amortization of capital costs. The outcome of this financial plan is that the capital improvements included in the recommended service plan will result in no local cost to Pomona Valley residents.

10.3.2.2 Operating Costs Financial Plan

Financial plans for operating costs were developed for each of the three assumed fare scenarios (i.e., no fare increases, moderate fare increases, and

TABLE 10-8

FINANCIAL PLAN FOR CAPITAL COSTS OF RECOMMENDED SERVICE PLAN
(ESCALATED DOLLARS)

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Total Capital Outlay	$ 0[1]	$866,763	$ 0	$ 0	$ 0
Loan Interest and Amortization of Capital Costs[2]	$ 0	$273,438	$273,438	$273,438	$273,438
Potential Annual Capital Assistance					
• UMTA Section 9[3]	$ 0	$218,990	$218,990	$218,990	$218,990
• Transportation Development Act[4]	0	54,448	54,448	54,448	54,448
• Total	$ 0	$273,438	$273,438	$273,438	$273,438
Estimated Annual Local Cost	$ 0	$ 0	$ 0	$ 0	$ 0

[1]Does not include current outlays by Get About Transportation.

[2]Based on an annual interest rate of ten percent with all facilities and equipment amortized over four years.

[3]Assumes Section 9 funds can be used to fund eighty percent of annual costs.

[4]Assumes fifteen percent of TDA funds can be used for capital outlays.

Source: Schimpeler-Corradino Associates.

steep fare increases). This was necessary because the operating deficit to be financed using federal, state, and local assistance would vary under each scenario. The financial plans developed include estimated annual operating costs, passenger revenues, and operating deficits for each program year between FY 1983/1984 and FY 1987/1988. Estimates of federal, state, and local assistance needed to finance the operating deficits are also included along with the net annual operating deficits or surpluses after available funds are subtracted from the operating deficits. The net annual operating deficit or surplus is the most important line item included in the financial plan.

It should be noted that the estimates of Section 9 assistance in the financial plans should represent 100 percent of the apportioned funds available to Pomona Valley for operating expenditures. The estimates of TDA assistance represent 85 percent of the total annual apportionment; the remaining fifteen percent of the funds are reserved for capital expenditures. The estimates of STA assistance represent all of the apportioned funds since there is no requirement that a certain portion be reserved for capital expenditures.

No Fare Increase Scenario: The financing plan for operating costs under the assumption that fares would remain unchanged over the next five years is presented in Table 10-9. It is estimated under this assumption that the total annual operating deficit would increase from about $5.5 million in FY 1983/1984 to $7.5 million in FY 1987/1988. Total annual operating assistance over the same period is estimated to increase from $3.4 million in FY 1983/1984 to $4.6 million in FY 1987/1988. This yields a total net annual operating deficit ranging from about $2 million in FY 1983/1984 to $2.7 million in FY 1987/1988. A breakdown of this last statistic by service type indicates that the net annual operating deficit of the RTD fixed-route system is estimated to increase from $3.1 million to $4.2 million over the five-year period if fares are not increased. The current deficit of $3.1 million is being offset by Proposition A fare subsidies, however, this program is expected to terminate at the end of FY 1984/1985 in July, 1985. Unless the subsidies are continued, some level of cutback in service can be expected. Unlike the fixed-route system, the local demand-responsive system is expected to incur a net operating surplus after available assistance is subtracted from op erating deficits. The surplus is expected to increase from $1.1 million in FY 1983/1984 to $1.3 million in FY 1987/1988. These surpluses are the result of local Proposition A monies, and unless the paratransit funding limit on federal and state assistance is removed by LACTC in the future, the surpluses will not be realized.

Moderate Fare Increase Scenario: Table 10-10 presents the financing plan for operating costs under the assumed scenario of moderate fare increases. It is estimated that under this scenario the total annual operating deficit would increase from $5.5 million in FY 1983/1984 to $6.5 million in FY 1987/1988. Over the same period, transit operating assistance and Proposition A funds are estimated to increase from $3.4 million to $4.6 million. Therefore, with moderate fare increases, the net annual operating deficit after outside assistance is subtracted will decline from about $2 million in FY 1983/1984 to $1.9 million in FY 1987/1988. However, a breakdown by service type shows that the net annual operating deficit of the RTD fixed-route will instead show an increase from $3.1 to $3.5 million over

TABLE 10-9

FINANCIAL PLAN FOR OPERATING COSTS OF RECOMMENDED SERVICE PLAN WITH NO FARE INCREASES

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Annual Operating Costs					
• RTD Fixed-Route Service	$5,987,340	$6,321,835	$6,689,772	$7,191,505	$7,559,442
• Local Demand-Responsive Service	807,949	1,348,004	1,424,971	1,533,375	1,611,425
• Total	$6,795,289	$7,669,839	$8,114,743	$8,724,880	$9,170,867
Potential Annual Passenger Revenues					
• RTD Fixed-Route Service	$1,224,346	$1,245,160	$1,260,102	$1,275,223	$1,290,525
• Local Demand-Responsive Service	101,700	321,984	325,848	329,758	333,715
• Total	$1,326,046	$1,567,144	$1,585,950	$1,604,981	$1,624,240
Estimated Annual Operating Deficit					
• RTD Fixed-Route Service	$4,762,994	$5,076,675	$5,429,670	$5,916,282	$6,268,917
• Local Demand-Responsive Service	706,249	1,026,020	1,099,123	1,203,617	1,277,710
• Total	$5,469,243	$6,102,695	$6,528,793	$7,119,899	$7,546,627
Potential Annual Operating Assistance					
• RTD Fixed-Route Service					
- UMTA Section 9	$ 460,130	$ 450,175	$ 450,175	$ 450,175	$ 450,175
- Transportation Development Act	981,332	1,043,587	1,134,032	1,224,476	1,301,006
- State Transit Assistance	192,418	204,625	204,625	229,180	245,550
- Subtotal Federal and State Assistance	$1,633,880	$1,698,387	$1,788,832	$1,903,831	$1,996,731
• Local Demand-Responsive Service					
- UMTA Section 9	$ 113,080	$ 203,445	$ 203,445	$ 203,445	$ 203,445
- Transportation Development Act	241,169	471,622	512,498	553,370	587,956
- State Transit Assistance	47,288	92,475	92,475	103,572	110,970
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Subtotal Federal and State Assistance	$ 489,115	$ 860,594	$ 907,275	$ 964,967	$1,011,097
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Subtotal Local Funds	$1,799,115	$2,240,594	$2,357,275	$2,498,967	$2,606,097
• Total RTD and Local Funds					
- UMTA Section 9	$ 573,210	$ 653,620	$ 653,620	$ 653,620	$ 653,620
- Transportation Development Act	1,222,501	1,515,209	1,646,530	1,777,846	1,888,962
- State Transit Assistance	239,706	297,100	297,100	332,752	356,520
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Total Federal and State Assistance	$2,122,995	$2,558,981	$2,696,107	$2,868,798	$3,007,828
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Total	$3,432,995	$3,938,981	$4,146,107	$4,402,798	$4,602,828
Estimated Net Annual Operating Deficit (Surplus)					
• RTD Fixed-Route Service	$3,129,114	$3,378,288	$3,640,838	$4,012,451	$4,272,186
• Local Demand-Responsive Service	(1,092,866)	(1,214,574)	(1,258,152)	(1,295,350)	(1,328,387)
• Total	$2,036,248	$2,163,714	$2,382,686	$2,717,101	$2,943,799

Source: Schimpeler-Corradino Associates.

TABLE 10-10

FINANCIAL PLAN FOR OPERATING COSTS OF RECOMMENDED SERVICE PLAN WITH MODERATE FARE INCREASES

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Annual Operating Costs					
• RTD Fixed-Route Service	$5,987,340	$6,321,835	$6,689,772	$7,191,505	$7,559,442
• Local Demand-Responsive Service	807,949	1,348,004	1,424,971	1,533,375	1,611,425
• Total	$6,795,289	$7,669,839	$8,114,743	$8,724,880	$9,170,867
Potential Annual Passenger Revenues					
• RTD Fixed-Route Service	$1,224,346	$1,245,160	$1,701,138	$1,902,548	$2,103,853
• Local Demand-Responsive Service	101,700	321,984	439,894	479,898	520,270
• Total	$1,326,046	$1,567,144	$2,141,032	$2,382,446	$2,624,123
Estimated Annual Operating Deficit					
• RTD Fixed-Route Service	$4,762,994	$5,076,675	$4,988,634	$5,288,957	$5,455,589
• Local Demand-Responsive Service	706,249	1,026,020	985,077	1,053,477	1,091,155
• Total	$5,469,243	$6,102,695	$5,973,711	$6,342,434	$6,546,744
Potential Annual Operating Assistance					
• RTD Fixed-Route Service					
- UMTA Section 9	$ 460,130	$ 450,175	$ 450,175	$ 450,175	$ 450,175
- Transportation Development Act	981,332	1,043,587	1,134,032	1,224,476	1,301,006
- State Transit Assistance	192,418	204,625	204,625	229,180	245,550
- Subtotal Federal and State Assistance	$1,633,880	$1,698,387	$1,788,832	$1,903,831	$1,996,731
• Local Demand-Responsive Service					
- UMTA Section 9	$ 113,080	$ 203,445	$ 203,445	$ 203,445	$ 203,445
- Transportation Development Act	241,169	471,622	512,498	553,370	587,956
- State Transit Assistance	47,288	92,475	92,475	103,572	110,970
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Subtotal Federal and State Assistance	$ 489,115	$ 860,594	$ 907,275	$ 964,967	$1,011,097
- Proposition A	1,310,000	$1,380,000	$1,450,000	$1,534,000	$1,595,000
- Subtotal Local Funds	$1,799,115	$2,240,594	$2,357,275	$2,498,967	$2,606,097
• Total RTD and Local Funds					
- UMTA Section 9	$ 573,210	$ 653,620	$ 653,620	$ 653,620	$ 653,620
- Transportation Development Act	1,222,501	1,515,209	1,646,530	1,777,846	1,888,962
- State Transit Assistance	239,706	297,100	297,100	332,752	356,520
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Total Federal and State Assistance	$2,122,995	$2,558,981	$2,696,107	$2,868,798	$3,007,828
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Total	$3,432,995	$3,938,981	$4,146,107	$4,402,798	$4,602,828
Estimated Net Annual Operating Deficit (Surplus)					
• RTD Fixed-Route Service	$3,129,114	$3,378,288	$3,199,802	$3,385,126	$3,458,858
• Local Demand-Responsive Service	(1,092,866)	(1,214,574)	(1,372,198)	(1,445,490)	(1,514,942)
• Total	$2,036,248	$2,163,714	$1,827,604	$1,939,636	$1,943,916

Source: Schimpeler-Corradino Associates.

the five-year period. Nevertheless, this increase is well below that projected for the system with no change in fares. Again, the local demand-responsive system is expected to incur a net operating surplus. With moderate fare increases, this surplus is expected to increase by $400,000 over the five-year period, or from $1.1 million in FY 1983/1984 to $1.5 million in FY 1987/1988. This compares to a $200,000 increase under the no fare increase scenario.

Steep Fare Increase Scenario: The financing plan for operating costs under the assumed steep fare increase scenario is presented in Table 10-11. Total annual operating deficits under this scenario would increase from $5.5 million in FY 1983/1984 to $6.1 million in FY 1987/1988, compared to an increase in operating assistance from $3.4 million to $4.6 million over the same period. The net deficit after assistance is subtracted from the operating deficit would decline from $2 million in FY 1983/1984 to $1.5 million in FY 1987/1988. RTD would still incur a net operating deficit each year of the five year period. However, the deficit would be less than under the previous two fare scenarios. In fact, the deficit is estimated to decrease from $3.1 million to $3 million. The local demand-responsive system would realize the same surplus as projected under the moderate fare increase scenarios since the fares would not change.

10.3.3 Service Equity

The issue of service equity is important to the acceptability of the recommended service plan as well as to its successful implementation, and as such it always generates a great deal of interest. However, it should be understood that the five-year service plan primarily provides the overall framework within which the actual specifics of operation are defined as the actual implementation takes place step-by-step. Therefore, it is only important that the service plan does not have major inequities that would be difficult to correct at the actual time of implementation. Furthermore, it should be understood that the issue of equitability will be a continuous, ongoing problem. The joint powers agency established in Pomona Valley will have to continually work to ensure equitability of service.

In order to determine how equitable the Proposition A funds would be in relationship to the level of service that would be provided to the individual cities (i.e., Pomona, Claremont, LaVerne, and San Dimas), vehicle hours of service provided to each city under the recommended plans was estimated as a measure of service. Actually, both vehicle hours and vehicle miles are directly related to the amount of service delivered, but it is easier to identify the geographic distribution of vehicle hours than vehicle miles.

In addition the estimates of vehicle hours by city, comparable estimates of Proposition A funds by city were compiled and use to address the issue of service equity. The findings of this evaluation, which are shown in Table 10-12, indicated the following:

- Pomona would receive about 62 percent of the fixed-route service and 53 percent of the demand-responsive service. Collectively, this amounts to 59 percent of the service under the recommended plan. By comparison, the city is expected to receive 54 percent of the Proposition A funds.

TABLE 10-11

FINANCIAL PLAN FOR OPERATING COSTS OF RECOMMENDED SERVICE PLAN WITH STEEP FARE INCREASES

Item	FY 83/84	FY 84/85	FY 85/86	FY 86/87	FY 87/88
Estimated Annual Operating Costs					
• RTD Fixed-Route Service	$5,987,340	$6,321,835	$6,689,772	$7,191,505	$7,559,442
• Local Demand-Responsive Service	807,949	1,348,004	1,424,971	1,533,375	1,611,425
• Total	$6,795,289	$7,669,839	$8,114,743	$8,724,880	$9,170,867
Potential Annual Passenger Revenues					
• RTD Fixed-Route Service	$1,224,346	$1,245,160	$2,016,163	$2,272,353	$2,528,841
• Local Demand-Responsive Service	101,700	321,984	439,894	479,898	520,270
• Total	$1,326,046	$1,567,144	$2,456,057	$2,752,251	$3,049,111
Estimated Annual Operating Deficit					
• RTD Fixed-Route Service	$4,762,994	$5,076,675	$4,673,609	$4,919,152	$5,030,601
• Local Demand-Responsive Service	706,249	1,026,020	985,077	1,053,477	1,091,155
• Total	$5,469,243	$6,102,695	$5,658,686	$5,972,629	$6,121,756
Potential Annual Operating Assistance					
• RTD Fixed-Route Service					
- UMTA Section 9	$ 460,130	$ 450,175	$ 450,175	$ 450,175	$ 450,175
- Transportation Development Act	981,332	1,043,587	1,134,032	1,224,476	1,301,006
- State Transit Assistance	192,418	204,625	204,625	229,180	245,550
- Subtotal Federal and State Assistance	$1,633,880	$1,698,387	$1,788,832	$1,903,831	$1,996,731
• Local Demand-Responsive Service					
- UMTA Section 9	$ 113,080	$ 203,445	$ 203,445	$ 203,445	$ 203,445
- Transportation Development Act	241,169	471,622	512,498	553,370	587,956
- State Transit Assistance	47,288	92,475	92,475	103,572	110,970
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Subtotal Federal and State Assistance	$ 489,115	$ 860,594	$ 907,275	$ 964,967	$1,011,097
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Subtotal Local Funds	$1,799,115	$2,240,594	$2,357,275	$2,498,967	$2,606,097
• Total RTD and Local Funds					
- UMTA Section 9	$ 573,210	$ 653,620	$ 653,620	$ 653,620	$ 653,620
- Transportation Development Act	1,222,501	1,515,209	1,646,530	1,777,846	1,888,962
- State Transit Assistance	239,706	297,100	297,100	332,752	356,520
- Social Service Programs	87,578	93,052	98,857	104,580	108,726
- Total Federal and State Assistance	$2,122,995	$2,558,981	$2,696,107	$2,868,798	$3,007,828
- Proposition A	1,310,000	1,380,000	1,450,000	1,534,000	1,595,000
- Total	$3,432,995	$3,938,981	$4,146,107	$4,402,798	$4,602,828
Estimated Net Annual Operating Deficit (Surplus)					
• RTD Fixed-Route Service	$3,129,114	$3,378,288	$2,884,777	$3,015,321	$3,033,870
• Local Demand-Responsive Service	(1,092,866)	(1,214,574)	(1,372,198)	(1,445,490)	(1,514,942)
• Total	$2,036,248	$2,163,714	$1,512,579	$1,569,831	$1,518,928

Source: Schimpeler-Corradino Associates.

TABLE 10-12

TRANSIT SERVICE LEVEL BY CITY
(VEHICLE HOURS OF SERVICE)

Service/ Funds	Pomona		Claremont		LaVerne		San Dimas		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Fixed-Route Service	57,406	62.11	16,224	17.55	9,181	9.93	9,621	10.41	92,432	100.0
Demand Responsive Service	28,722	52.99	9,697	17.89	6,851	12.64	8,932	16.48	54,202	100.0
Total Service	86,128	58.74	25,921	17.68	16,032	10.93	18,553	12.65	146,634	100.0
1983/84 Proposition Funds	$707,000	53.97	$238,000	18.17	$179,000	13.66	$186,000	14.19	$1,310,000	100.0

Source: Schimpeler-Corradino Associates

- Claremont would receive about eighteen percent of the total service under the recommended plan, and equal percentages of fixed-route and demand-responsive service. By comparison, the city would receive eighteen percent of the Proposition A funds for Pomona Valley.

- LaVerne would receive almost ten percent of the fixed-route service and thirteen percent of the demand-responsive service, or eleven percent of the total service under the recommended plan. By comparison, the city would receive almost fourteen percent of Pomona Valley's Proposition A funds.

- San Dimas would receive over ten percent of the fixed-route service and sixteen percent of the demand-responsive service, or thirteen percent of the total service under the recommended plan. By comparison, the city would receive about fourteen percent of the Proposition A funds for Pomona Valley.

Based on these findings, it can be concluded that the overall service equity of the recommended plan is good. There are no major inequities which would be difficult to correct at the time of the actual service implementation.

10.4 OPTIONAL OPERATING PLAN

The five-year program for implementation of the recommended service plan assumes that all of the improvements would have been implemented by the second program year. The remaining three years of the program calls for a continuation of the level of service implemented during the previous program years. However, the continuation of the fixed-route system will depend upon what occurs after the expiration of the Proposition A Fare Reduction Program in July, 1985, or the beginning of FY 1985/1986. With the increases in fares expected at the end of the program, RTD may have to cut back service in Pomona Valley unless LACTC continues to provide fare subsidies. The financial plan developed for the recommended service plan assuming a $0.75 base fare identified a $3.2 million net deficit in FY 1985/1986 after farebox revenues and federal, state, and local assistance had been subtracted from operating costs. Even with a $1.00 base fare, the net deficit would be $2.9 million in FY 1985/1986. These deficits must be offset with fare subsidies or service will have to be cut in Pomona Valley. The lines likely to be cut are the local lines operating exclusively within Pomona Valley or the non-regional lines. Historically, these lines have been some of the least cost-effective in the RTD system. Lines likely to be cut in the recommended system include 276, 185, NR-1, and NR-2. The system remaining in Pomona Valley after the cutback in service would probably be a basic fixed route system consisting primarily of regional lines.

During the development of service alternatives, an alternative was developed with a provision to cut back service provided by RTD. This alternative should be the basis for improvements if RTD is required to reduce service in Pomona Valley. At such time, RTD and the joint powers agency would jointly decide on the new fixed-route system to be operated in Pomona Valley. The

joint powers agency would also have to decide on some form of local service to substitute for the service cut by RTD. This new local service could be an areawide demand-responsive system, a hybrid type of demand-responsive service with vehicles following fixed-route service patterns during peak hour and conventional demand-responsive service during off-peak hours, or a continuation of fixed-route service with ownership by the joint powers agency rather than RTD. The new local service could be operated either by the joint powers agency or by contract through the private sector or RTD.

