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UMTA-CA-06-0165-85-1

U.S. Department
of Transportation
**Urban Mass
Transportation
Administration**

DART: Taxi Feeder Service in San Diego, CA

UMTA/TSC Evaluation Series

Interim Report
February 1986

UMTA Technical Assistance Program

Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.
UMTA-CA-06-0165-85-1		

4. Title and Subtitle	5. Report Date
DART: TAXI FEEDER SERVICE IN SAN DIEGO, CA	February 1986
	6. Performing Organization Code: DTS-49
7. Author(s): David Reinke	8. Performing Organization Report No.: DOT-TSC-UMTA-86-3
9. Performing Organization Name and Address: Crain & Associates, Inc.* 343 Second Street, Suite F Los Altos, CA	10. Work Unit No. (TRAIS): UM627/U6613
	11. Contract or Grant No.: DOT-TSC-1755
12. Sponsoring Agency Name and Address: U.S. Department of Transportation Urban Mass Transportation Administration Office of Technical Assistance Washington, DC 20590	13. Type of Report and Period Covered: Interim Report January 1982 - February 1985
	14. Sponsoring Agency Code: URT-30

15. Supplementary Notes

*Under contract to: U.S. Department of Transportation, Research and Special Programs Administration, Transportation Systems Center, Cambridge, MA 02142

16. Abstract

This is an interim report on a demonstration of the use of taxicabs as feeders to regular fixed-route bus service in San Diego, CA. The demonstration tests the use of taxi feeder service in three areas of the city. This report evaluates the taxi feeder service in the first demonstration area: Paradise Hills, a community in the southwest portion of the city of San Diego.

A six-month planning period began in January 1982, during which the service was designed and a taxi contractor was selected. Service began in July 1982. When the demonstration ended in January 1984, the grantee (San Diego Transit Corp.) took over funding of the service as part of its regular operating budget.

The evaluation covers the planning period, the demonstration period, and the first 14 months of operation under San Diego Transit funding. Evaluation issues include service planning and operations, demand, passenger attitudes, level of service, and service economics. Special attention is paid to the evolution of the service in response to changing operating conditions and patronage levels.

Feeder patronage grew steadily over the course of the project, from 50 passengers per day the first month to 140-170 per day by the end of 1984. The average subsidy per passenger decreased from over $4.00 to about $1.70 by the end of 1984. The feeder service appears to be a cost-effective alternative to transit service in low density or inaccessible areas. The feeder provides better coverage to Paradise Hills at a lower cost than the bus route that previously served the area.

17. Key Words	18. Distribution Statement
Bus Feeder, Paratransit, Private Sector, Taxicabs, Taxi Feeder	Document available to the public through the National Technical Information Service, Springfield Virginia 22161

19. Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	222	

Form DOT F 1700.7 (8-72) Reproduction of completed page authorized

PREFACE

This is an interim report on the demonstration of taxi feeder service in the first of three demonstration areas in service areas in San Diego, California. The results cover the period January 1982 to February 1985.

This report has been prepared for the Transportation Systems Center. Joel Freilich and Eric Schreffler were the TSC evaluation managers for the demonstration. Larry Bruno is the UMTA project manager.

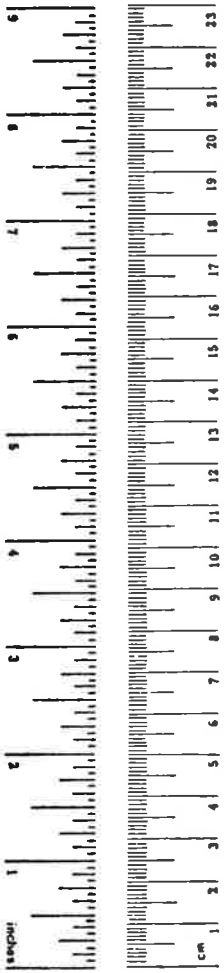
The author wishes to thank Sandra Showalter and Jeff Martin of the San Diego Transit Corporation for their enthusiastic cooperation with the evaluation. Robert Delikat of American Paratransit Services, Inc., gave freely of his time to answer questions about service operations, and he supplied extensive data for the evaluation. The DART drivers and dispatchers provided many useful insights into the operation and details of DART operation; their cooperation was essential to the conduct of the passenger surveys. Karen Lamphere of the San Diego Association of Governments supervised the telephone surveys.