10.5 PILOT DEMONSTRATION PROJECT FOR GENERAL PUBLIC DEMAND-RESPONSIVE SERVICE

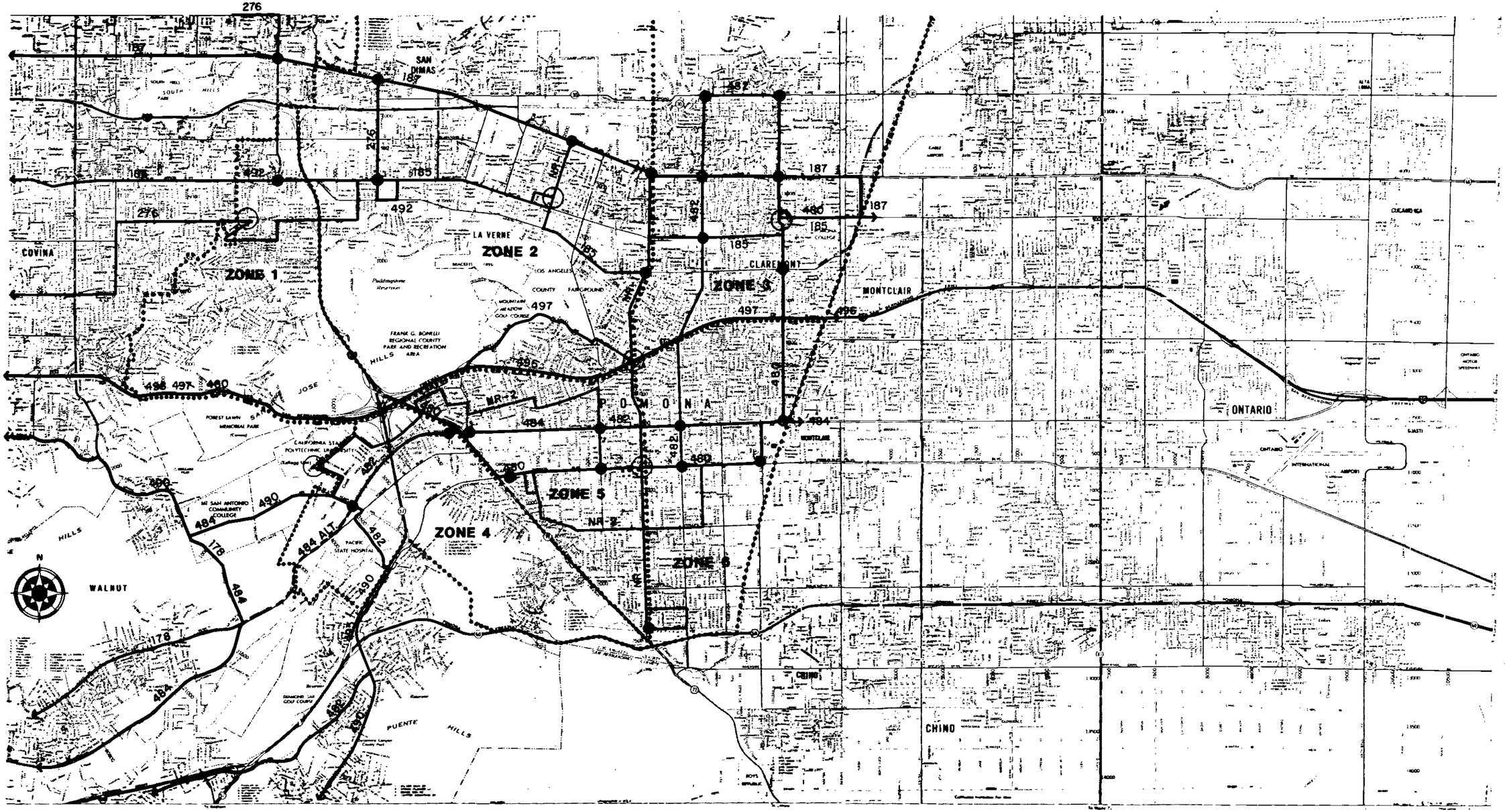
The PMC elected to include in the implementation plan a pilot demonstration project for a demand-responsive system for the general public. This course of action was taken because the PMC was reluctant to endorse any service plan that includes general public demand-responsive service without a test of its effectiveness in meeting the travel needs of the general public. Although the project is not included in the recommended service plan, it is recommended for implementation.

The implementation and financing of the pilot demonstration project is discussed in this section. A description of the project is included in the discussion.

10.5.1 Project Description

The general public demand-responsive system recommended as a pilot demonstration project would be a multizonal system with a combination many-to-many and many-to-few service. Pomona Valley would be divided into six service zones, as shown in Figure 10-2. These zones were developed on the basis of census tracts, geographic boundaries, freeways, fixed-route service coverage, and population. Service would be operated on a many-to-many basis within each zone. All origins and destinations within the zone would be served. Outside the zone, service would be on a many-to-few basis (i.e., only a limited number of destinations would be served). These destinations would be limited to zonal transfer points established for all six zones where vehicles from all zones would meet simultaneously and transfer passengers. Only one zonal transfer point would be established for each zone. These zonal transfer points would represent central business districts or other major transit generators. The zonal transfer points shown in Figure 10-2 represent sample points. These points may change according to passenger travel patterns once the project becomes operational. Figure 10-3 shows existing major travel desires developed from the trip table for Pomona Valley. A comparison of the travel desires with the street system indicates likely travel corridors between the major transfer points. In addition to these major transfer points, points would be established along each RTD line for transfer of passengers from fixed-route to demand-responsive vehicles. Transfer of passengers from demand-responsive to fixed-route vehicles could occur at any designated bus stop within the zone.

Under the proposed system, passengers would request service by telephone. A centralized dispatching control center would be used for assignment of passengers to vehicles, processing of tours, and coordination of transfers. The system would accept telephone request for both advance and immediate



- Fixed Route Transfer Point
- Zonal Transfer Point
- ••••• Zonal Boundary

Figure 10-2
GENERAL PUBLIC DEMAND-RESPONSIVE SERVICE PILOT DEMONSTRATION PROJECT

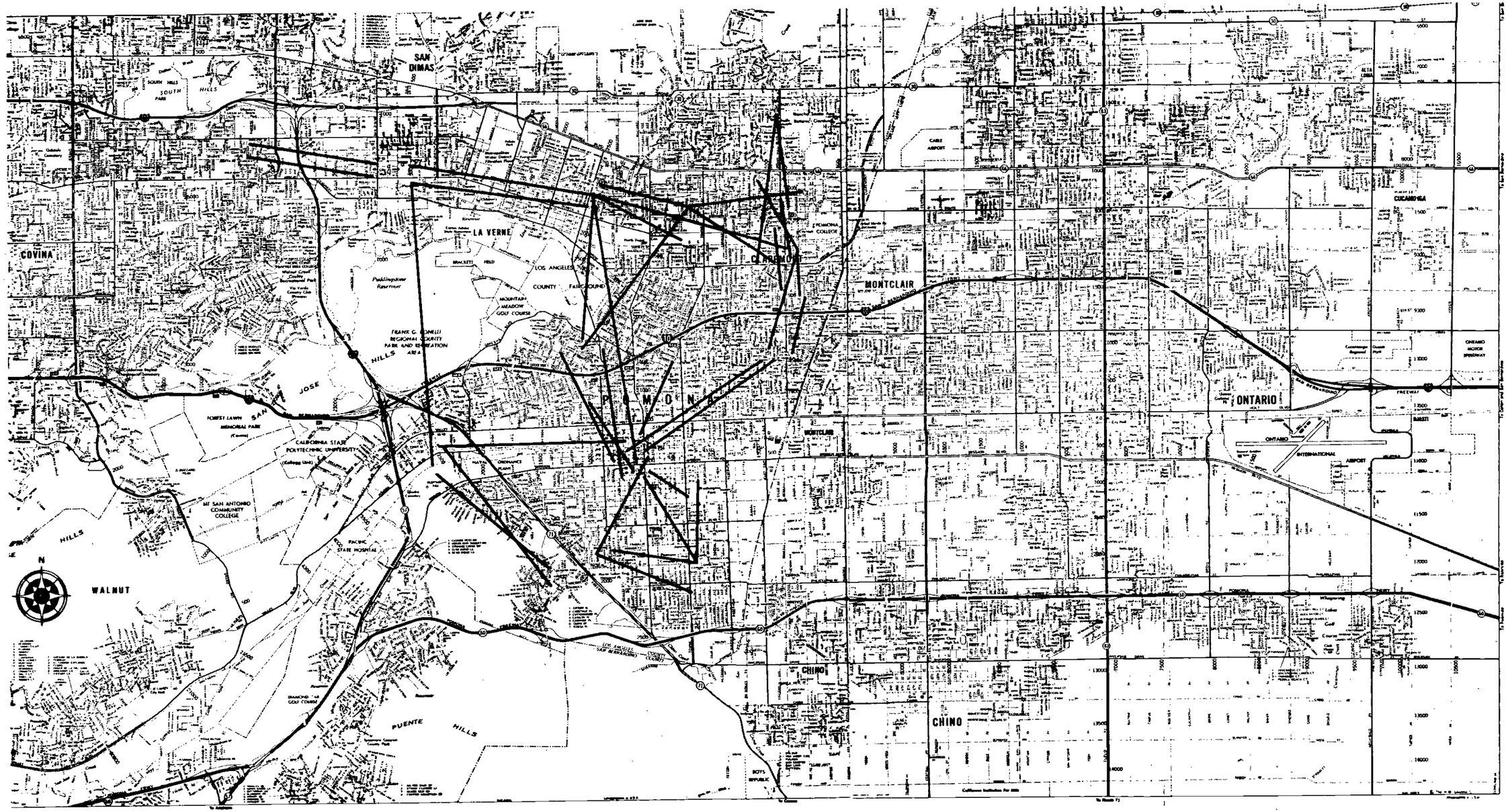


Figure 10-3

MAJOR TRAVEL DESIRES WITHIN POMONA VALLEY

service and for all trip purposes. Requests for immediate service would be responded to as soon as the request could be scheduled on tours with other requests, but no more than sixty minutes from the time pick-up is requested. Requests for demand-responsive feeder services will be scheduled in coordination with fixed-route services to assure that the demand-responsive vehicles are in the right place at the right time. Passengers desiring to transfer from a fixed-route bus to a demand-responsive vehicle will not be required to telephone for service. Transfers to demand-responsive vehicles will be made by getting off the bus at designated transfer points. Demand-responsive drivers will be notified in advance of the scheduled bus arrival whether they have to pick up fixed-route transfer passengers and will modify their tours to meet the bus schedule. The number of vehicles scheduled to interface with fixed-route buses at transfer points will be periodically adjusted according to demand.

The service would be provided six days a week from 7:00 a.m. to 8:00 p.m. A total ~~of fifteen~~ vehicles would operate Monday through Friday, thirteen vehicles would operate on Saturday. No Sunday service would be provided. These vehicles would operate for a total of 195 hours each weekday and 169 hours on Saturday. Vehicle requirements and the number of vehicle hours of service provided to each of the six service zones established for the general public demand-responsive system are shown in Table 10-13.

TABLE 10-13

LEVEL OF SERVICE OF PILOT DEMONSTRATION PROJECT

	Weekdays		Saturdays	
Zone	Vehicle	Vehicle Hours	Vehicles	Vehicle Hours
1	1	13	1	13
2	4	52	3	39
3	4	52	3	39
4	1	13	1	13
5	2	26	2	26
6	3	39	3	39
TOTAL	15	195	13	169

Source: Schimpeler•Corradino Associates.

10.5.2 Project Staging

Implementation of the pilot demonstration project will depend on whether LACTC removes the limit on paratransit funding in Los Angeles County. Assuming that LACTC does increase paratransit funding, the project could be implemented as early as FY 1984/1985. Implementation will involve the development of bid specifications for brokerage of service, selection of a broker, and the initiation of service. The project, as planned, would operate for a period of one year. During that time, the joint powers agency

will be able to gain valuable experience with demand-responsive operations. This experience, combined with the residents' response to the system, should enable the agency to make a decision on whether to continue general public demand-responsive service in Pomona Valley after the demonstration project is completed.

10.5.3 Implementation Responsibilities

The new joint powers agency would implement the pilot demonstration project. However, the individual Pomona Valley cities would have to commit a portion of their Proposition A funds for subsidization of the service. The agency would have to contract with a private broker for provision of service under the demonstration project. The broker would be responsible for providing the vehicles and drivers necessary to operate the service. RTD would have responsibility for a transfer and cooperative agreement with the joint powers agency.

10.5.4 Cost and Financing

A summary of the financing plan for the pilot demonstration project is presented in Table 10-14. The plan includes estimated annual vehicle hours, passenger boardings, passenger revenues, and the operating deficit incurrred by the project. An estimate of potential operating assistance available to finance the identified deficit is included along with the estimated net annual deficit or surplus after available funds are subtracted from the deficit. The plan developed assumes implementation in FY 1984/1985 and a project duration of one year.

TABLE 10-14
SUMMARY OF FINANCING PLAN FOR PILOT DEMONSTRATION PROJECT
(FY 1984/1985)

Estimated Annual Vehicle Hours:	58,513
Estimated Annual Operating Cost:	$1,455,218
Estimated Annual Passenger Boardings:	529,996
Potential Annual Passenger Revenues:	$357,729
Estimated Annual Operating Deficit:	$1,097,489
Potential Annual Operating Assistance:	$1,214,574
Estimated Net Annual Operating Deficit (Surplus):	($117,085)

Source: Schimpeler•Corradino Associates.

The cost of operating the demand-responsive system under the demonstration project for one-year is estimated to total about $1.5 million. This cost estimate is based on 58,513 annual vehicle hours of operation at a cost per hour of $24.87. The cost rate used is based on the brokerage of service rate previously used for the evaluation of service alternatives and adjusted to FY 1984/1985 dollars in order to represent the effects of increases in wages, fuel and oil, and equipment maintenance costs.

Annual ridership and passenger revenues were also estimated for the one-year demonstration project. The system is estimated to attract about 530,000 passengers annually and to generate about $357,000 in farebox revenues. These estimates are based on a fare of $0.75 per passengre, which is the current fare for the Claremont Dial-a-Ride System. This fare would be comparable to the $0.50 fare for the fixed-route system and the $1.00 fare for the elderly and handicapped system under the recommended service plan. The estimate of ridership was developed in accordance with the level of service to be provided by the system and projected to FY 1984/1985 using population growth projections for Pomona Valley. In developing the estimate of passenger revenues, it was assumed that ten percent of the ridership would be transfers from the fixed-route system and no fare would be charged to transferring passengers.

Based on estimated costs of $1.5 million and passenger revenues of $357,000, the demonstration project would incur an operating deficit of approximately $1.1 million during its one-year of operations. This deficit must be met by assistance from outside sources. The plan developed for financing the operating costs of the recommended service plan identified a net surplus of about $1.2 million, consisting entirely of Proposition A funds. However, this identified surplus is based on the presumption that LACTC will remove the limit on paratransit funding in Los Angeles County. If this proves to be correct, then the $1.2 million would theoretically be available for funding the pilot demonstration project. This would be more than enough to fund the $1.1 million deficit incurred by the demonstration project. The remaining $117,000 could remain with the individual Pomona Valley cities or be available to the joint powers agency to invest or use for capital improvements.

This surplus could be increased by altering the level of service provided under the demonstration project. For example, the removal of Saturday service would increase the surplus to $313,000. Shortening the span of service from 8:00 p.m. to 7:00 p.m., Monday through Saturday, would increase the surplus to $202,000. However, any further reduction in the level of service could jeopardize the viability of the project.

The surplus could also be increased by limiting the recommended expansion of elderly and handicapped demand-responsive service. This could be an alternative to altering the level of service of the pilot demonstration project. As recommended, the elderly and handicapped residents of Pomona Valley would be provided expanded hours and days of service. Any reduction in the level of service recommended would reduce the operating deficit and the Proposition A funds needed to finance the deficit. This would result in an increase in the estimated surplus remaining after implementation of the demonstration project.

10.6 OTHER SERVICE IMPROVEMENTS

In addition to the pilot demonstration project, the PMC elected to include in the implementation plan a new park-and-ride line which would provide park-and-ride non-stop service between Pasadena and Pomona Valley. This improvement is recommended for implementation even though it is not included in the recommended service plan. The route as proposed would follow the Foothill Freeway (Interstate 210) from Pasadena to Pomona Valley. In Pomona Valley, buses would exit the freeway and follow Foothill Boulevard to a new park-and-ride near the San Bernardino County line in northern Claremont. Passengers with origins or destinations in Pomona Valley would be able to board or depart the bus from the park-and-ride lot or from designated stops along Foothill Boulevard. In Pasadena, buses would exit onto Rose Meade Boulevard and proceed west on Foothill Boulevard to downtown Pasadena where a loop would be made for a return trip.

This new park-and-ride route would be operated either by the joint powers agency or by contract through the private sector or RTD. Under the former, the agency would own and control all vehicles used in operation of the route, while under the latter, the private enterprise would be given complete control over the operation of the vehicles--either that owned by the private concern or leased from the agency. Both options would have different cost implications which should be examined prior to implementation.

11. MONITORING PROGRAM

11. MONITORING PROGRAM

An indispensible element of a successful public transit system is an on-going monitoring program. A comprehensive and carefully run monitoring program will provide several benefits that include:

- The ability to assess whether the system is operating as planned.
- The capability of measuring the system's performance against established service standards.
- The means of identifying needed changes in service patterns, service levels, and types.
- An efficient means of meeting legal reporting requirements as set by local, state, and federal agencies.
- A tool to aid decision-making requiring information on the transit system's operation, efficiency, and effectiveness.

The monitoring program presented in this chapter is divided into four elements for the purposes of discussion. The first element consists of data needs, sources, and collection. In the second element, Urban Mass Transportation Administration (UMTA) reporting requirements are described. The monitoring procedure discussed is the third element. The fourth element consists of evaluating the performance measures in relation to the established goals, objectives, and performance standards of the Pomona Valley transit services in order to determine whether system modifications may be necessary.

11.1 DATA NEEDS, SOURCES, AND COLLECTION

The data items required for evaluation of system performance include numbers of passenger boardings, vehicle miles, vehicle hours, operating costs, and operating revenues. These statistics should be collected for both fixed-route and demand-responsive operations.

All fixed routes that currently provide service to Pomona Valley are operated by RTD. For these routes, all needed information can be obtained directly from RTD. RTD maintains an extensive data base on routes it operates in the district. Data for any new fixed routes which the Joint Powers Agency may establish in the future would, of course, have to be collected independently.

Demand-responsive vehicles and fixed-route buses operated by the joint powers agency on new routes should be equipped with automatic fareboxes so that daily counts of passengers by types of fare paid can be obtained as well as total revenues by type of fare (e.g., there might be different fares for students or the elderly versus regular fares and/or peak and off-peak fares might be different). Should automatic fare collection equipment prove too

expensive for use in demand-responsive service, daily passenger counts can be summarized from the dispatcher's records. This, however, would be less efficient and less accurate than automatic fare collection systems.

An example of the type of form which could be used by the JPA to compile passenger and fare information on a daily basis is shown in Figure 11-1. There are also spaces on the form for the dispatcher to note the time and odometer reading on each vehicle at the beginning and end of the day. These daily vehicle logs can also be used to obtain in-service or revenue vehicle hours and miles of operation for fixed-route service. This can be done simply by determining the distance from the bus garage to the point where service begins and multiplying by two (outbound and inbound) and subtracting from daily vehicle miles as determined from the odometer checks. To get in-service vehicle hours, the driver will check the time it takes to get to the beginning point of the route in the morning and the time it takes to return to the garage in the evening and subtract this total from the time derived from the check-in and check-out times. If interlining of routes occurs in the fixed-route operations, data should be recorded before the bus changes routes. This would include data from the farebox, which would then be reset to zero, the time, and the odometer reading. At the end of the day, vehicle miles and hours and passengers (by fare type) by route should be tabulated. If a zonal demand responsive system has been instituted, then this information should be tabulated by zone.

The final data item needed to calculate the performance measures is operating costs. Operating expenses include all cost items. Costs should be tabulated on a monthly basis and should be summarized on both a quarterly and annual basis. Table 11-1 contains a summary of cost items which should be collected.

11.2 REPORTING REQUIREMENTS

For demand-responsive service, the information collected by the method described above is not sufficiently detailed for federal reporting purposes. In order for transit systems to receive UMTA, Section 9 operating funds, annual reports as prescribed by the Section 15 Uniform System of Accounts and Records[1] must be submitted to UMTA. UMTA has developed a step-by-step procedure for collecting and reporting the demand-responsive operating data elements required by the Uniform System of Accounts and Records. Following is a summary of that procedure. The entire detailed procedure may be obtained from UMTA.[2]

In general, the procedure provides estimates of total passengers, total passenger miles, and average passenger trip time. This data is obtained by random sampling techniques.

---

[1]U.S. Department of Transportation, Urban Mass Transportation Administration, "Uniform System of Accounts and Records." Implementation, Federal Register, Part II, Volume 42, No. 13, pp. 3772-3779, January 19, 1977.

[2]U.S. Department of Transportation, Urban Mass Transportation Administration, "Sampling Procedures for Obtaining Demand-Responsive Bus System Operating Data: Circular 2710.2," Washington, D.C., February, 1978.

Figure 11-1
SAMPLE DAILY VAN/BUS LOG

DATE _____

VEHICLE NO.	ZONE / ROUTE	OUT		IN		DAILY VEHICLE		PASSENGERS				
		1	2	3	4	HOURS (1-3)	MILES (2-4)	REGULAR FARE	REDUCED FARE	STUDENT FARE	TRANSFERS	TOTAL
		TIME	ODOMETER	TIME	ODOMETER							
DAILY TOTALS												

TABLE 11-1

OPERATING COSTS

Variable Direct Operating Costs

Wages
- Drivers
- Mechanics
- Schedulers
- Dispatchers

Gas and Oil
Tires
Spare Parts

Fixed Direct Operating Costs

Licenses
Inspections
Insurance
Depreciation

Other Costs

Administrative Wages and Salaries
Supplies Used
Telephone
Utilities
Data Processing
Rents
Other expenses

The sampling selection procedure involves two steps:

1. Selecting one day each week throughout the year to perform the survey. Choose one day the first week of operation, then select every eighth day from that date (advance one day per week). If service is not offered that day (e.g., Sunday), skip to the next service day.

2. Random selection of vehicle in operation. To assure that each vehicle has the same probability of being selected:

   - Obtain enough counters (poker chips, metal labeling discs, etc.) to cover the number of vehicles in operation.

   - Write vehicle numbers on labels, assigning one to each counter. Place in sturdy container for regular drawing.

- Mix counters thoroughly and draw one. The vehicle number on the drawn counter is the survey vehicle for that day. If that vehicle is not in service, continue to draw until a vehicle in service is selected.

- Record selected vehicle number on Vehicle Trip Sheet.

- Important: Return counters to container for next week's drawing.

While other random selection methods may be used, do not select a vehicle that appears to provide representative trips, as this may inadvertently introduce statistical bias.

The data collection and reporting procedures are now described.

Each driver of the selected survey vehicle should use the Vehicle Trip Sheet (see Figure 11-2).

Pre-Survey Procedures: Before leaving the garage, the driver should fill in:

- Survey date
- Day of week
- Survey vehicle number
- Driver number
- Vehicle total capacity
- Vehicle seated capacity.

Survey Procedures: The driver will record Items 7 through 11 as each passenger or group of passengers is picked up, and Items 12 and 13 immediately upon discharging riders. Or, to minimize the recording burden and improve reporting accuracy, drivers can relay the necessary information to dispatchers through two-way radio communications. It may also be possible to transcribe most of the data from the dispatcher's records, with drivers simply verifying or modifying any changes in schedules.

Post-Survey Procedures: As soon as possible after the survey day:

- Determine trip distances (Column 14) by subtracting pick-up (9) from drop-off (12) odometer reading. If odometer readings were not recorded, use map to estimate distances; however, try to avoid this relatively laborious and inaccurate process.

- Computer passenger-miles (15) by multiplying trip distances (14) by the number of passengers (7).

- Determine trip times (16) by subtracting pick-up (10) from drop-off (13) time.

- Compute passenger minutes (17) by multiplying trip times (16) by the number of passengers (7).

Figure 11-2
SAMPLE DEMAND-RESPONSIVE SERVICE VEHICLE TRIP SHEET

COMMENT ______________________________

(1) SURVEY DATE ____________ (2) DAY OF WEEK ____________ (3) SURVEY VEHICLE NO. ________ CLIENT GROUP ____________

(4) DRIVER NUMBER ________ (5) VEHICLE TOTAL CAPACITY ________ (6) VEHICLE SEATED CAPACITY ________

(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
NO. OF PASS.	PICK-UP ADDRESS	ODOMETER	PICK-UP TIME	DROP-OFF ADDRESS(ES)	DROP-OFF ODOMETER READING	DROP-OFF TIME	TRIP DISTANCE (12) - (9)	PASSENGER MILES (7) X (14)	TRIP TIME (13) - (10)	PASSENGER MINUTES (7) X (16)

(18) [ ] TOTAL PASSENGERS IN SAMPLE

TOTAL VEHICLE TRIPS [ ] (19)

(20) [ ] (21) [ ] (22) [ ] (23) [ ]

(24) [ ] CAPACITY MILES

(25) [ ] SEAT MILES

- Add columns for:

  (18) Total passengers in sample
  (19) Total vehicle trips
  (20) Total trip distance
  (21) Total passenger miles
  (22) Total trip time
  (23) Total passenger minutes

- Compute capacity miles (24) by multiplying total trip distance (20) by total vehicle capacity (5).

- Compute seat miles (25) by multiplying total trip distance (20) by vehicle seated capacity.

- Perform the above tasks for each driver's survey trip sheets.

Recording and Accumulating Survey Results: The Vehicle Trip Sheet totals (Items 18 through 25) should then be recorded on the DRS Summary Sheet (Figure 11-3). To help evaluate performance, use "comments" column for recording any special events that might influence the survey day's service. Compute annual totals.

Weekly Passenger Counts. In order to compute the annual estimates of passenger miles and average trip times, it is essential to have a complete count of passengers for the same period covered by the surveys. They can be obtained by summing the passengers from the daily bus logs (Figure 11-1).

Annual Report: Figure 11-4 is an example of the annual reporting items required by UMTA for both fixed-route and demand-responsive systems. An explanation of how the items in the report follows.

Lines one through eight are the annual totals of the corresponding items (18 through 25) from the DRIS summary sheet (Figure 11-3). Line 9, average passenger trip distance, is obtained by dividing total passenger miles by total passengers (Line 4 divided by Line 1). Line 10, average passenger trip time, is obtained by dividing total passenger minutes by total passengers (Line 6 divided by Line 1). Multiply total passengers (Line 11) by average passenger trip distance (Line 9) to get total passenger miles (Line 12).

The items in Figure 11-4 which do not have asterisks are "by-products" of the sampling process and can be used for analytical and evaluation purposes. Table 11-2 presents a list of UMTA reporting requirements. Forms, reporting descriptions, instructions, and additional account records can be obtained from UMTA's Office of Transit Management. In general, the Section 15 reporting requirements are the following.

- Each transit system will report results of its fiscal year. Reports are due 120 days after the close of that fiscal year. Systems that use a calendar year ending December 31, must have the Project FARE system in place

Figure 11-3
DEMAND RESPONSIVE SERVICE SUMMARY SHEET
SAMPLE

	(1)	(2)	(3)	(4)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
Comments	Survey Date	Day of Week	Vehicle Number	Driver Number	Total Passengers	Total Vehicle Trips	Total Trip Distance	Passenger Miles	Total Trip Time	Passenger Minutes	Capacity Miles	Seat Miles

FIGURE 11-4

SAMPLE
ANNUAL REPORT TO UMTA

Line No.	Accumulations from DRS Summary Sheet	Total All Samples
1*	(18) Total passengers in samples	
2	(19) Total trips	
3	(20) Total trip distance	
4*	(21) Total passenger miles	
5	(22) Total vehicle trip time	
6*	(23) Total passenger minutes	
7	(24) total capacity miles	
8	(25) Total seat miles	
	Sample Estimates	
9*	Average passenger trip distance (4 divided by 1)	
10*	Average passenger trip time (6 divided by 1)	
	Annual Totals	
11*	Total passengers (from daily bus logs)	
12*	Total passenger miles (11 x 9)	

*Required by the Section 15 Reporting System.

TABLE 11-2

UMTA SECTION 15 REPORTING REQUIREMENTS

1. Cover Letter of Certification (CPA or authorized official)
2. Form 300 Balance Sheet Summary Schedule
3. Form 310 Capital Subsidiary Schedule (2 pages)
4. Form 400R Revenue Summary Schedule
5. Form 410 Revenue Subsidiary Schedule (2 pages)
6. Form 500R Expenses and Functions Schedule
7. Form 510 Operators Wages Subsidiary Schedule[1]
8. Form 520 Fringe Benefits Subsidiary Schedule[1]
9. Form 593 Pension Plan Questionnaire[1]
10. Form 600 Weekday Time Period Schedule
11. Form 610 Transit Way Descriptors Schedule
12. Form 620 Revenue Vehicles Inventory Schedule
13. Form 630 Transit Service Personnel Schedule
14. Form 635 Transit System Employee Count Schedule
15. Form 640 Revenue Vehicle Maintenance Performance Measures Schedule
16. Form 641 Energy Consumption Schedule
17. Form 645 Accidents Schedule
18. Form 650 Transit Service Supplied Schedule

---

[1]Transit operators with 25 revenue vehicles or less are not required to submit these forms.

by January 1, 1978 and must submit the first report to UMTA by April 30, 1979.

- Reports must be made on the accrual basis of accounting. Systems that use cash basis accounting must convert their figures to the accrual basis.

- Each system must be audited by an independent public accountant or certified by an independent governmental audit agency. The accountant or agency must sign a letter or report attesting the system's conformity with Project FARE's regulations.

- Systems are not required to maintain records and accounts exactly as prescribed by Project FARE. However, records should be kept in a manner that permit ready preparation of the required financial and operating FARE reports.

11.3 MONITORING PROCEDURES

The recommended monitoring procedures consist of the periodic review of the data routinely collected for performance measures, the monitoring of land use changes, and the use of surveys.

11.3.1 Monitoring System Performance

Data on passenger boardings, vehicle miles, and vehicle hours should be collected and tabulated daily while operating cost data should be tabulated on a monthly basis. Performance measures as described in Chapter 3 should then be calculated and compared with the standards listed in Table 11-3. These performance measures include total passengers, passengers per mile, passengers per hour, operating cost per mile, operating cost per hour, operating cost per passenger, and operating ratio.

The total number of passengers carried on the system was the performance measure selected to assess the goal "To design a system that is functionally sound, meets area needs, and encourages transit use." The minimum performance standard which was deemed to assure adherence to this goal was that ridership on the new system be greater than that experienced prior to the change. If ridership began to fall, this would be an indication that the goal was not being achieved and that the option of introducing remedial measures be considered (i.e., something is wrong. . .fix it).

TABLE 11-3
ADOPTED PERFORMANCE STANDARDS FOR POMONA VALLEY TRANSIT SERVICE

Performance Measure	Performance Standard: Demand Responsive: General Market	Performance Standard: Demand Responsive: Target Market	Performance Standard: Fixed-Route
Total Passengers	. . . .Greater Than Existing. . . .		
Passengers Per Mile	0.62	0.41	2.0
Passengers Per Hour	7.75	5.05	25.0
Operating Cost Per Mile	$1.90	$3.40	$2.50
Operating Cost Per Hour	$23.90	$41.90	$50.00
Operating Cost Per Passenger	$3.15	$7.45	$2.50
Operating Ration	0.29	0.17	0.45

Source: Project Management Committee.

The remaining six performance measures all relate to the goal "To provide cost-effective transit service responsive to area needs." If the passengers per mile or hour or the operating ratio should drop below the suggested standards or if the operating cost (per mile, hour, or passengers) rises above the suggested standard, then the possibility of attempting corrective measures should be considered. While the performance standards are for the system as a whole, they can also be considered to be valid on a route basis. However, it would be unreasonable to expect that all routes could meet the standards. Some will improve upon the standards while others will fall short.

11.3.2 Monitoring Land Use Changes

Changes in land use can easily create changes in the demand for transit service and can also indicate attractive areas for service expansion. For these reasons, it is important that transit planners be aware of various changes in the community. These can include such things as new apartment complexes, subdivisions, office complexes, recreational areas, industrial parks, shopping malls, etc. Probably the best means of finding out about major new developments is the local news media. For less major developments, such as apartment buildings, it will be necessary to routinely review building permit applications. This will also, of course, serve to identify major developments. Review of building permit applications should be conducted on a semi-annual basis. Once a new development is identified, its progress should be monitored.

County and regional planning agencies maintain estimates of existing and project demographic data (e.g., population, employment, residential density, etc.) on a traffic zonal basis. These agencies (especially SCAG) should be contacted annually to request their latest information.

11.3.3 Surveys

Surveys are a very flexible class of monitoring devices which can be used to obtain information which is very difficult to obtain by other methods. Some of the purposes for which surveys can be used include the quantification of temporal and special travel patterns, identification of gaps in current services, sampling of public attitudes, demonstration of community support, segmentation of the market for promotional purposes, and publication of the system. Surveys can range from an instrument specially designed to address a particular problem or issue on a one time basis to relatively simple passenger counts carried out periodically in a routine manner. The survey suggested by UMTA to meet Section 15 reporting requirements for demand-responsive service is an example of the latter. Descriptions of several different types of surveys follows.

- Home-Interviews: Households are selected at random from the projected service area. Occupants are then questioned in detail about their trips. This approach usually ensures a high percentage of complete responses, and misunderstandings are minimized by the presence of the interview. However, home interviews are both costly and time-consuming.

- On-Site Interviews: Interviews focus on subjects selected at random at activity centers or places of employment. The personal interview approach is similar to that employed in home interviews with the resulting investment of time and money.

- Telephone Interviews: These are less costly than home interviews and offer comparable efficiency, except where attitudinal questions are asked. They are usually performed by trained personnel who interview respondents over the telephone in the evening.

- Mail Questionnaires: Questionnaires are mailed to a pre-selected random sample of service area residents. This approach is relatively cheap, but it is difficult to ensure a high response rate. However, advance publicity can significantly improve the response rate.

- Drop-Off Questionnaire: Questionnaires are distributed at key activity centers. This approach is particularly effective in surveying target markets such as the elderly, where distribution points include senior housing, churches, social service agencies, medical centers, senior citizen centers, etc. As with the mail approach, the questionnaire is self-administered and the response rate may be low.

- On-Board Surveys: On-board surveys can be used to record user reactions to the system, user characteristics, market segmentation information, trip characteristics, and user experiences with system reliability (e.g., wait times, ease of placing trip request, etc.). Questionnaires are distributed to transit riders as they board the vehicle. The questionnaire may be completed during the ride and returned upon leaving the vehicle, or completed at leisure and mailed in. The sample population is limited to existing transit users, a drawback in some applications. A comprehensive on-board survey should be conducted once about every five years.

• Passenger Load Counts: An employee of the transit system records passenger information. The demand-responsive survey described in Section 11.2 is such a survey. In the case of fixed-route service, the passenger count consists of recording both the number of passengers which get on and those that get off at each stop, as well as the number that are on-board between each pair of stops. This count is performed by an employee riding in the bus. A passenger load count, as described above, should be performed at least once a year (preferrably twice--summer and winter) for every run of every vehicle in the system for an entire workday for both fixed-route and demand responsive. For demand-responsive service, the procedure would be identical to the Section 15 reporting procedures except that records would be kept for all vehicles, not just a single vehicle. If possible, the survey should be conducted for an entire week, so that any weekly variations can be noted.

• Ad Hoc Newspaper Polls: One of the cheapest means of conducting a survey is to persuade a local newspaper to publish a brief questionnaire, or to purchase advertising space for the purpose of questionnaire distribution. Questionnaires distributed in this fashion should be concise, and the analyst loses the ability to select or even to identify the sample population adequately.

11.4 SYSTEM MODIFICATIONS

An important consideration in the operation of any transit system is that of modifications to the system. This problem has several aspects including at what point should modifications be considered, the kinds of modifications which should be considered, and the likely impacts if modifications are implemented. The purpose of the performance standards is to provide an indication of when modifications are needed. Once it has been determined that a modification to existing service is needed, the next consideration is what modification to make. The types of system modifications are:

- Changing geographic coverage
  - Expanding service area
  - Decreasing service area
- Changing service type
  - Replacing fixed-route service with demand-responsive service
  - Replacing demand-responsive service with fixed-route service
- Changing service levels
  - Changing vehicle operations or services offered
  - Modifying intersystem transfer times

An expansion in service area is usually the most common modification undertaken by transit systems. Expansion in service area can be made in response to both underutilization and overutilization of the system. If a system is not attracting enough riders, an expansion may build ridership levels for little additional investment. This is particularly true if neither vans (or buses) nor dispatching facilities are being used to capacity. If a system is attracting a large ridership, there may still be

pressure to widen its area of operations. In fact, incremental expansion is a common feature in most implementation plans.

Service area expansions must be carefully planned, even if it appears that the system has sufficient capacity. Attempts to serve too wide an area can lead to systemwide deteriorations in service such as increased wait and ride times. When expanding into new areas is contemplated, surveys, such as the ones described earlier, will be necessary to determine the type and level of service to be offered. In areas where ridership is too low, decreases in service area coverage should be considered. Such a move is generally politically unpopular, and will usually be considered by attempts to alter service policies or service levels. Reductions in service area of demand-responsive systems are usually considered only when the system is badly overextended, with a wide scattering of origins and destinations.

Attempts to replace demand-responsive service with fixed-route service or another form of paratransit service and vice versa should not be made precipitously as regular users tend to become attached to existing service and may resist changes. It is best to plan for a transition period during which new and old service co-exist or to initiate different peak and off-peak operating policies as a first step in a transition phase. In theory, as demand-responsive ridership increases, a point will be reached at which portions of the demand-responsive system should be converted to a higher form of paratransit service (i.e., check point deviation) as to fixed-route service. Such changes should only be considered if the level of passengers per mile and hour begin to closely approach the levels recommended for as a minimum performance standard for fixed-route operation. When replacing fixed-route service with demand-responsive service, it should not be assumed that door-to-door service will immediately be perceived as superior to the existing service. The fixed-route service will have developed a hard core of riders and is likely to be more dependable during the peak hour periods. Again, this switch should not be considered unless the number of passengers per mile and hour begin to drop to the level of the demand-responsive performance standards.

Changes in vehicle operations or services offered include changes in headways and/or vehicle capacities in the case of fixed-route operations and similarly for demand-responsive service include changes in the numbers of vehicles and/or their capacity. For both fixed-route and (on a by route basis) demand-responsive operations, if the passengers per mile and hour begin to increase significantly above the minimum performance standard then the possibility of increasing the capacity of the system should be examined. For a fixed-route, it may be necessary to perform a passenger load count to determine the degree of headway (or vehicle capacity) change needed.