David Reinke of Crain & Associates, Inc., is the project manager for the evaluation. This report was typed by Tracy Cox and Pam Holtz.

METRIC CONVERSION FACTORS

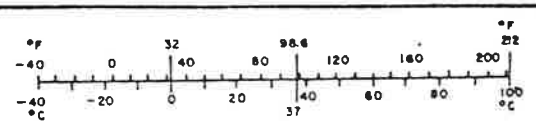
Approximate Conversions to Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
in	inches	2.5	centimeters	cm
ft	feet	30	centimeters	cm
yd	yards	0.9	meters	m
mi	miles	1.6	kilometers	km
		AREA		
in^2	square inches	6.5	square centimeters	cm^2
ft^2	square feet	0.09	square meters	m^2
yd^2	square yards	0.8	square meters	m^2
mi^2	square miles	2.6	square kilometers	km^2
	acres	0.4	hectares	ha
		MASS (weight)		
oz	ounces	28	grams	g
lb	pounds	0.45	kilograms	kg
	short tons (2000 lb)	0.9	tonnes	t
		VOLUME		
tsp	teaspoons	5	milliliters	ml
Tbsp	tablespoons	15	milliliters	ml
fl oz	fluid ounces	30	milliliters	ml
c	cups	0.24	liters	l
pt	pints	0.47	liters	l
qt	quarts	0.95	liters	l
gal	gallons	3.8	liters	l
ft^3	cubic feet	0.03	cubic meters	m^3
yd^3	cubic yards	0.76	cubic meters	m^3
		TEMPERATURE (exact)		
°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C



Approximate Conversions from Metric Measures

Symbol	When You Know	Multiply by	To Find	Symbol
		LENGTH		
mm	millimeters	0.04	inches	in
cm	centimeters	0.4	inches	in
m	meters	3.3	feet	ft
m	meters	1.1	yards	yd
km	kilometers	0.6	miles	mi
		AREA		
cm^2	square centimeters	0.16	square inches	in^2
m^2	square meters	1.2	square yards	yd^2
km^2	square kilometers	0.4	square miles	mi^2
ha	hectares (10,000 m^2)	2.5	acres	
		MASS (weight)		
g	grams	0.035	ounces	oz
kg	kilograms	2.2	pounds	lb
t	tonnes (1000 kg)	1.1	short tons	
		VOLUME		
ml	milliliters	0.03	fluid ounces	fl oz
l	liters	2.1	pints	pt
l	liters	1.06	quarts	qt
l	liters	0.26	gallons	gal
m^3	cubic meters	35	cubic feet	ft^3
m^3	cubic meters	1.3	cubic yards	yd^3
		TEMPERATURE (exact)		
°C	Celsius temperature	9/5 (then add 32)	Fahrenheit temperature	°F



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EXECUTIVE SUMMARY

DEMONSTRATION DESCRIPTION

This project has been designed to demonstrate the use of a subsidized taxi service as a feeder to regular fixed-route bus transit. The service is called DART, for Direct Access to Regional Transit, and is operated by a private taxi company under contract to the San Diego Transit Corporation (SDT). The original demonstration grant provided for DART implementation in two service areas; a subsequent demonstration grant has been awarded for service in a third area. This report is on DART service in the first area where it was implemented: Paradise Hills, a part of the City of San Diego.

Paradise Hills is a community of 25,000 residents in the southeast corner of San Diego. The San Diego Transit bus route that served Paradise Hills had run to National City, immediately to the west, which is a major employment and shopping area for Paradise Hills residents. In mid-1979, National City formed its own transit system, and the direct bus connection to Paradise Hills was eliminated. San Diego Transit made several modifications to the bus route in an attempt to maintain service to Paradise Hills, but finally eliminated it in 1981. Before DART began operating, Paradise Hills had been without transit service for more than a year.