Level of service can also be affected by modifying intersystem transfer times. Transfers are generally perceived by riders as being very undesirable and as such represent a significant impediment to transit use. Therefore, the components of the fixed-route and demand-responsive services should be designed to be mutually reinforcing and should be operated in a manner which makes intersystem transfers as convenient as possible. The number of transfers at each individual transfer point throughout the system should be monitored. As activity patterns change, the coordination between the fixed-route and demand-responsive service should be altered to accommodate these

changes. For example, if a large number of transfers occurs repeatedly at specific points, the possibility of providing service which does require a transfer should be examined.

12. COMMUNITY PARTICIPATION

12. COMMUNITY PARTICIPATION

The planning process employed in the Pomona Valley Transit Needs Study provided numerous opportunities for the community to express its views. Throughout the study, community meetings were held to solicit views and comments on improving public transportation in Pomona Valley. Community input was also provided through the telephone surveys which were discussed in Chapter 4. This chapter discusses the community meetings and the techniques used to increase participation at the meetings. A discussion of the comments received at the meetings and responses to the comments is also provided.

12.1 COMMUNITY MEETINGS

Community meetings were established as a mechanism for obtaining public input to the study. There were a total of five community meetings. The meetings were designed to coincide with milestones in the study. At least one meeting was held in each city in Pomona Valley. The meeting dates, locations, and topics discussed are summarized in Table 12-1. In addition to these five community meetings, meetings were held with a group of senior citizens on April 5, 1983 in the Stanley Plummer Community Building and with the San Dimas Seniors Commission on May 24, 1983 at the San Dimas city hall.

The general format of the community meetings was to begin with a brief discussion of the purpose and scope of the transit study and its current status; the next part of the meeting was devoted to the topic(s) specified for that meeting. The meetings concluded with an open discussion for comments and questions. A discussion of the comments and responses to the comments is provided later in this chapter. The community meetings were attended by a total of 109 people. Attendance at each meeting ranged from fourteen to thirty persons. A number of organizations were represented at the meetings including private paratransit operators, SANBAG, SCAG, Commuter Computer, Pomona Junior Police, League of Women Voters, universities, major employers, newspaper companies, real estate interests, Community Life Commission, California Department of Transportation, and the individual Pomona Valley cities. A large number of attendees did not identify any organizational relationship.

12.2 MEETING ANNOUNCEMENTS

Publicity for the community participation meetings included a mailing list; placement of bulkhead cards and "take ones" in RTD buses; distribution of flyers to city halls, libraries, chambers of commerce, and post offices; press releases to local newspapers; and public service announcements on local radio stations and news stations in the Los Angeles area.

A mailing list for meeting announcements was compiled from several sources including:

- Chamber of Commerce organization lists
- RTD community participation lists
- Telephone directories

TABLE 12-1

COMMUNITY PARTICIPATION MEETINGS

Meeting	Date	Location	Topics Discussed
1	December 16, 1982	Pomona City Hall	Study purpose and schedule and preliminary goals and objectives.
2	January 31, 1983	Claremont City Hall	Alternative transit service concepts.
3	April 5, 1983	San Dimas City Hall	Ownership/management alternatives, alternative transit service concepts, and financial resources.
4	May 18, 1983	LaVerne City Hall	Telephone survey results and alternative transit systems.
5	June 29, 1983	Pomona City Hall	Results of the evaluation of service and management alternatives and consultant's recommendations.

Source: Schimpeler-Corradino Associates.
Myra L. Frank & Associates.

- Community services directory
- Inventory of agencies providing services to the elderly.

This mailing list was updated after each community meeting using attendance lists from the meetings. The initial mailing list included about 430 names. It later grew to 502 names and was eventually reduced to 333 names.

Meeting announcements were also printed and installed on all RTD buses serving Pomona Valley. The announcements were placed on the bus bulkheads so that they would be visible to the bus riders. In addition, "take ones" were placed on the buses. A copy of a "take one" is shown in Figure 12-1.

Flyers were distributed to city halls, libraries, chambers of commerce, and post offices throughout Pomona Valley. A copy of the flyer that was used to publicize the community meeting in San Dimas is shown in Figure 12-2.

Press releases were sent out to all local newspapers prior to each meeting. The newspapers that printed meeting announcements included the Claremont Courier, Pomona Progress Bulletin, and the LaVerne Herald. Newspaper articles about the Pomona Valley Transit Needs Study also appeared in some of the local papers. RTD maintains a file of newspaper clippings.

The final technique used to publicize the community meetings was the distribution of public service announcements to the radio and television media. During the course of the meetings, announcements were distributed to three local radio stations and several news stations in the Los Angeles area.

12.3 COMMENTS

At each of the community participation meetings, comments were solicited from those in attendance. These comments provided input to the overall analysis and to the planning process and its results. The comments were numerous and for discussion purposes are grouped into those relating to existing service, requests for specific service improvements, and those that are general in nature.

12.3.1 Comments on Existing Service

The comments on existing service are summarized below. A detailed discussion of the comments is then presented.

- A frequently cited comment was the low level of RTD service during evening hours and on weekends. Some attendees indicated that RTD service should be more frequent and service more places where people want to go.

- Another frequently cited comment was poor coordination between RTD and OMNITRANS. The additional fare for crossing the county line and the transferring between systems were mentioned as being burdensome.

- A frequently cited criticism of RTD service was that transferring takes too long and too many transfers are

Are You Interested In Improving Transit In The Pomona Valley?

The fourth public meeting in a continuing series for the Pomona Valley Transit Needs Study has been scheduled for May 18. The purpose of this meeting is to evaluate several proposed service alternatives and options to finance these alternatives. The public is encouraged to attend and present their views.

WHERE: **LaVerne City Hall**
Council Chambers
3660 'D' Street
LaVerne, CA

WHEN: **Wednesday, May 18, 1983**
7:00 p.m.

PUBLIC IS ENCOURAGED TO ATTEND

Jointly Sponsored By:

- **Claremont - LaVerne - Pomona - San Dimas**
- **San Bernardino Association of Governments**
- **Southern California Association of Governments**
- **Southern California Rapid Transit District**

In Cooperation With:

- **Los Angeles County Transportation Commission**

For more information, please contact:

Manny Hernandez
SCRTD Community Relations
213/972-6637

or

Tom McDonald
City of LaVerne
714/596-8706

RTD

Le Interesa A Ud. Mejorar La Transportacion En El Valle De Pomona?

El 18 de mayo se realizará una reunión pública, la cuarta de una serie en el estudio de Menesteres de Tránsito del Valle de Pomona. El Proposito de la reunión será evaluar varias alternativas propuestas para servicio de transporte y opciones para financiar dichas alternativas. Le pedimos al público que asista a esta reunión y exprese su opinión.

DONDE: **Municipio de La Verne**
Camara del Concilio
Calle "D" 3660
La Verne, CA 91750

CUANDO: **Miércoles, 18 de Mayo, 1983**
7:00 p.m.

ALIENTAMOS LA PARTICIPACIÓN DEL PUBLICO

Co-Auspiciado Por:

- **Ciudades de Claremont - La Verne - Pomona - San Dimas**
- **Asociación de Gobiernos de San Bernardino**
- **Asociación de Gobiernos del Sur de California**
- **Southern California Rapid Transit District**

En cooperación con:

- **Los Angeles County Transportation Commission**

Si Ud. requiere mas información, llame a:

Manny Hernandez
Relaciones de la Comunidad,
SCRTD
213/972-6637

Tom McDonald
Ciudad de La Verne
714/596-8706

RTD

Figure 12-1

"TAKE ONE" MEETING ANNOUNCEMENT

CITY OF San Dimas CALIFORNIA

ARE YOU INTERESTED IN TRANSIT PLANS FOR THE POMONA VALLEY?

There will be a third public meeting in a continuing series to evaluate tranportation services and management alternatives in the Pomona Valley.

WHERE: San Dimas City Hall
245 East Bonita Avenue
San Dimas, CA

WHEN: Tuesday, April 5, 1983
11:15 a.m. *
Stanley Plummer Community Building

4:00 p.m. **
City Hall Council Chambers

*The first meeting will be held as part of the Senior Citizens Club Meeting and will be geared toward the specific transit needs of seniors in the Pomona Valley.

**The second meeting is being held for the public and everyone is invited to attend.

FOR MORE INFORMATION, PLEASE CONTACT:
Manny Hernandez
SCRTD Community Relations
972-6637

JOINTLY SPONSORED BY:
Claremont LaVerne Pomona San Dimas
SANBAG SCRTD SCAG
IN COOPERATION WITH: LACTC

CITY HALL 245 EAST BONITA AVENUE • POST OFFICE BOX 307 • CALIFORNIA 91773 • (714) 599-6713

Figure 12-2

PUBLIC MEETING FLYER

required for long-distance travel. Service to Upland, Chaffey, and Orange County was mentioned as being poor because of the transfers required.

- A lack of through service to Los Angeles and Pasadena was another criticism.

- Service provided by Get About Transportation was frequently mentioned as being inadequate, unreliable, and too expensive.

The service alternatives developed and analyzed in this study included different levels of service in which days, hours, and frequency of service were varied. However, in selecting an alternative for implementation, it was important that the alternative selected be cost effective and realistic in terms of available financial resources. Therefore, it was not possible to select an alternative for implementation that included large increases in evening and weekend service as well as increases in the frequencies of service. The recommended service plan developed for implementation does provide some increase in the frequency of service by removing service in areas where demand was low. Such trade-offs had to be made since no increase in fixed-route service levels could be made due to constraints on regional funds.

The recommended plan provides for improved coordination between RTD and OMNITRANS. Specifically, three RTD lines are designed to interface with OMNITRANS at the planned Transcenter in Montclair. It is realized that the additional fare charge for crossing the county line is burdensome, but this is a policy decision which must be made by the governing boards of the respective transit systems.

Transferring is required under the RTD system for some trips, especially those with destinations outside Los Angeles County. However, the transfer rate on lines serving Pomona Valley is about ten percent or less, which compares very favorably to the RTD system average and to that experienced by other systems. No increase in this rate is expected under the recommended plan.

Currently, about half of the lines operated by RTD in Pomona Valley provide direct service to Los Angeles. Another line provides service to Pasadena, while the remaining lines either operate exclusively within Pomona Valley or serve neighboring cities in the San Gabriel Valley where connections can be made to Los Angeles. No increase in the number of lines to Los Angeles is provided for under the recommended plan since the current service appears to be adequate. However, the implementation plan does include a provision for a park-and-ride route to Pasadena at some future date. Demand for such service was found to be low at the present time.

The recommended service plan provides for an improved demand-responsive service for the elderly and handicapped. This service as planned should meet the transit needs of this market by providing more weekday and weekend service. Service should also be more reliable since additional vehicles will be available to serve the area.

12.3.2 Requests for Specific Service Improvements

The requests for service improvements are summarized in the following paragraphs. A detailed discussion of the comments is then presented.

- The most frequently cited request was for more weekend and evening service. Specifically, mentioned was the need for weekend service in LaVerne, San Dimas, and on Line 185 which operates in an east-west direction in San Damas, LaVerne, and Claremont. The attendees also mentioned a need for more frequent service.

- Requests were made for more service to LAX and Ontario airports.

- A need for more express service to downtown Los Angeles was cited.

- Among the specific service requests cited were service on Baseline Road, Lone Hill Avenue, Gladstone Avenue, and San Dimas Canyon Road; service to Citrus College in Glendora; improved service to Mt. San Antonio College; service to the social security office in Pomona; improved service to Loma Linda; and service to the neighborhoods southwest of the Corona Freeway in Pomona.

- Some of the meeting attendees also cited the need for areawide dial-a-ride service.

Service alternatives with more evening and weekend service were developed and studied; however, the additional cost of the increase in service level is not practical in light of current financial resources. Therefore, the recommended service plan provides for no increase in evening and weekend service. The implementation plan developed for the study does, however, include a pilot demonstration project which provides for areawide general public demand-responsive service on weekends.

RTD currently provides service to LAX airport from downtown Los Angeles. Several Pomona Valley lines connect with the airport lines in downtown Los Angeles. Any direct service from Pomona Valley to LAX would have to be operated privately because the demand for such service does not exist at this time. Service to Ontario Airport from Pomona Valley is currently provided by RTD. The service is provided at service frequencies of thirty minutes or less during the day and sixty minutes at night and on weekends. Service extends as late at 2:00 a.m. Any improvements in this service is not warranted at this time.

The recommended service plan provides for no additional express service to downtown Los Angeles. There are currently two RTD lines providing park-and-ride service between Pomona Valley and downtown Los Angeles, in addition to four other lines that operate high-frequency service to downtown Los Angeles during peak hours. Additional express service beyond that currently provided would place prohibitive demands on available financial resources and could be funded only through trade-offs with other service.

The service alternatives developed in this study were presented to the public at the community meetings. During the meetings, all questions regarding service on particular streets or to specific areas were addressed and clarified by the consultant. The alternatives were revised if the improvements suggested were found to be warranted.

One of the alternatives developed in this study included areawide dial-a-ride service for both the general public and elderly and handicapped. However, the PMC was reluctant to include in the recommended service plan a general public dial-a-ride system without some test of its effectiveness on an experimental basis. For this reason, the implementation plan developed for the service plan includes a pilot demonstration project for such a system. If the project does prove to be a success, it could be continued after its one-year demonstration ends. Areawide elderly and handicapped dial-a-ride service is an important element of the recommended service plan.

12.3.3 General Comments

General comments received during the community meetings are summarized in the following paragraphs. A detailed discussion of the comments is then presented.

- Most of the meeting respondents indicated that they felt that the level of service currently provided should be maintained or possibly increased. There was some concern that existing service may be deleted and not replaced by new service.

- The types of alternatives to be studied was cited as a concern. Some attendees expressed that alternatives other than fixed-route service should be considered, while others expressed concern about whether areawide dial-a-ride service would really work and provide the level of service needed or planned. It was mentioned that the availability of dial-a-ride service is restricted to those who have access to a telephone. Regardless of the service type, the respondents indicated that the costs of the alternatives should not require an increase in taxes or fares.

- Coordination between RTD lines and dial-a-ride services was cited as a necessity.

- Meeting respondents also indicated that fares for senior citizens and the handicapped should be kept low.

- Service to neighboring cities in San Bernardino County was deemed important by the meeting respondents, and that the Los Angeles/San Bernardino County line should not be treated as a barrier.

- There was a general feeling among the respondents that fixed-route service in the east-west direction should be maintained.

The recommended service plan maintains approximately the same level of service as currently provided. Although a decline in vehicle hours is projected, vehicle miles of service would remain almost unchanged from existing levels. However, the recommended system is expected to result in significantly increased ridership.

Initially, a host of alternative transit service types were considered for study. These were later narrowed to fixed-route and demand-responsive service. All of the alternative systems developed include a combination of these two service types. The alternative systems developed on the basis of demand-responsive service are multi-zonal systems offering many-to-many service within the zone and many-to-few service outside the zone. Transfer points are provided along the fixed-routes for transfer of passengers from one system to the other. Such systems have worked effectively in other areas.

The recommended service plan calls for no changes in existing fares. The fares charged by RTD and the joint powers agency should be based on policy decisions by the respective boards of directors.

The recommended service plan provides an increase in the number of RTD lines serving San Bernardino County. Three lines are designed to interface with OMNITRANS at the planned Transcenter in Montclair.

Fixed route service in an east-west direction would remain unchanged under the recommended plan. In fact, the plan improves east-west service since Line 440 would be extended west to Montclair. This line presently turns south from Foothill Boulevard to downtown Pomona via Towne Avenue.

APPENDIX A - SURVEY FORMS

POMONA VALLEY
TRANSIT NEEDS STUDY

Hello, my name is_____. I'm calling from The Planning Group. We are doing a study for the cities in the Pomona Valley and the Southern California Rapid Transit District to improve transit service in the Valley. Please will you help us in this study by answering some questions for me.

Because this telephone number was selected at random by a computer, I need to know first if this is a home or a business.

HOME

BUSINESS: Thank you for your help. We are studying residences only, so we need not take any more of your time.
HANG UP AND DIAL NEXT ASSIGNED NUMBER

Now I need to find out who I should speak to at this residence. As part of this study, I can't always interview the person who answers the phone, but I must choose one of the adults who is at home now. We do this to make sure that we include in our study the right numbers of both men and women of all ages. So that I can choose the person, please tell me how many people 18 years old or over are at home now, including you. (If you are 18 or over).

IF ANSWER IS 1 *, ASK:* Are you that one? *SKIP TABLE AND EITHER ASK FOR THE ONE ADULT OR CONTINUE INTERVIEWING IF THIS IS THE ONE ADULT.*

IF ANSWER IS MORE THAN 1 *, CONTINUE.*

CIRCLE NUMBER OF ADULTS BELOW:

ODD

Males 18 +	Adults 18 and Over			
	1	2	3	4
0	THE WOMAN	THE YOUNGER WOMAN	THE OLDEST WOMAN	THE SECOND YOUNGEST WOMAN
1	THE MAN	THE MAN	THE OLDER WOMAN	THE YOUNGEST WOMAN
2		THE OLDER MAN	THE OLDER MAN	THE OLDER MAN
3+			THE OLDEST MAN	THE YOUNGEST MAN

EVEN

Males 18 +	Adults 18 and Over			
	1	2	3	4
0	THE WOMAN	THE OLDER WOMAN	THE OLDEST WOMAN	THE OLDEST WOMAN
1	THE MAN	THE WOMAN	THE YOUNGER WOMAN	THE SECOND YOUNGEST WOMAN
2		THE OLDER MAN	THE OLDER MAN	THE YOUNGEST MAN
3			THE SECOND OLDEST MAN	THE SECOND OLDEST MAN

And how many are men? *(IF NECESSARY, RECONFIRM THAT THE PERSON YOU ARE TALKING TO INCLUDED THEMSELVES IN THE FIRST NUMBER, AND THE SECOND, IF APPROPRIATE.)*

CIRCLE NUMBER OF MEN AND FIND INTERSECTION OF ADULTS TO MEN WHICH DETERMINES THE SEX AND RELATIVE AGE OF THE RESPONDENT TO BE INTERVIEWED.

That means I need to speak to _____ at home now.

IF NECESSARY: Hello, my name is _____ and I'm calling from the Planning Group.

ALL RESPONDENTS: We are doing a survey of transit-service needs of people living in the Pomona Valley and hope that you will give us a few minutes of your time. You have been chosen by a scientific process to be one of just a few households to be interviewed. Before we begin, I'd like to assure you that everything you say will remain confidential.

SECTION 1

We would like you to give us some information, first about your use of transit service in the Pomona Valley, and what you know about transit service. What I need to find out is your own use of service and what you know about it, not anyone else in your household.

1. WITHIN THE PAST YEAR, HAVE YOU USED ANY PUBLIC TRANSIT SERVICE (NOT SCHOOL BUS) IN POMONA VALLEY?

1 NO

2 YES → *IF YES:* WHAT SERVICE OR SERVICES HAVE YOU USED WITHIN THE PAST YEAR? HAVE YOU USED... *READ THE CATEGORIES*

1 RTD Bus Service
2 The Get-About (Dial-a-Ride)
3 OMNITRANS
4 Claremont Dial-a-Ride
8 Other (please describe) _____
9

ON THE AVERAGE, HOW OFTEN IN A MONTH DO YOU USE TRANSIT SERVICES? *CIRCLE THE NUMBER FOR THE APPROPRIATE ONE*

1 20 days or more per month
2 5-19 days per month
3 1-4 days per month
4 Less than 1 day per month
5 It varies a lot
8 Other _____
9

GO TO QUESTION 2

2

IF NO: We WOULD LIKE TO KNOW WHY YOU DON'T USE TRANSIT SERVICE IN POMONA VALLEY. PLEASE TELL ME HOW IMPORTANT EACH OF THE FOLLOWING REASONS ARE TO YOU BY TELLING ME IF EACH ONE THAT I READ TO YOU IS VERY IMPORTANT, IMPORTANT, or OF NO IMPORTANCE. *READ THE LIST OF ALTERNATIVE REASONS*

	VERY IMPORTANT	IMPORTANT	NOT VERY IMPORTANT	OF NO IMPORTANCE	
a. There is no service where I live/work /go to school	1	2	3	4	9
b. I don't know enough about transit service to use it	1	2	3	4	9
c. I have no need for transit service	1	2	3	4	9
d. I need the flexibility of the car	1	2	3	4	9
e. I need to be able to carry things in the car	1	2	3	4	9
f. I need to be able to give rides to others in the car	1	2	3	4	9
g. The schedule and frequency of service are not convenient	1	2	3	4	9
n. Other _____					

2. HOW MANY BLOCKS FROM HOME IS THE NEAREST BUS STOP? *CIRCLE THE NUMBER FOR THE ANSWER*

1 Within 1 block
2 1 to 3 blocks
3 4 to 6 blocks
4 7 to 10 blocks
5 More than 10 blocks
8 Don't Know
9

3. HOW MUCH WOULD YOU SAY YOU KNOW ABOUT TRANSIT SERVICE IN POMONA VALLEY? *CIRCLE NUMBER FOR ANSWER*

1 A lot 2 Some things 3 Very little 4 Nothing 9

SECTION II

Now we would like you to give us your opinions about the transit services that should be offered in Pomona Valley. There are no right or wrong answers to these questions; we want to find out about your opinions, so that we can make the transit services meet the public's needs. But, please remember that transit services, like police protection, fire service, and so on, must be paid for, so that we want you to tell us what you think is realistic to provide.

1. DO YOU THINK THERE SHOULD BE TRANSIT SERVICE IN POMONA VALLEY? *FOR EITHER YES OR NO, FIND OUT IF* PROBABLY *OR* DEFINITELY

1 Definitely Yes 2 Probably Yes 3 Probably No 4 Definitely No 9

IF DEFINITELY NO: GO TO SECTION III

2. THERE ARE A NUMBER OF DIFFERENT GROUPS OF PEOPLE THAT TRANSIT SERVICE COULD SERVE. I AM GOING TO READ EIGHT GROUPS TO YOU. FOR EACH ONE, PLEASE TELL ME IF YOU THINK THEY SHOULD BE SERVED OR SHOULD NOT BE SERVED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT	
a. People traveling to jobs locally	1	2	3	4	9
b. Public grade school students	1	2	3	4	9
c. Low-income residents	1	2	3	4	9
d. College students	1	2	3	4	9
e. The elderly	1	2	3	4	9
f. People traveling to jobs elsewhere in the Los Angeles region	1	2	3	4	9
g. The handicapped	1	2	3	4	9
h. Everyone, including those we haven't mentioned already	1	2	3	4	9

3. THERE ARE MANY DIFFERENT TYPES OF TRANSIT SERVICE THAT COULD BE PROVIDED IN POMONA VALLEY. I AM GOING TO READ YOU SOME OF THOSE. FOR EACH ONE, PLEASE TELL ME IF YOU THINK IT SHOULD BE PROVIDED OR SHOULD NOT BE PROVIDED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT	
a. Regularly-scheduled local transit service in Pomona Valley only	1	2	3	4	9
b. Regularly-scheduled transit service to and from the Montclair-Ontario-Upland area	1	2	3	4	9
c. Regularly-scheduled transit service to the San Gabriel Valley	1	2	3	4	9
d. Transit service to Ontario airport	1	2	3	4	9
e. Transit service to LAX airport	1	2	3	4	9
f. Regularly-scheduled transit service to and from other areas in Los Angeles County	1	2	3	4	9

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT	
g. Regularly-scheduled transit service to and from Orange County	1	2	3	4	9
h. Local bus service to park'n'ride lots for express service to downtown LA	1	2	3	4	9
i. Expanded park'n'ride and express service	1	2	3	4	9
j. Dial-a-ride service for all Pomona Valley residents, not just elderly and-handicapped	1	2	3	4	9

SECTION III

We would like to know how much you would use transit service in Pomona Valley for your regular travel needs, and how service should be improved for you to use it.
In the next five questions, please tell me what transit service should be like for you to use it for at least some of your travel needs in and around Pomona Valley.

1. FOR YOU TO USE IT, ON WHICH DAYS OF THE WEEK WOULD TRANSIT SERVICE NEED TO BE PROVIDED?
READ ALTERNATIVES

1 Monday through Friday
2 Monday through Saturday
3 Seven days a week
8 Other _____
9
0 Would not use transit service at all *(SKIP TO SECTION IV)*

2. IF TRANSIT SERVICE WERE ON THOSE DAYS OF THE WEEK, WHAT WOULD BE THE MINIMUM HOURS OF TRANSIT SERVICE FOR YOU TO USE IT? *READ ALTERNATIVES*

1 Rush hours
2 Daytime
3 Daytime and evening
4 24-hour service
8 Other _____
9

3. WHAT WOULD BE THE LONGEST TIME YOU WOULD BE WILLING TO WAIT FOR A BUS? *READ ALTERNATIVES*

1 Up to 5 minutes
2 5 to 10 minutes
3 10 to 15 minutes
4 15 to 30 minutes
8 Other _____
9

4. WHAT WOULD BE THE FURTHEST DISTANCE YOU WOULD WALK TO A BUS STOP? *READ ALTERNATIVES*

1 Less than 1 block
2 1 to 3 blocks
3 4 to 6 blocks
4 7 to 10 blocks
8 Other _____
9

5. IF THE TRANSIT SERVICE WAS DIAL-A-RIDE, HOW FAR AHEAD WOULD YOU BE WILLING TO CALL TO ARRANGE FOR A PICK-UP? *READ ALTERNATIVES*

1 2 days to 1 week
2 4 hours to 1 day
3 1 to 4 hours
4 30 to 60 minutes
8 Other _____
9

In the next few questions, we would like to know how much you think you would use improved transit service in Pomona Valley

6. DO YOU WORK OUTSIDE THE HOME, OR GO TO SCHOOL OR COLLEGE?

1 No

2 Yes: *IF YES:*

IF SERVICE WERE IMPROVED IN POMONA VALLEY, WOULD YOU USE TRANSIT TO TRAVEL BETWEEN HOME AND WORK/SCHOOL/COLLEGE? 1 No 2 Yes

7. IF SERVICE IN POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR SHOPPING TRIPS?

1 No

2 Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR SHOPPING?

1 2 or more times a week
2 Once a week
3 1-4 times a month
4 Less than once a month
5 Very rarely
8 Other_____
9

8. IF SERVICE IN POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR MEDICAL TRIPS?

1 No

2 Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR MEDICAL TRIPS?

1 2 or more times a week 2 Once a week
3 1-4 times a month 4 Less than once a month
5 very rarely 8 Other _____ 9

9. IF SERVICE IN POMONA VALLEY WERE IMPROVED, WOULD YOU USE THE BUS SERVICE FOR ANY OTHER TRAVEL?

1 No

2 Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT SERVICE FOR OTHER TRAVEL?

1 2 or more times a week 2 Once a week
3 1-4 times a month 4 Less than once a month
5 very rarely 8 Other _____ 9

SECTION IV

We would also like to know a few things about the people who answer our questions, both for statistical reasons and for comparing to Census information.

1. HOW MANY PRIVATE MOTOR VEHICLES (CARS, VANS, LIGHT TRUCKS) ARE AVAILABLE TO YOUR HOUSEHOLD FOR TRAVEL IN THIS AREA?

0 1 2 3 4 5 or more 9

2. HOW MANY PEOPLE, INCLUDING CHILDREN, LIVE IN THIS HOUSEHOLD? PLEASE COUNT YOURSELF.

1 2 3 4 5 6 7 8 or more 9

IF NECESSARY, CHECK THAT RESPONDENT INCLUDED HIMSELF OR HERSELF.

3. HOW MANY PEOPLE IN THIS HOUSEHOLD ARE WORKING OUTSIDE THE HOME?

0 1 2 3 4 5 6 or more 9

4. HOW MANY PEOPLE IN THIS HOUSEHOLD HAVE A CURRENT DRIVER'S LICENSE?

0 1 2 3 4 5 6 or more 9

5. PLEASE TELL ME WHAT ETHNIC GROUP YOU BELONG TO...

1 Hispanic 2 Black 3 Asian or Pacific Islander 4 White
8 Other _____ 9

6. DO YOU OR YOUR HOUSEHOLD OWN YOUR HOME OR RENT IT? 1 Own 2 Rent 9

7. PLEASE TELL ME IN WHAT YEAR YOU WERE BORN _____ 9

8. PLEASE TELL ME THE ZIP CODE OF YOUR HOME ADDRESS _____ 9

9. PLEASE TELL ME THE HIGHEST LEVEL OF EDUCATION YOU HAVE REACHED? *CIRCLE APPROPRIATE CATEGORY*

1 Up to 6 years of school	2 7-9 years of school	3 10-12 years of school
4 Some college	5 2-year degree	6 Bachelor's degree
7 Some graduate study	8 Graduate degree/degrees	9

10. NOW, CONSIDER ALL SOURCES OF INCOME, BEFORE TAXES, FOR EVERYONE LIVING WITH YOU IN 1982. PLEASE STOP ME WHEN I GET TO YOUR INCOME LEVEL. *READ CATEGORIES*

1 Under $5,000	2 $5,000 to $10,000	3 $10,000 to $15,000
4 $15,000 to $20,000	5 $20,000 to $25,000	6 $25,000 to $30,000
7 $30,000 to $40,000	8 Over $40,000	9 Don't know/ No Response

Thank you for your help in this study. These are all the questions I have. Do you have any comments you want to add to this survey? If you would like any information on our study, please call - and ask for "Survey Help."

Comments:

POMONA VALLEY
TRANSIT NEEDS STUDY
WEST VALLEY

Hello, my name is_____. I'm calling from The Planning Group. We are doing a study for the cities in the Pomona Valley and the Southern California Rapid Transit District to improve transit service between the Pomona Valley and West Valley. Please will you help us in this study by answering some questions for me.

Because this telephone number was selected at random by a computer, I need to know first if this is a home or a business.

HOME

BUSINESS: Thank you for your help. We are studying residences only, so we need not take any more of your time.
HANG UP AND DIAL NEXT ASSIGNED NUMBER

Now I need to find out who I should speak to at this residence. As part of this study, I can't always interview the person who answers the phone, but I must choose one of the adults who is at home now. We do this to make sure that we include in our study the right numbers of both men and women of all ages. So that I can choose the person, please tell me how many people 18 years old or over are at home now, including you, (if you are 18 or over).

IF ANSWER IS 1 *, ASK:* Are you that one? *SKIP TABLE AND EITHER ASK FOR THE ONE ADULT OR CONTINUE INTERVIEWING IF THIS IS THE ONE ADULT.*

IF ANSWER IS MORE THAN 1 *, CONTINUE.*

CIRCLE NUMBER OF ADULTS BELOW:

ODD

Males 18 +	Adults 18 and Over			
	1	2	3	4
0	THE WOMAN	THE YOUNGER WOMAN	THE OLDEST WOMAN	THE SECOND YOUNGEST WOMAN
1	THE MAN	THE MAN	THE OLDER WOMAN	THE YOUNGEST WOMAN
2		THE OLDER MAN	THE OLDER MAN	THE OLDER MAN
3+			THE OLDEST MAN	THE YOUNGEST MAN

EVEN

Males 18 +	Adults 18 and Over			
	1	2	3	4
0	THE WOMAN	THE OLDER WOMAN	THE OLDEST WOMAN	THE OLDEST WOMAN
1	THE MAN	THE WOMAN	THE YOUNGER WOMAN	THE SECOND YOUNGEST WOMAN
2		THE OLDER MAN	THE OLDER MAN	THE YOUNGEST MAN
3			THE SECOND OLDEST MAN	THE SECOND OLDEST MAN

And how many are men? *(IF NECESSARY, RECONFIRM THAT THE PERSON YOU ARE TALKING TO INCLUDED THEMSELVES IN THE FIRST NUMBER, AND THE SECOND, IF APPROPRIATE.)*

CIRCLE NUMBER OF MEN AND FIND INTERSECTION OF ADULTS TO MEN WHICH DETERMINES THE SEX AND RELATIVE AGE OF THE RESPONDENT TO BE INTERVIEWED.

That means I need to speak to _____ at home now.

IF NECESSARY: Hello, my name is _____ and I'm calling from the Planning Group.

ALL RESPONDENTS: We are doing a survey of transit-service needs of people living in the West Valley and hope that you will give us a few minutes of your time. You have been chosen by a scientific process to be one of just a few households to be interviewed. Before we begin, I'd like to assure you that everything you say will remain confidential.

SECTION I

We would like you to give us some information, first about your use of transit service to and from the Pomona Valley, and what you know about transit service. What I need to find out is your own use of service and what you know about it, not anyone else in your household.

1. WITHIN THE PAST YEAR, HAVE YOU USED ANY PUBLIC TRANSIT SERVICE (NOT SCHOOL BUS) TO OR FROM POMONA VALLEY?

1 NO

2 YES → *IF YES:* WHAT SERVICE OR SERVICES HAVE YOU USED WITHIN THE PAST YEAR? HAVE YOU USED... *READ THE CATEGORIES*

1 RTD Bus Service
2 The Get About (Dial-a-Lift)
3 OMNITRANS
8 Other (please describe) _____
9

ON THE AVERAGE, HOW OFTEN IN A MONTH DO YOU USE TRANSIT SERVICES? *CIRCLE THE NUMBER FOR THE APPROPRIATE ONE*

1 20 days or more per month
2 5-19 days per month
3 1-4 days per month
4 Less than 1 day per month
5 It varies a lot
8 Other _____
9

GO TO QUESTION 2

2

IF NO: WE WOULD LIKE TO KNOW WHY YOU DON'T USE TRANSIT SERVICE TO AND FROM POMONA VALLEY. PLEASE TELL ME HOW IMPORTANT EACH OF THE FOLLOWING REASONS ARE TO YOU BY TELLING ME IF EACH ONE THAT I READ TO YOU IS VERY IMPORTANT, IMPORTANT, NOT VERY IMPORTANT, OR OF NO IMPORTANCE. *READ THE LIST OF ALTERNATIVE REASONS*

	VERY IMPORTANT	IMPORTANT	NOT VERY IMPORTANT	OF NO IMPORTANCE	
a. There is no service where I live/work /go to school	1	2	3	4	9
b. I don't know enough about transit service to use it	1	2	3	4	9
c. I have no need for transit service	1	2	3	4	9
d. I need the flexibility of the car	1	2	3	4	9
e. I need to be able to carry things in the car	1	2	3	4	9
f. I need to be able to give rides to others in the car	1	2	3	4	9
g. The schedule and frequency of service are not convenient	1	2	3	4	9
h. Other _____					

2. HOW MANY BLOCKS FROM HOME IS THE NEAREST BUS STOP? *CIRCLE THE NUMBER FOR THE ANSWER*

1 Within 1 block
2 1 to 3 blocks
3 4 to 6 blocks
4 7 to 10 blocks
5 More than 10 blocks
8 Don't Know
9

3. HOW MUCH WOULD YOU SAY YOU KNOW ABOUT TRANSIT SERVICE TO AND FROM POMONA VALLEY? *CIRCLE THE NUMBER FOR THE ANSWER*

1 A lot 2 Some things 3 Very little 4 Nothing 9

SECTION II

Now we would like you to give us your opinions about the transit services that should be offered to and from Pomona Valley. There are no right or wrong answers to these questions; we want to find out about <u>your</u> opinions, so that we can make the transit services meet the public needs. But, please remember that transit services, like police protection, fire service, and so on, must be paid for, so that we want you to tell us what you think is realistic to provide.

1. DO YOU THINK THERE SHOULD BE TRANSIT SERVICE BETWEEN POMONA VALLEY AND WHERE YOU LIVE? *FOR EITHER YES OR NO, FIND OUT IF* PROBABLY *OR* DEFINITELY

1 Definitely Yes 2 Probably Yes 3 Probably No 4 Definitely No 9

IF DEFINITELY NO: GO TO SECTION III

2. THERE ARE A NUMBER OF DIFFERENT GROUPS OF PEOPLE THAT TRANSIT SERVICE TO AND FROM THE POMONA VALLEY COULD SERVE. I AM GOING TO READ EIGHT GROUPS TO YOU. FOR EACH ONE, PLEASE TELL ME IF YOU THINK THEY SHOULD BE SERVED OR SHOULD NOT BE SERVED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT
a. People traveling to jobs	1	2	3	4
b. Shoppers	1	2	3	4
c. Low-income residents	1	2	3	4
d. College students	1	2	3	4
e. The elderly	1	2	3	4
f. The handicapped	1	2	3	4
g. Everyone, including those we haven't mentioned already	1	2	3	4

3. THERE ARE MANY DIFFERENT TYPES OF TRANSIT SERVICE THAT COULD BE PROVIDED TO AND FROM POMONA VALLEY. I AM GOING TO READ YOU SOME OF THOSE. FOR EACH ONE, PLEASE TELL ME IF YOU THINK IT SHOULD BE PROVIDED OR SHOULD NOT BE PROVIDED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT	
a. Regularly-scheduled transit service to and from the Pomona Valley	1	2	3	4	9
b. Transit service to Ontario airport	1	2	3	4	9
c. Transit service to LAX airport	1	2	3	4	9
d. Regularly-scheduled transit service to and from Orange County	1	2	3	4	9
e. Local bus service to park'n'ride lots for express service to downtown LA	1	2	3	4	9
f. Park'n'ride express service	1	2	3	4	9
g. Dial-a-ride service for all West Valley residents	1	2	3	4	9
h. Is there other service you feel should be provided to and from the Pomona Valley? (specify)					

SECTION III

We would like to know how much you would use transit service to and from Pomona Valley for your regular travel needs, and how service should be improved for you to use it.
In the next five questions, please tell me what transit service should be like for you to use it for at least some of your travel needs to and from the Pomona Valley.

1. FOR YOU TO USE IT, ON WHICH DAYS OF THE WEEK WOULD TRANSIT SERVICE NEED TO BE PROVIDED? *READ ALTERNATIVES*

1 Monday through Friday
2 Monday through Saturday
3 Seven days a week
8 Other _____
9
0 Would not use transit service at all *(SKIP TO SECTION IV)*

2. IF TRANSIT SERVICE WERE ON THOSE DAYS OF THE WEEK, WHAT WOULD BE THE MINIMUM HOURS OF TRANSIT SERVICE FOR YOU TO USE IT? *READ ALTERNATIVES*

1 Rush hours
2 Daytime
3 Daytime and evening
4 24-hour service
8 Other _____
9

3. WHAT WOULD BE THE LONGEST TIME YOU WOULD BE WILLING TO WAIT FOR A BUS? *READ ALTERNATIVES*

1 Up to 5 minutes
2 5 to 10 minutes
3 10 to 15 minutes
4 15 to 30 minutes
8 Other _____
9

4. WHAT WOULD BE THE FURTHEST DISTANCE YOU WOULD WALK TO A BUS STOP? *READ ALTERNATIVES*

1 Less than 1 block
2 1 to 3 blocks
3 4 to 6 blocks
4 7 to 10 blocks
8 Other _____
9

5

5. IF THE TRANSIT SERVICE WAS DIAL-A-RIDE, HOW FAR AHEAD WOULD YOU BE WILLING TO CALL TO ARRANGE FOR A PICK-UP? *READ ALTERNATIVES*

1 2 days to 1 week
2 4 hours to 1 day
3 1 to 4 hours
4 30 to 60 minutes
8 Other _____
9

In the next few questions, we would like to know how much you think you would use improved transit service to and from Pomona Valley

6. DO YOU WORK OUTSIDE THE HOME, OR GO TO SCHOOL OR COLLEGE IN POMONA VALLEY?

1 No

2 Yes: *IF YES:*

IF SERVICE WERE IMPROVED TO AND FROM POMONA VALLEY, WOULD YOU USE TRANSIT TO TRAVEL BETWEEN HOME AND WORK/SCHOOL/COLLEGE? 1 No 2 Yes

7. IF SERVICE TO AND FROM POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR SHOPPING TRIPS?

1 No

2 Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR SHOPPING?

1 2 or more times a week 2 Once a week
3 1-4 times a month 4 Less than once a month
5 Very rarely 8 Other_____ 9

8. IF SERVICE TO AND FROM POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR MEDICAL TRIPS?

1 No

2 Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR MEDICAL TRIPS?

1 2 or more times a week 2 Once a week
3 1-4 times a month 4 Less than once a month
5 very rarely 8 Other _____ 9

9. IF SERVICE TO AND FROM POMONA VALLEY WERE IMPROVED, WOULD YOU USE THE BUS SERVICE FOR ANY OTHER TRAVEL?

1 No

2 Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT SERVICE FOR OTHER TRAVEL?

1 2 or more times a week 2 Once a week
3 1-4 times a month 4 Less than once a month
5 Very rarely 8 Other _____ 9

SECTION IV

We would also like to know a few things about the people who answer our questions, both for statistical reasons and for comparing to Census information.

1. HOW MANY PRIVATE MOTOR VEHICLES (CARS, VANS, LIGHT TRUCKS) ARE AVAILABLE TO YOUR HOUSEHOLD FOR TRAVEL IN THIS AREA?

   0 1 2 3 4 5 or more 9

2. HOW MANY PEOPLE, INCLUDING CHILDREN, LIVE IN THIS HOUSEHOLD? PLEASE COUNT YOURSELF.

   1 2 3 4 5 6 7 8 or more 9

   IF NECESSARY, CHECK THAT RESPONDENT INCLUDED HIMSELF OR HERSELF.

3. HOW MANY PEOPLE IN THIS HOUSEHOLD ARE WORKING OUTSIDE THE HOME?

   0 1 2 3 4 5 6 or more 9

4. HOW MANY PEOPLE IN THIS HOUSEHOLD HAVE A CURRENT DRIVER'S LICENSE?

   0 1 2 3 4 5 6 or more 9

5. PLEASE TELL ME WHAT ETHNIC GROUP YOU BELONG TO...

   1 Hispanic 2 Black 3 Asian or Pacific Islander 4 White
   8 Other _____ 9

6. DO YOU OR YOUR HOUSEHOLD OWN YOUR HOME OR RENT IT? 1 Own 2 Rent 9

7. PLEASE TELL ME IN WHAT YEAR YOU WERE BORN _____ 9

8. PLEASE TELL ME THE ZIP CODE OF YOUR HOME ADDRESS _____ 9

9. PLEASE TELL ME THE HIGHEST LEVEL OF EDUCATION YOU HAVE REACHED? *CIRCLE APPROPRIATE CATEGORY*

   1 Up to 6 years of school 2 7-9 years of school 3 10-12 years of school
   4 Some college 5 2-year degree 6 Bachelor's degree
   7 Some graduate study 8 Graduate degree/degrees 9

10. NOW, CONSIDER ALL SOURCES OF INCOME, BEFORE TAXES, FOR EVERYONE LIVING WITH YOU IN 1982. PLEASE STOP ME WHEN I GET TO YOUR INCOME LEVEL. *READ CATEGORIES*

    1 Under $5,000 2 $5,000 to $10,000 3 $10,000 to $15,000
    4 $15,000 to $20,000 5 $20,000 to $25,000 6 $25,000 to $30,000
    7 $30,000 to $40,000 8 Over $40,000 9 Don't know/ No Response

Thank you for your help in this study. These are all the questions I have. Do you have any comments you want to add to this survey? If you would like any information on our study, call 213/661-1185 and ask for "Survey Help."

Comments:

APPENDIX B -
POMONA VALLEY SURVEY RESULTS

That means I need to speak to _____ at home now.

IF NECESSARY: Hello, my name is _____ and I'm calling from the Planning Group.

ALL RESPONDENTS: We are doing a survey of transit-service needs of people living in the Pomona Valley and hope that you will give us a few minutes of your time. You have been chosen by a scientific process to be one of just a few households to be interviewed. Before we begin, I'd like to assure you that everything you say will remain confidential.

SECTION I

We would like you to give us some information, first about your use of transit service in the Pomona Valley, and what you know about transit service. What I need to find out is your own use of service and what you know about it, not anyone else in your household.

1. WITHIN THE PAST YEAR, HAVE YOU USED ANY PUBLIC TRANSIT SERVICE (NOT SCHOOL BUS) IN POMONA VALLEY?

78% NO 22% YES → *IF YES:* WHAT SERVICE OR SERVICES HAVE YOU USED WITHIN THE PAST YEAR? HAVE YOU USED... *READ THE CATEGORIES*

- 89% RTD Bus Service
- 5% The Get-About (Dial-a-Ride)
- 2% OMNITRANS
- 1% Claremont Dial-a-Ride
- 2% Other (please describe) _____

ON THE AVERAGE, HOW OFTEN IN A MONTH DO YOU USE TRANSIT SERVICES? *CIRCLE THE NUMBER FOR THE APPROPRIATE ONE*

- 22% 20 days or more per month
- 14% 5-19 days per month
- 26% 1-4 days per month
- 15% Less than 1 day per month
- 21% It varies a lot
- 2% Other _____

GO TO QUESTION 2

IF NO: WE WOULD LIKE TO KNOW WHY YOU DON'T USE TRANSIT SERVICE IN POMONA VALLEY. PLEASE TELL ME HOW IMPORTANT EACH OF THE FOLLOWING REASONS ARE TO YOU BY TELLING ME IF EACH ONE THAT I READ TO YOU IS VERY IMPORTANT, IMPORTANT, or OF NO IMPORTANCE. *READ THE LIST OF ALTERNATIVE REASONS*

	VERY IMPORTANT	IMPORTANT	NOT VERY IMPORTANT	OF NO IMPORTANCE
a. There is no service where I live/work /go to school	13%	16%	34%	37%
b. I don't know enough about transit service to use it	17%	19%	37%	27%
c. I have no need for transit service	36%	24%	28%	12%
d. I need the flexibility of the car	67%	23%	8%	3%
e. I need to be able to carry things in the car	43%	25%	18%	14%
f. I need to be able to give rides to others in the car	29%	22%	29%	20%
g. The schedule and frequency of service are not convenient	24%	18%	29%	29%
h. Other _____				

2. HOW MANY BLOCKS FROM HOME IS THE NEAREST BUS STOP? *CIRCLE THE NUMBER FOR THE ANSWER*

26% Within 1 block
36% 1 to 3 blocks
17% 4 to 6 blocks
5% 7 to 10 blocks
7% More than 10 blocks
10% Don't Know

3. HOW MUCH WOULD YOU SAY YOU KNOW ABOUT TRANSIT SERVICE IN POMONA VALLEY? *CIRCLE NUMBER FOR ANSWER*

7% A lot 21% Some things 45% Very little 27% Nothing

SECTION II

Now we would like you to give us your opinions about the transit services that should be offered in Pomona Valley. There are no right or wrong answers to these questions; we want to find out about <u>your</u> opinions, so that we can make the transit services meet the public's needs. But, please remember that transit services, like police protection, fire service, and so on, must be paid for, so that we want you to tell us what you think is realistic to provide.

1. DO YOU THINK THERE SHOULD BE TRANSIT SERVICE IN POMONA VALLEY? *FOR EITHER YES OR NO, FIND OUT IF* PROBABLY *OR* DEFINITELY

79% Definitely Yes 19% Probably Yes 1% Probably No 1% Definitely No

IF DEFINITELY NO: GO TO SECTION III

2. THERE ARE A NUMBER OF DIFFERENT GROUPS OF PEOPLE THAT TRANSIT SERVICE COULD SERVE. I AM GOING TO READ EIGHT GROUPS TO YOU. FOR EACH ONE, PLEASE TELL ME IF YOU THINK THEY SHOULD BE SERVED OR SHOULD NOT BE SERVED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT
a. People traveling to jobs locally	68%	28%	3%	1%
b. Public grade school students	50%	30%	10%	10%
c. Low-income residents	74%	23%	2%	1%
d. College students	66%	28%	4%	2%
e. The elderly	86%	13%	*	*
f. People traveling to jobs elsewhere in the Los Angeles region	70%	26%	3%	2%
g. The handicapped	82%	16%	2%	1%
n. Everyone, including those we haven't mentioned already	56%	39%	4%	1%

3. THERE ARE MANY DIFFERENT TYPES OF TRANSIT SERVICE THAT COULD BE PROVIDED IN POMONA VALLEY. I AM GOING TO READ YOU SOME OF THOSE. FOR EACH ONE, PLEASE TELL ME IF YOU THINK IT SHOULD BE PROVIDED OR SHOULD NOT BE PROVIDED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT
a. Regularly-scheduled local transit service in Pomona Valley only	31%	21%	15%	33%
b. Regularly-scheduled transit service to and from the Montclair-Ontario-Upland area	60%	35%	4%	2%
c. Regularly-scheduled transit service to the San Gabriel Valley	50%	40%	7%	3%
d. Transit service to Ontario airport	70%	23%	4%	3%
e. Transit service to LAX airport	61%	24%	9%	6%
f. Regularly-scheduled transit service to and from other areas in Los Angeles County	52%	39%	6%	3%

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT
g. Regularly-scheduled transit service to and from Orange County	40%	42%	13%	6%
h. Local bus service to park'n'ride lots for express service to downtown LA	66%	26%	4%	3%
i. Expanded park'n'ride and express service	60%	33%	5%	3%
j. Dial-a-ride service for all Pomona Valley residents, not just elderly and handicapped	39%	28%	13%	20%

SECTION III

We would like to know how much you would use transit service in Pomona Valley for your regular travel needs, and how service should be improved for you to use it.
In the next five questions, please tell me what transit service should be like for you to use it for at least some of your travel needs in and around Pomona Valley.

1. FOR YOU TO USE IT, ON WHICH DAYS OF THE WEEK WOULD TRANSIT SERVICE NEED TO BE PROVIDED?
READ ALTERNATIVES

40% Monday through Friday
14% Monday through Saturday
42% Seven days a week
5% Other _____

39% Would not use transit service at all *(SKIP TO SECTION IV)*

2. IF TRANSIT SERVICE WERE ON THOSE DAYS OF THE WEEK, WHAT WOULD BE THE MINIMUM HOURS OF TRANSIT SERVICE FOR YOU TO USE IT? *READ ALTERNATIVES*

20% Rush hours
30% Daytime
28% Daytime and evening
20% 24-hour service
2% Other _____

3. WHAT WOULD BE THE LONGEST TIME YOU WOULD BE WILLING TO WAIT FOR A BUS? *READ ALTERNATIVES*

4%	Up to 5 minutes
21%	5 to 10 minutes
43%	10 to 15 minutes
30%	15 to 30 minutes
1%	Other _____

4. WHAT WOULD BE THE FURTHEST DISTANCE YOU WOULD WALK TO A BUS STOP? *READ ALTERNATIVES*

9%	Less than 1 block
53%	1 to 3 blocks
29%	4 to 6 blocks
8%	7 to 10 blocks
2%	Other _____

5. IF THE TRANSIT SERVICE WAS DIAL-A-RIDE, HOW FAR AHEAD WOULD YOU BE WILLING TO CALL TO ARRANGE FOR A PICK-UP? *READ ALTERNATIVES*

9%	2 days to 1 week
25%	4 hours to 1 day
34%	1 to 4 hours
31%	30 to 60 minutes
1%	Other _____

In the next few questions, we would like to know how much you think you would use improved transit service in Pomona Valley

6. DO YOU WORK OUTSIDE THE HOME, OR GO TO SCHOOL OR COLLEGE?

29% No → SKIP TO 7

72% Yes: *IF YES:*

IF SERVICE WERE IMPROVED IN POMONA VALLEY, WOULD YOU USE TRANSIT TO TRAVEL BETWEEN HOME AND WORK/SCHOOL/COLLEGE? 29% No 71% Yes

7. IF SERVICE IN POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR SHOPPING TRIPS?

42% No → SKIP TO NEXT SECTION

58% Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR SHOPPING?

39%	2 or more times a week	33%	Once a week
19%	1-4 times a month	4%	Less than once a month
5%	Very rarely	1%	Other_____

8. IF SERVICE IN POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR MEDICAL TRIPS?

49% No

51% Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR MEDICAL TRIPS?

- 9% 2 or more times a week
- 8% Once a week
- 35% 1-4 times a month
- 19% Less than once a month
- 27% very rarely
- 3% Other _____

9. IF SERVICE IN POMONA VALLEY WERE IMPROVED, WOULD YOU USE THE BUS SERVICE FOR ANY OTHER TRAVEL?

41% No

59% Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT SERVICE FOR OTHER TRAVEL?

- 25% 2 or more times a week
- 20% Once a week
- 31% 1-4 times a month
- 9% Less than once a month
- 13% Very rarely
- 2% Other _____

APPENDIX C -
WEST VALLEY SURVEY RESULTS

That means I need to speak to _____ at home now.

IF NECESSARY: Hello, my name is _____ and I'm calling from the Planning Group.

ALL RESPONDENTS: We are doing a survey of transit-service needs of people living in the West Valley and hope that you will give us a few minutes of your time. You have been chosen by a scientific process to be one of just a few households to be interviewed. Before we begin, I'd like to assure you that everything you say will remain confidential.

SECTION I

We would like you to give us some information, first about your use of transit service to and from the Pomona Valley, and what you know about transit service. What I need to find out is your own use of service and what you know about it, not anyone else in your household.

1. WITHIN THE PAST YEAR, HAVE YOU USED ANY PUBLIC TRANSIT SERVICE (NOT SCHOOL BUS) TO OR FROM POMONA VALLEY?

86% NO

14% YES → *IF YES:* WHAT SERVICE OR SERVICES HAVE YOU USED WITHIN THE PAST YEAR? HAVE YOU USED... *READ THE CATEGORIES*

- 54% RTD Bus Service
- 10% The Get About (Dial-a-Lift)
- 34% OMNITRANS
- 2% Other (please describe) _____

ON THE AVERAGE, HOW OFTEN IN A MONTH DO YOU USE TRANSIT SERVICES? *CIRCLE THE NUMBER FOR THE APPROPRIATE ONE*

- 23% 20 days or more per month
- 17% 5-19 days per month
- 22% 1-4 days per month
- 9% Less than 1 day per month
- 28% It varies a lot
- 1% Other _____

GO TO QUESTION 2

IF NO: We WOULD LIKE TO KNOW WHY YOU DON'T USE TRANSIT SERVICE TO AND FROM POMONA VALLEY. PLEASE TELL ME HOW IMPORTANT EACH OF THE FOLLOWING REASONS ARE TO YOU BY TELLING ME IF EACH ONE THAT I READ TO YOU IS VERY IMPORTANT, IMPORTANT, NOT VERY IMPORTANT, OR OF NO IMPORTANCE. *READ THE LIST OF ALTERNATIVE REASONS*

	VERY IMPORTANT	IMPORTANT	NOT VERY IMPORTANT	OF NO IMPORTANCE
a. There is no service where I live/work /go to school	20%	17%	41%	22%
b. I don't know enough about transit service to use it	21%	23%	34%	23%
c. I have no need for transit service	27%	24%	37%	12%
d. I need the flexibility of the car	63%	27%	6%	4%
e. I need to be able to carry things in the car	46%	29%	15%	11%
f. I need to be able to give rides to others in the car	30%	21%	29%	19%
g. The schedule and frequency of service are not convenient	34%	20%	33%	13%
h. Other _____				

2. HOW MANY BLOCKS FROM HOME IS THE NEAREST BUS STOP? *CIRCLE THE NUMBER FOR THE ANSWER*

17% Within 1 block
34% 1 to 3 blocks
14% 4 to 6 blocks
3% 7 to 10 blocks
16% More than 10 blocks
17% Don't Know

3. HOW MUCH WOULD YOU SAY YOU KNOW ABOUT TRANSIT SERVICE TO AND FROM POMONA VALLEY? *CIRCLE THE NUMBER FOR THE ANSWER*

5% A lot 18% Some things 41% Very little 36% Nothing

SECTION II

Now we would like you to give us your opinions about the transit services that should be offered to and from Pomona Valley. There are no right or wrong answers to these questions; we want to find out about <u>your</u> opinions, so that we can make the transit services meet the public needs. But, please remember that transit services, like police protection, fire service, and so on, must be paid for, so that we want you to tell us what you think is realistic to provide.

1. DO YOU THINK THERE SHOULD BE TRANSIT SERVICE BETWEEN POMONA VALLEY AND WHERE YOU LIVE? *FOR EITHER YES OR NO, FIND OUT IF* PROBABLY *OR* DEFINITELY

73% Definitely Yes 22% Probably Yes 4% Probably No 2% Definitely No

IF DEFINITELY NO: GO TO SECTION III

2. THERE ARE A NUMBER OF DIFFERENT GROUPS OF PEOPLE THAT TRANSIT SERVICE TO AND FROM THE POMONA VALLEY COULD SERVE. I AM GOING TO READ EIGHT GROUPS TO YOU. FOR EACH ONE, PLEASE TELL ME IF YOU THINK THEY SHOULD BE SERVED OR SHOULD NOT BE SERVED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER.*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT
a. People traveling to jobs	86%	12%	1%	1%
b. Shoppers	61%	35%	4%	*
c. Low-income residents	87%	12%	1%	0
d. College students	82%	16%	2%	1%
e. The elderly	95%	5%	*	0
f. The handicapped	90%	6%	4%	*
g. Everyone, including those we haven't mentioned already	59%	40%	*	*

3. THERE ARE MANY DIFFERENT TYPES OF TRANSIT SERVICE THAT COULD BE PROVIDED TO AND FROM POMONA VALLEY. I AM GOING TO READ YOU SOME OF THOSE. FOR EACH ONE, PLEASE TELL ME IF YOU THINK IT SHOULD BE PROVIDED OR SHOULD NOT BE PROVIDED. *FOR EITHER ANSWER PROBE FOR STRENGTH OF RESPONSE AND RECORD AS "DEFINITELY" OR "PROBABLY". READ EACH ITEM IN THE LIST AND RECORD ANSWER*

	DEFINITELY SHOULD	PROBABLY SHOULD	PROBABLY SHOULD NOT	DEFINITELY SHOULD NOT
a. Regularly-scheduled transit service to and from the Pomona Valley	78%	18%	1%	3%
b. Transit service to Ontario airport	66%	24%	8%	3%
c. Transit service to LAX airport	55%	27%	11%	7%
d. Regularly-scheduled transit service to and from Orange County	46%	32%	16%	6%
e. Local bus service to park'n'ride lots for express service to downtown LA	72%	22%	5%	2%
f. Park'n'ride express service	67%	27%	4%	1%
g. Dial-a-ride service for all West Valley residents	55%	29%	11%	5%
h. Is there other service you feel should be provided to and from the Pomona Valley? (specify)	2%			

SECTION III

We would like to know how much you would use transit service to and from Pomona Valley for your regular travel needs, and how service should be improved for you to use it.
In the next five questions, please tell me what transit service should be like for you to use it for at least some of your travel needs to and from the Pomona Valley.

1. FOR YOU TO USE IT, ON WHICH DAYS OF THE WEEK WOULD TRANSIT SERVICE NEED TO BE PROVIDED? *READ ALTERNATIVES*

49% Monday through Friday
14% Monday through Saturday
34% Seven days a week
3% Other _____

48% Would not use transit service at all *(SKIP TO SECTION IV)*

2. IF TRANSIT SERVICE WERE ON THOSE DAYS OF THE WEEK, WHAT WOULD BE THE MINIMUM HOURS OF TRANSIT SERVICE FOR YOU TO USE IT? *READ ALTERNATIVES*

22% Rush hours
33% Daytime
26% Daytime and evening
18% 24-hour service
2% Other _____

3. WHAT WOULD BE THE LONGEST TIME YOU WOULD BE WILLING TO WAIT FOR A BUS? *READ ALTERNATIVES*

2% Up to 5 minutes
17% 5 to 10 minutes
39% 10 to 15 minutes
38% 15 to 30 minutes
4% Other _____

4. WHAT WOULD BE THE FURTHEST DISTANCE YOU WOULD WALK TO A BUS STOP? *READ ALTERNATIVES*

7% Less than 1 block
58% 1 to 3 blocks
27% 4 to 6 blocks
5% 7 to 10 blocks
3% Other _____

5. IF THE TRANSIT SERVICE WAS DIAL-A-RIDE, HOW FAR AHEAD WOULD YOU BE WILLING TO CALL TO ARRANGE FOR A PICK-UP? *READ ALTERNATIVES*

7%	2 days to 1 week
28%	4 hours to 1 day
34%	1 to 4 hours
31%	30 to 60 minutes
*	Other _____

In the next few questions, we would like to know how much you think you would use improved transit service to and from Pomona Valley

6. DO YOU WORK OUTSIDE THE HOME, OR GO TO SCHOOL OR COLLEGE IN POMONA VALLEY?

45% No → *IF NO:*

55% Yes: *IF YES:*

IF SERVICE WERE IMPROVED TO AND FROM POMONA VALLEY, WOULD YOU USE TRANSIT TO TRAVEL BETWEEN HOME AND WORK/SCHOOL/COLLEGE? 24% No 76% Yes

7. IF SERVICE TO AND FROM POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR SHOPPING TRIPS?

33% No → *IF NO:*

67% Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR SHOPPING?

37%	2 or more times a week	25%	Once a week
32%	1-4 times a month	4%	Less than once a month
4%	Very rarely	0	Other_____

8. IF SERVICE TO AND FROM POMONA VALLEY WERE IMPROVED, WOULD YOU USE TRANSIT FOR MEDICAL TRIPS?

45% No → *IF NO:*

55% Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT FOR MEDICAL TRIPS?

16%	2 or more times a week	6%	Once a week
33%	1-4 times a month	19%	Less than once a month
22%	very rarely	4%	Other _____

9. IF SERVICE TO AND FROM POMONA VALLEY WERE IMPROVED, WOULD YOU USE THE BUS SERVICE FOR ANY OTHER TRAVEL?

31% No → *IF NO:*

69% Yes *IF YES:* ABOUT HOW OFTEN DO YOU THINK YOU WOULD USE TRANSIT SERVICE FOR OTHER TRAVEL?

29%	2 or more times a week	69%	Once a week
1%	1-4 times a month	*	Less than once a month
0	Very rarely	0	Other _____

APPENDIX D -
OPERATING COST PERFORMANCE OF INDIVIDUAL FIXED-ROUTES

****

OPERATING COST PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #1
MANAGEMENT OPTION:RTD OWNERSHIP/MANAGEMENT

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY VEHICLE HOURS	COST PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	COST PER VEHICLE MILE	TOTAL DAILY PASS.	COST PER PASS.
187	1514.22	30.41	49.79	511.56	2.96	747	2.03
276	315.38	7.35	42.91	97.34	3.24	80	3.94
185	802.83	16.40	48.95	280.71	2.86	309	2.60
178	212.67	4.09	52.00	64.64	3.29	91	2.34
480	2718.51	43.07	63.12	988.55	2.75	1376	1.98
482	1512.49	26.46	57.16	489.48	3.09	653	2.32
484	1845.38	36.39	50.71	693.75	2.66	1316	1.40
490	259.84	9.59	27.09	89.91	2.89	86	3.02
492	104.07	1.41	73.81	17.52	5.94	38	2.74
497	4911.31	35.22	139.45	1172.15	4.19	661	7.43
SUBTOTAL	14196.69	210.39	67.48	4405.61	3.22	5357	2.65
291	2586.33	54.49	47.46	677.05	3.82	1152	2.25
192	2699.66	56.80	47.53	818.08	3.30	741	3.64
SUBTOTAL	5286.00	111.29	47.50	1495.13	3.54	1893	2.79
TOTAL	19482.69	321.68	60.57	5900.74	3.30	7250	2.69

****

OPERATING COST PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #2 & 4
MANAGEMENT OPTION: OWNERSHIP/MANAGEMENT BY RTD
AND NEW AUTHORITY OR JOINT
POWERS AGENCY

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY VEHICLE HOURS	COST PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	COST PER VEHICLE MILE	TOTAL DAILY PASS.	COST PER PASS.
187	1230.09	23.01	53.46	415.57	2.96	975	1.26
276	630.73	13.24	47.64	194.67	3.24	98	6.44
185	1490.92	30.46	48.95	521.30	2.86	380	3.92
178	212.67	4.09	52.00	64.64	3.29	91	2.34
480	4882.68	76.25	64.04	1775.52	2.75	2474	1.97
482	1959.62	35.89	54.60	634.18	3.09	744	2.63
484	1875.30	37.00	50.68	705.00	2.66	1316	1.43
490	259.84	9.59	27.09	89.91	2.89	86	3.02
492	104.07	1.41	73.81	17.52	5.94	38	2.74
497	4911.31	35.22	139.45	1172.15	4.19	661	7.43
SUB TOTAL	17557.22	266.16	65.96	5590.46	3.14	6863	2.56
NR1	1593.73	42.00	37.95	529.48	3.01	452	3.53
NR2	1045.07	24.78	42.17	347.20	3.01	447	2.34
NR3	1908.94	42.00	45.45	634.20	3.01	698	2.73
NR4	365.98	6.60	55.45	88.83	4.12	158	2.32
SUB TOTAL	4913.73	115.38	42.59	1599.71	3.07	1755	2.80
TOTAL	22470.94	381.54	58.90	7190.17	3.13	8618	2.61

****

OPERATING COST PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #2 & 4
MANAGEMENT OPTION: OWNERSHIP BY RTD AND NEW AUTHORITY
OR JOINT POWERS AGENCY AND
MANAGEMENT BY RTD AND PRIVATE
MANAGEMENT FIRM.

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY VEHICLE HOURS	COST PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	COST PER VEHICLE MILE	TOTAL DAILY PASS.	COST PER PASS.
187	1230.09	23.01	53.46	415.57	2.96	975	1.26
276	630.41	13.24	47.61	194.57	3.24	98	6.43
185	1490.92	30.46	48.95	521.30	2.86	380	3.92
178	212.67	4.09	52.00	64.64	3.29	91	2.34
480	4882.68	76.25	64.04	1775.52	2.75	2474	1.97
482	1959.62	35.89	54.60	634.18	3.09	744	2.63
484	1875.30	37.00	50.68	705.00	2.66	1316	1.43
490	259.84	9.59	27.09	89.91	2.89	86	3.02
492	104.07	1.41	73.81	17.52	5.94	38	2.74
497	4911.31	35.22	139.45	1172.15	4.19	661	7.43
SUB TOTAL	17556.89	266.16	65.96	5590.36	3.14	6863	2.56
NR1	1630.80	42.00	38.83	529.48	3.08	452	3.61
NR2	1069.38	24.78	43.15	347.20	3.08	447	2.39
NR3	1953.34	42.00	46.51	634.20	3.08	698	2.80
NR4	373.97	6.60	56.66	88.83	4.21	158	2.37
SUB TOTAL	5027.48	115.38	43.57	1599.71	3.14	1755	2.86
TOTAL	22584.38	381.54	59.19	7190.07	3.14	8618	2.62

****

OPERATING COST PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #3
MANAGEMENT OPTION:RTD OWNERSHIP/MANAGEMENT

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY VEHICLE HOURS	COST PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	COST PER VEHICLE MILE	TOTAL DAILY PASS.	COST PER PASS.
187	1230.09	23.01	53.46	415.57	2.96	1022	1.20
185	1766.79	33.92	52.09	617.76	2.86	1584	1.12
178	212.67	4.09	52.00	64.64	3.29	95	2.24
480	4882.68	76.25	64.04	1775.52	2.75	2592	1.88
482	403.40	7.61	53.01	130.55	3.09	145	2.78
484	1875.30	37.00	50.68	705.00	2.66	1640	1.14
490	259.84	9.59	27.09	89.91	2.89	90	2.89
492	104.07	1.41	73.81	17.52	5.94	40	2.60
497	4911.31	35.22	139.45	1172.15	4.19	693	7.09
TOTAL	15646.14	228.10	68.59	4988.62	3.14	7901	1.98

****

OPERATING COST PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #5
MANAGEMENT OPTION: OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY VEHICLE HOURS	COST PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	COST PER VEHICLE MILE	TOTAL DAILY PASS.	COST PER PASS.
187	1230.09	23.01	53.46	415.57	2.96	1009	1.22
276	1444.29	31.54	45.79	445.77	3.24	572	2.52
185	1766.79	33.92	52.09	617.76	2.86	1564	1.13
178	212.67	4.09	52.00	64.64	3.29	94	2.26
480	4882.68	76.25	64.04	1775.52	2.75	2560	1.91
482	606.04	10.92	55.50	196.13	3.09	143	4.24
484	1875.30	37.00	50.68	705.00	2.66	1619	1.16
490	259.84	9.59	27.09	89.91	2.89	89	2.92
492	104.07	1.41	73.81	17.52	5.94	39	2.67
497	4911.31	35.22	139.45	1172.15	4.19	684	7.18
SUB TOTAL	17293.08	262.95	65.77	5499.97	3.14	8373	2.07
NR	1908.94	42.00	45.45	634.20	3.01	722	2.64
SUB TOTAL	1908.94	42.00	45.45	634.20	3.01	722	2.64
TOTAL	19202.02	304.95	62.97	6134.17	3.13	9095	2.11

****

OPERATING COST PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #5
MANAGEMENT OPTION: OWNERSHIP BY RTD AND NEW AUTHORITY
OR JOINT POWERS AGENCY AND
MANAGEMENT BY RTD AND PRIVATE
MANAGEMENT FIRM.

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY VEHICLE HOURS	COST PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	COST PER VEHICLE MILE	TOTAL DAILY PASS.	COST PER PASS.
187	1230.09	23.01	53.46	415.57	2.96	1009	1.22
276	1444.29	31.54	45.79	445.77	3.24	572	2.52
185	1766.79	33.92	52.09	617.76	2.86	1564	1.13
178	212.67	4.09	52.00	64.64	3.29	94	2.26
480	4882.68	76.25	64.04	1775.52	2.75	2560	1.91
482	606.04	10.92	55.50	196.13	3.09	143	4.24
484	1875.30	37.00	50.68	705.00	2.66	1619	1.16
490	259.84	9.59	27.09	89.91	2.89	89	2.92
492	104.07	1.41	73.81	17.52	5.94	39	2.67
497	4911.31	35.22	139.45	1172.15	4.19	684	7.18
SUB TOTAL	17293.08	262.95	65.77	5499.97	3.14	8373	2.07
NR	2029.44	42.00	48.32	634.20	3.20	722	2.81
SUB TOTAL	2029.44	42.00	48.32	634.20	3.20	722	2.81
TOTAL	19322.52	304.95	63.36	6134.17	3.15	9095	2.12

APPENDIX E -
RIDERSHIP ESTIMATION PROCEDURES

1. INTRODUCTION

This chapter describes the procedures that were used to estimate patronage for the fixed-route and demand-responsive systems of Alternatives 2 through 5. The fixed-route systems involve modifications to existing routes, new routes, frequency of service changes, and changes in service hours. Each of these improvements required the use of different patronage estimation procedures. Likewise, the demand-responsive systems required procedures different from those used to estimate patronage for the fixed-route alternatives.

2. PATRONAGE ESTIMATION PROCEDURES

2.1 NEW ROUTES AND ROUTE MODIFICATIONS

Patronage estimates for new fixed-routes and modifications to existing routes were developed on the basis of existing values of passengers per vehicle mile of similar routes. This ridership estimation procedure is described in two recent UMTA publications.[1] Similar routes could include the routes that are being modified or other routes in the system. Factors considered in the selection of a similar route include:

1. Route type (express or local)
2. Route frequency
3. Route orientation
4. Population density of the service area
5. Income level of residents in the area
6. Automobile ownership per household in the area
7. Employment in the area.

[1] Transit System Evaluation and Service Change Manual, (Urban Mass Transportation Administration), 1981.
Multisystems, Inc., Route Level Demand Models: A Review, prepared for the Urban Mass Transportation Administration, 1982.

If a route of similar type, frequency, and orientation is found, but the service area has a significantly different population and employment density, then the passengers per mile value of the similar route was factored by the ratios of population and employment densities of the new area to the population and employment densities of the existing route. Likewise, the passengers per mile value was factored to account for differences in income or automobile ownership. For every ten percent difference in income or automobile ownership, ridership was adjusted by one percent. In equation form, the ridership projection formula is as follows:

New Ridership =

$$\left(\text{Existing Passenger Per Mile Value}\right)\left(\text{Number of In-Service Vehicle Miles of New Route or Modification}\right)\left(\frac{\text{Population Density New Area}}{\text{Population Density Existing Route}}\right)\left(\frac{\text{Employment Density New Area}}{\text{Employment Density Existing Route}}\right)\left(\text{Adjustments For Income or Auto Ownership}\right)$$

Adjustments =

$$\text{Adjustment for Auto Ownership} = \left(\frac{\text{Percentage of Households With One or No Auto in New Area} - \text{Percentage of Households With One or No Auto in Existing Route}}{10}\right) \quad (.01)$$

$$\text{Adjustment for Income} = \left(\frac{\text{Percentage of Households with Incomes Less than \$10K In New Area} - \text{Percentage of Households with Incomes Less than \$10K in Existing Route}}{10}\right) \quad (.01)$$

2.2 FREQUENCY OF SERVICE CHANGES

Initially, a pivot point procedure was planned to be used to estimate changes in patronage resulting from increases in the frequency of service. This procedure when used for this purpose estimates shifts in the mode split brought about by changes in out-of-vehicle travel time, which includes wait and walk time. Wait time for transit trips is assumed to be one-half the frequency of service. However, this assumption does not hold true for transit routes with a low level of service, such as sixty minutes or more, since very few patrons can be expected to wait thirty minutes for a bus. The maximum wait time used is ten minutes. Therefore, the pivot point procedure would not show any shift in mode split where the frequency of service is increased from more than twenty minutes to twenty minutes since the wait time for both cases would be ten minutes. In actuality, the change in the transit level of service could be a major determinant of mode choice somewhere or at these frequencies. Walk time, the other variable in out-of-vehicle travel time, would remain constant.

Instead, changes in patronage resulting from increases in the frequency of service were estimated using headway elasticities from case studies reported in a recent UMTA document.[2] These studies indicate that headway elasticities depend on the previous level of service. FOr routes with a high level of service (ten minutes or less) the headway elasticity is -0.22. In other words, for every one percent change in the headway, there is a .22 percent change in ridership. Routes with medium level of service (ten to fifty minutes) have a headway elasticity of -0.46. The headway elasticity for routes with a low level of service (more than fifty minutes) is -0.58. Using these elasticity values, the equation for estimating changes in rideship due to changes in the frequency of service is as follows:

$$\text{Ridership Gained or Loss} = \left(\frac{\text{Changes in Service Level}}{\text{Existing Service Level}}\right) \left(\text{Elasticity Value}\right)$$

[2] Ecosometrics, Inc., Patronage Impacts of Changes in Transit Fares and Services, prepared for Urban Mass Transportation Administration, 1980.

The validity of the UMTA reported headway elasticity values was examined using findings from a 1983 report on RTD service frequency modifications.[3] The report focused on whether or not a change in service frequency significantly affects route ridership. The routes examined in the report include five RTD lines located primarily in suburban Los Angeles. These lines experienced changes in frequency from approximately twenty to thirty minutes. Table 1 presents a summary of the report's findings on service changes and ridership impacts. The findings show that a 27 percent reduction in the number of trips yielded a thirteen percent decline in ridership. The elasticity of the change in ridership to the change in service was found to be 0.48. Assuming that this elasticity value holds true in the reverse when the frequency of service is increased rather than decreased, it can be concluded that the UMTA elasticity value for routes with a medium level of service compares favorably with the experience of RTD lines since the two elasticity values differ by only -0.02. Further verification of the UMTA headway elasticity values using data from service frequency changes on other RTD lines could not be made without a thorough evaluation of historical data. Budgetary and time constraints prohibited such an evaluation. Use of the UMTA elasticity values is also believed to be valid in view of the fact that the RTD Scheduling Department uses an elasticity value of -0.50 when estimating changes in ridership due to increases in the frequency of service.

[3] Multisystems, Evaluation of Route Modifications (Los Angeles), prepared for the Urban Mass Transportation Administration, 1983.

TABLE 1

SUMMARY OF RTO SERVICE FREQUENCY IMPACTS

	Scheduled Trips		Total Boardings		
Line	Change	Percentage	Change	Percentage	Elasticity
96	-8	-31	-275	-16	0.52
239	-10	-33	-333	-28	0.85
230	-9	-35	-232	-15	0.42
432	-8	-27	-76	-11	0.40
425	-4	-13	+28	+02	0.11
	-39	-27	-888	-13	0.48

Note: Based on 1980 ridership.

Source: Multisystems, Evaluation of Route Modifications (Los Angeles), prepared for UMTA, 1983.

2.3 CHANGES IN SERVICE HOURS

Estimates of patronage changes due to changes in service hours were developed using the attached table (Figure 1) on typical patterns of travel by time of day. The pivot point procedure was found not to be suitable for such applications. The table shows the percentage of travel for each hour during the day. Ridership for the extended service hours can be calculated by factoring existing ridership by the values in the table.

2.4 PASSENGER TRANSFERS

Patronage resulting from transfer of demand responsible passengers to fixed route systems were also estimated. Nomographs were used to estimate patronage for the demand-responsive systems. The nomographs used can estimate patronage for elderly and handicapped demand-responsive transportation services and demand-responsive services coordinated with local and regional fixed-route transit.[4] Necessary inputs include either vehicles per square mile of coverage or per thousand persons served.

[4] Urban Mass Transportation Administration, Analyzing Transit Options for Small Communities, Washington, D.C., 1978.

Figure 1

Estimation of Patronage Changes
Resulting from Changes in
Service Hours

HOUR	HOURLY PERCENT		
	O-D	AUTO	BUS
00-01	0.1	1.3	
01-02	0.1	0.7	
02-03	0.2	0.4	
03-04	0.3	0.4	
04-05	0.3	1.0	0.3
05-06	1.7	3.8	1.7
06-07	7.3	6.4	6.1
07-03	9.0	6.7	15.2
08-09	3.4	5.0	9.8
09-10	4.0	4.6	4.2
10-11	4.2	4.7	3.7
11-12	4.3	4.7	3.4

HOUR	HOURLY PERCENT		
	O-D	AUTO	BUS
12-13	4.1	4.9	3.5
13-14	4.8	5.4	3.7
14-15	8.2	6.6	5.0
15-16	9.5	8.0	6.4
16-17	9.9	8.1	14.3
17-18	7.8	6.2	11.7
18-19	7.4	4.9	3.6
19-20	4.9	4.2	2.3
20-21	3.8	3.8	1.7
21-22	2.5	3.4	1.5
22-23	2.1	2.8	1.0
23-24	0.1	2.0	0.9

When changes in service hours are contemplated, the potential ridership in that time period can be estimated from the table and added to or deducted from daily totals.

Source: North Central Texas Council of Governments, TSM Handbook of Manual Analysis Techniques for Transit Stategies, Fort Worth, Texas, May, 1981.

Patronage for the elderly and handicapped demand-responsive systems was estimated assuming areawide coverage of Pomona Valley. For demand-responsive systems coordinated with fixed-route transit, patronage was estimated assuming coverage of all the area outside the fixed-route service and fifty percent of the area within the fixed-route service area.

Transfers from demand-responsive vehicles to fixed-routes will occur where the demand-responsive system is designed to feed into the fixed-route system. These passengers were estimated based on the assumption that ten percent of the demand-responsive passengers would transfer.

APPENDIX F -
RIDERSHIP PERFORMANCE OF INDIVIDUAL FIXED-ROUTES

****

RIDERSHIP PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #1
MANAGEMENT OPTION:RTD OWNERSHIP/MANAGEMENT

****

LINE NUMBER	TOTAL DAILY PASSENGER BOARDINGS	TOTAL DAILY VEHICLE HOURS	PASS. PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	PASS. PER VEHICLE MILE
187	747	30.41	24.56	511.56	1.46
276	80	7.35	10.88	97.34	0.82
185	309	16.40	18.84	280.71	1.10
178	91	4.09	22.25	64.64	1.41
480	1376	43.07	31.95	988.55	1.39
482	653	26.46	24.68	489.48	1.33
484	1316	36.39	36.16	693.75	1.90
490	86	9.59	8.97	89.91	0.96
492	38	1.41	26.95	17.52	2.17
497	661	35.22	18.77	1172.15	0.56
SUBTOTAL	5357	210.39	25.46	4405.61	1.22
291	1152	54.49	21.14	677.05	1.70
192	741	56.80	13.05	818.08	0.91
SUBTOTAL	1893	111.29	17.01	1495.13	1.27
TOTAL	7250	321.68	22.54	5900.74	1.23

****

RIDERSHIP PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #2 & 4
MANAGEMENT OPTION: OWNERSHIP/MANAGEMENT BY RTD
AND NEW ATHORITY OR JOINT
POWERS AGENCY.

****

LINE NUMBER	TOTAL DAILY PASSENGER BOARDINGS	TOTAL DAILY VEHICLE HOURS	PASS. PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	PASS. PER VEHICLE MILE
187	975	23.01	42.37	415.57	2.35
276	98	13.24	7.40	194.57	0.50
185	380	30.46	12.48	521.30	0.73
178	91	4.09	22.25	64.64	1.41
480	2474	76.25	32.45	1775.52	1.39
482	744	35.89	20.73	634.18	1.17
484	1316	37.00	35.57	705.00	1.87
490	86	9.59	8.97	89.91	0.96
492	38	1.41	26.95	17.52	2.17
497	661	35.22	18.77	1172.15	0.56
SUB TOTAL	6863	266.16	25.79	5590.36	1.23
NR1	452	42.00	10.76	529.48	0.85
NR2	447	24.78	18.04	347.20	1.29
NR3	698	42.00	16.62	634.20	1.10
NR4	158	6.60	23.94	88.83	1.78
SUB TOTAL	1755	115.38	15.21	1599.71	1.10
TOTAL	8618	381.54	22.59	7190.07	1.20

****

RIDERSHIP PERFORMANCE
FIXED ROUTE SYSTEM
ALTERNATIVE #2 & 4
MANAGEMENT OPTION: OWNERSHIP BY RTD AND NEW AUTHORITY
OR JOINT POWERS AGENCY AND
MANAGEMENT BY RTD AND PRIVATE
MANAGEMENT FIRM.

****

LINE NUMBER	TOTAL DAILY PASSENGER BOARDINGS	TOTAL DAILY VEHICLE HOURS	PASS. PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	PASS. PER VEHICLE MILE
187	975	23.01	42.37	415.57	2.35
276	98	13.24	7.40	194.57	0.50
185	380	30.46	12.48	521.30	0.73
178	91	4.09	22.25	64.64	1.41
480	2474	76.25	32.45	1775.52	1.39
482	744	35.89	20.73	634.18	1.17
484	1316	37.00	35.57	705.00	1.87
490	86	9.59	8.97	89.91	0.96
492	38	1.41	26.95	17.52	2.17
497	661	35.22	18.77	1172.15	0.56
SUB TOTAL	6863	266.16	25.79	5590.36	1.23
NR1	452	42.00	10.76	529.48	0.85
NR2	447	24.78	18.04	347.20	1.29
NR3	698	42.00	16.62	634.20	1.10
NR4	158	6.60	23.94	88.83	1.78
SUB TOTAL	1755	115.38	15.21	1599.71	1.10
TOTAL	8618	381.54	22.59	7190.07	1.20

****

RIDERSHIP PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #3
MANAGEMENT OPTION:RTD OWNERSHIP/MANAGEMENT

****

LINE NUMBER	TOTAL DAILY PASSENGER BOARDINGS	TOTAL DAILY VEHICLE HOURS	PASS. PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	PASS. PER VEHICLE MILE
187	1022	23.01	44.42	415.57	2.46
185	1584	33.92	46.70	617.76	2.56
178	95	4.09	23.23	64.64	1.47
480	2592	76.25	33.99	1775.52	1.46
482	145	7.61	19.05	130.55	1.11
484	1640	37.00	44.32	705.00	2.33
490	90	9.59	9.38	89.91	1.00
492	40	1.41	28.37	17.52	2.28
497	693	35.22	19.68	1172.15	0.59
TOTAL	7901	228.10	34.64	4988.62	1.58

****

RIDERSHIP PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #5
MANAGEMENT OPTION: OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY.

****

LINE NUMBER	TOTAL DAILY PASSENGER BOARDINGS	TOTAL DAILY VEHICLE HOURS	PASS. PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	PASS. PER VEHICLE MILE
187	1009	23.01	43.85	415.57	2.43
276	572	31.54	18.14	445.77	1.28
185	1564	33.92	46.11	617.76	2.53
178	94	4.09	22.98	64.64	1.45
480	2560	76.25	33.57	1775.52	1.44
482	143	10.92	13.10	196.13	0.73
484	1619	37.00	43.76	705.00	2.30
490	89	9.59	9.28	89.91	0.99
492	39	1.41	27.66	17.52	2.23
497	684	35.22	19.42	1172.15	0.58
SUB TOTAL	8373	262.95	31.84	5499.97	1.52
NR	722	42.00	17.19	634.20	1.14
SUB TOTAL	722	42.00	17.19	634.20	1.14
TOTAL	9095	304.95	29.82	6134.17	1.48

****

RIDERSHIP PERFORMANCE
FIXED ROUTE SYSTEMS
ALTERNATIVE #5
MANAGEMENT OPTION: OWNERSHIP BY RTD AND NEW AUTHORITY
OR JOINT POWERS AGENCY AND
MANAGEMENT BY RTD AND PRIVATE
MANAGEMENT FIRM.

****

LINE NUMBER	TOTAL DAILY PASSENGER BOARDINGS	TOTAL DAILY VEHICLE HOURS	PASS. PER VEHICLE HOUR	TOTAL DAILY VEHICLE MILES	PASS. PER VEHICLE MILE
187	1009	23.01	43.85	415.57	2.43
276	572	31.54	18.14	445.77	1.28
185	1564	33.92	46.11	617.76	2.53
178	94	4.09	22.98	64.64	1.45
480	2560	76.25	33.57	1775.52	1.44
482	143	10.92	13.10	196.13	0.73
484	1619	37.00	43.76	705.00	2.30
490	89	9.59	9.28	89.91	0.99
492	39	1.41	27.66	17.52	2.23
497	684	35.22	19.42	1172.15	0.58
SUB TOTAL	8373	262.95	31.84	5499.97	1.52
NR	722	42.00	17.19	634.20	1.14
SUB TOTAL	722	42.00	17.19	634.20	1.14
TOTAL	9095	304.95	29.82	6134.17	1.48

APPENDIX G -
REVENUE TO COST COMPARISON OF INDIVIDUAL FIXED-ROUTES

****

REVENUE TO COST COMPARISON
FIXED ROUTE SYSTEMS
ALTERNATIVE: 1
MANAGEMENT OPTION: RTD OWNERSHIP/MANAGEMENT

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY PASSENGER REVENUE	RATIO OF REVENUE TO COST
187	1514.22	224.10	0.15
276	315.38	23.20	0.07
185	802.83	95.79	0.12
178	212.67	22.75	0.11
480	2718.51	976.96	0.36
482	1512.49	254.67	0.17
484	1845.38	579.04	0.31
490	259.84	37.84	0.15
492	104.07	21.28	0.20
497	4911.31	998.11	0.20
SUBTOTAL	14196.70	3233.74	0.23
291	2586.33	345.60	0.13
192	2699.66	170.43	0.06
SUBTOTAL	5285.99	516.03	0.10
TOTAL	19482.69	3749.77	0.19

****

REVENUE TO COST COMPARISON
FIXED ROUTE SYSTEMS
ALTERNATIVE: 2 & 4
MANAGEMENT OPTION: OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY PASSENGER REVENUE	RATIO OF REVENUE TO COST
187	1230.09	292.50	0.24
276	630.73	28.42	0.05
185	1490.92	117.80	0.08
178	212.67	22.75	0.11
480	4882.68	1756.54	0.36
482	1959.62	290.16	0.15
484	1875.30	579.04	0.31
490	259.84	37.84	0.15
492	104.07	21.28	0.20
497	4911.31	998.11	0.20
SUB TOTAL	17557.23	4144.44	0.24
NR1	1593.73	122.04	0.08
NR2	1045.07	120.69	0.12
NR3	1908.94	188.46	0.10
NR4	365.98	238.58	0.65
SUB TOTAL	4913.72	669.77	0.14
TOTAL	22470.95	4814.21	0.21

****

REVENUE TO COST COMPARISON
FIXED ROUTE SYSTEMS
ALTERNATIVE: 2 & 4
MANAGEMENT OPTION: OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY PRIVATE MANAGEMENT FIRM.

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY PASSENGER REVENUE	RATIO OF REVENUE TO COST
187	1230.09	292.50	0.24
276	630.41	28.42	0.05
185	1490.92	117.80	0.08
178	212.67	22.75	0.11
480	4882.68	1756.54	0.36
482	1959.62	290.16	0.15
484	1875.30	579.04	0.31
490	259.84	37.84	0.15
492	104.07	21.28	0.20
497	4911.31	998.11	0.20
SUB TOTAL	17556.91	4144.44	0.24
NR1	1630.80	122.04	0.07
NR2	1069.38	120.69	0.11
NR3	1953.34	188.46	0.10
NR4	373.97	238.58	0.64
SUB TOTAL	5027.49	669.77	0.13
TOTAL	22584.40	4814.21	0.21

****

REVENUE TO COST COMPARISON
FIXED ROUTE SYSTEMS
ALTERNATIVE: #3
MANAGEMENT OPTION: RTD OWNERSHIP/MANAGEMENT

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY PASSENGER REVENUE	RATIO OF REVENUE TO COST
187	1230.09	297.20	0.24
185	1766.79	445.68	0.25
178	212.67	23.15	0.11
480	4882.68	1768.34	0.36
482	403.40	54.52	0.14
484	1875.30	696.10	0.37
490	259.84	38.24	0.15
492	104.07	21.48	0.21
497	4911.31	1001.31	0.20
TOTAL	15646.15	4346.02	0.28

****

REVENUE TO COST COMPARISON
FIXED ROUTE SYSTEMS
ALTERNATIVE: #5
MANAGEMENT OPTION: OWNERSHIP/MANAGEMENT BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY.

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY PASSENGER REVENUE	RATIO OF REVENUE TO COST
187	1230.09	295.90	0.24
276	1444.29	162.27	0.11
185	1766.79	443.68	0.25
178	212.67	23.05	0.11
480	4882.68	1765.14	0.36
482	606.04	54.32	0.09
484	1875.30	694.00	0.37
490	259.84	38.14	0.15
492	104.07	21.38	0.21
497	4911.31	1000.41	0.20
SUB TOTAL	17293.08	4498.29	0.26
NR	1908.94	190.86	0.10
SUB TOTAL	1908.94	190.86	0.10
TOTAL	19202.02	4689.15	0.24

****

REVENUE TO COST COMPARISON
FIXED ROUTE SYSTEMS
ALTERNATIVE:#5
MANAGEMENT OPTION: OWNERSHIP BY RTD AND NEW AUTHORITY OR JOINT POWERS AGENCY AND MANAGEMENT BY RTD AND PRIVATE MANAGEMENT FIRM.

****

LINE NUMBER	TOTAL DAILY OPERATING COST	TOTAL DAILY PASSENGER REVENUE	RATIO OF REVENUE TO COST
187	1230.09	295.90	0.24
276	1444.29	162.27	0.11
185	1766.79	443.68	0.25
178	212.67	23.05	0.11
480	4882.68	1765.14	0.36
482	606.04	54.32	0.09
484	1875.30	694.00	0.37
490	259.84	38.14	0.15
492	104.07	21.38	0.21
497	4911.31	1007.96	0.21
SUB TOTAL	17293.08	4505.84	0.26
NR	2029.44	190.86	0.09
SUB TOTAL	2029.44	190.86	0.09
TOTAL	19322.52	4696.70	0.24

APPENDIX H -
MEMORANDA ON FINANCIAL RESOURCE ESTIMATES

MEMORANDUM

November 4, 1983

TO: Members, Project Management Committee Pomona Valley Transit Needs Study

FROM: Peter S. Behrman

SUBJECT: CLARIFICATION OF SCAG TRANSIT FUNDING ESTIMATES FOR THE PONOMA VALLEY

Attached is a memorandum from Dr. Lou Cherene, SCAG Transportation Finance Division, detailing and clarifying the numbers presented in our memo to you of August 19, 1983. The memo explains the descrepancy between our figures and those developed by the Los Angeles County Transportations Commission for the Pomona Valley.

I hope you find this helpful.

PB:wp7

Attachment

MEMORANDUM

November 4, 1983

TO: Peter Behrman

FROM: Lou Cherene

SUBJECT: FINANCIAL FORECASTS FOR POMONA VALLEY TRANSIT NEEDS STUDY

I have reviewed my calculations in response to your questions concerning my revenue forecasts for transit service in the Pomona Valley. Here are answers to your questions point by point.

1. Section 9 was too high

   The amounts available for UMTA Section 9 funding were computed before the appropriations bil passed in Congress in late August. Nevertheless, they are reasonably accurate by virtue of my anticipating appropriations for FY 84 to fall 10% below those authorizes for Section 9 in the Surface Transportation Act of 1982.

2. ". . . Didn't talk much about the Regional (Operating) Cap in L.A. County."

   Considering the amount of Section 9 money accruing to the Pomona Valley, there wasn't much to say. The distribution of Section 9 operating money between the counties of the Los Angeles-Long Beach urbanized area (which includes Orange County and parts of San Bernardino County) was under negotiation at that time. Because of the small amount of Section 9 money available to the Pomona Valley and the fact that start-up costs for new transit services are usually considerable, operating caps were not felt to be a significant factor at this state of the study. Should this cap prove binding, the agencies present at your meetings may be able to find alternative solutions.

3. I cannot answer for LACTC's estimate of Proposition A money for Pomona Valley without knowing their assumptions, Methodology, and how their numbers are used. Their estimate of about $1.3 million for the Pomona Valley implies that approximately $211 million in total Prop. A allocations will be made in FY84. If this were equal to Prop. A revenue, the total taxable sales in L. A. County would be only $42 billion for FY84. Taxable sales haven't been that low since FY79, and they totalled $50 billion during the severe recession of FY83.

Our own estimates for county-wide Prop. A tax revenue have been revised downward in the short run since those used for the Pomona Valley Study were developed. They now stand at $263 million for FY84 and $265 million for FY85. These estimates are conservative. They are not the amount that LACTC plans to allocate in those years, only how much will be collected by LACTC in sales taxes. As such they represent stable estimates of the rate at which Prop A local funds will accrue to Pomona Valley-- approximately $1.6 mill for FY84 and FY85.

PB:wp7

SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
600 South Commonwealth Avenue • Suite 1000 • Los Angeles • California • 90005 • 213/385-1000

MEMORANDUM

DATE: November 16, 1983

TO: Mike Siekert, SCRTD

FROM: Lou Cherene, SCAG

SUBJECT: Restrictions of Financial Assistance for Transit Operations

---

There are two major restrictions on the use of financial assistance for operating costs.

1. Only $55 million of UMTA Section 9 funds for Los Angeles County may be used county wide for operating assistance, but excluding maintenance for fiscal years 1984 through 1986 (i.e., the full term of the Federal Public Transportation Act of 1982.) How these operating moneys are apportioned among public transportation operators within Los Angeles County is determined by agreements made by these operators and LACTC. This "operating cap" is fixed in nominal terms and, therefore, decays in real terms as inflation continues to erode the value of those dollars.

2. At least 15% of TDA funds received under article 4 must be used for capital expenditures as defined in P.U.C. Section 99267 (see attachment). Some maintenance expenditures qualify as "capital". The remaining 85% of TDA funds may be used for operating expenditures. Because TDA funds grow with inflation in the long run, the real value of these funds will be maintained.

LC/kd
attachment

cc: Peter Behrman

FROM: CALTRANS, TRANSPORTATION DEVELOPMENT ACT STATUTES AND ADMINISTRATIVE CODE FOR 1982

CAPITAL EXPENDITURE

99267. (a) At least 15 percent of funds received under this article shall be used by an operator for capital expenditures.

(b) Such capital expenditures shall consist of acquisition of land and other real property, current acquisition or replacement of transportation vehicles or conveyances (including those usable by handicapped persons), the vehicle cost portion of a vehicle lease, and acquisition, construction, enlargement, or repair of property and facilities incidental to or necessary or convenient in connection with the foregoing, depreciation, and payment of principal and interest on its bonded indebtedness, equipment trust certificates, or other indebtedness, including any amounts in the accomplishment of a defeasance under any outstanding revenue bond indenture.

(c) The requirement specified in subdivision (a) shall not apply (1) to an operation in each fiscal year that it receives financial assistance from local sources, exclusive of fares, in an amount equal to or greater than the amount it would have been required to expend pursuant to subdivision (a) or (2) to money allocated to a transit district for a claim filed pursuant to Section 99260.5.*

Amended by Chapter 1055, Statutes of 1981 (SB 572).

EXEMPTION TO MATCH FEDERAL OPERATING ASSISTANCE

99267.5. Notwithstanding Section 99268, if federal funds or assistance grants are made available on a matching basis for the operating expenditures of public transportation systems, any operator may budget and expend for operating purposes funds received under this article in an amount sufficient to enable the operator to receive the maximum amount of federal funds or assistance grants available for such purposes.

This section shall remain in effect only until July 1, 1981, and as of such date is repealed, unless a later enacted statute, which is chaptered before July 1, 1981, deletes or extends such date.

50-PERCENT EXPENDITURE LIMITATION

99268. The expenditure of the funds received under this article by an operator may in no year exceed 50 percent of the amount required to meet operating,

* CLAIMS FOR RAILROAD CORPORATION

LACTC

Los Angeles County
Transportation
Commission
354 South Spring Street
Suite 500
Los Angeles
California 90013
(213) 626-0370

November 17, 1983

MEMO TO: MIKE SIEKERT, SCRTD

FROM: DAVE COURY DRC

SUBJECT: PROP. A FINANCIAL PROJECTIONS

As requested by the PMC, I have prepared estimates of Prop. A funds for years 84-88. They are to be used for planning purposes in the Pomona Valley Transit Needs Study.

	(Millions) Total Prop. A Funds	(Millions) Available for Local Return	(Millions) Available for Four Pomona Valley Cities
84	$219	$54.4	$1.310
85	230	57.1	1.380
86	242	60.0	1.450
87	254	63.5	1.534
88	264	66.1	1.595

DC:es.k