DART has operated in two modes: fixed route and demand responsive. Passengers on fixed route DART simply wait at the nearest DART stop; the DART vehicle travels along the route on a schedule that is coordinated with transit schedules to minimize waiting time at the transfer point. Demand-responsive service passengers must reserve service an hour in advance of the scheduled arrival time of the bus at the transfer point. Passengers can use DART only to go between places in Paradise Hills and one of three bus transfer points outside the area.

The regular DART fare is $1.00. For trips leaving from Paradise Hills, the passenger pays the DART driver $1.00 and receives a ticket good for a free transfer to the bus. On the return trip, the passenger uses his bus transfer to receive credit toward the DART fare and pays the driver the difference; a local transfer is worth 80 cents, and the passenger pays the driver the additional 20 cents.

PLANNING, IMPLEMENTATION, AND OPERATIONS

A six-month planning period preceded the start of DART service. The initial service configuration was developed, meetings were held with community groups, and a contractor was selected.

The initial service configuration consisted of the following: 1) two vehicles operating on fixed schedules along two routes during the peak hours, and 2) a single vehicle providing demand-responsive service to the entire area during the midday. Fixed-route service ran on half-hour headways in the western portion of Paradise Hills, where the highest demand was expected. DART schedules were coordinated with bus schedules.

Only one responsive bid was received: from the San Diego Cab Owners Cooperative Association (Co-op Cab). SDT was disappointed by this response, but soon became satisfied that Co-op could provide the service. Several other taxi and paratransit operators had considered bidding, but felt that SDT demanded too high a level of service for too little money.

DART began operating in July 1982. After the first few months of operation the service was reconfigured. One of the peak-hour fixed routes, which had not been productive, was changed to demand-responsive service covering the entire area. Demand from the eastern section of Paradise Hills began to grow in response. Other operational and procedural changes were made as problems were identified and demand increased. During 1984, the other peak-hour fixed route was gradually phased over to demand-responsive service in order to more efficiently serve the high demand.

SDT took over funding of DART service in Paradise Hills in January 1984, when the demonstration funding ended. SDT staff and the Board of Directors were pleased with the continual growth in service patronage and productivity throughout the demonstration period. DART was also supported by community groups in Paradise Hills and the city councilman from the area. Paradise Hills DART service is now a regular part of SDT's operating budget.

Several modifications were made to the service contract with Co-op Cab. Payment rates were adjusted during the first service modification in November 1982. When SDT began to fund the service, the contract was extended for six months, but a provision was added by which all revenues in excess of 25 per cent of operating costs

were shared between SDT and the contractor; additional provisions tied contractor reimbursement to service productivity standards.

The service contract was let out to bid again in July 1984. SDT felt that a new round of bidding was necessary; the demonstration period was over, and it had been over two years since the initial contract had been signed. SDT wanted to attract other taxi and paratransit operators to bid on DART service. By this time, the project manager from Co-op Cab had formed his own company, American Paratransit Services (APS), which bid for the service against two other cab companies. Although its rates were higher than the other two bidders, APS was selected by SDT because it had better experience and technical capability. Under the new service contract, rates were increased; but patronage has since increased so that the total subsidy from SDT is now less than it was before.

DEMAND

DART patronage has grown steadily since the service began. During the first month of operation, the service carried an average of 60 passengers per day; by the end of 1984, patronage had increased to 140 - 160 passengers per day.

DART users are primarily transit dependents. They come from households with fewer vehicles than the average household in Paradise Hills. About one-third had used the previous SDT transit route in Paradise Hills. If DART service were not available, most trips on DART would be made by walking to the bus, getting rides from family or friends, or the trip would not be made.

Users regard the service highly. Over 90 per cent rate overall service quality as good or excellent. Those aspects of the service with the lowest rating have to do with coordination with bus service, reflecting bus schedule reliability problems that have continued throughout the project.

LEVEL OF SERVICE

DART provides a high level of service to its users. Fixed-route passengers had ride times of 8 to 20 minutes. Demand-responsive passengers have ride times of about 10 minutes; over 80 per cent are picked up within 5 minutes of the time given them by the dispatcher. DART vehicles are supposed to drop passengers off at the transfer point no more than 10 minutes before the bus is due to arrive. Schedule reliability

problems with the major bus route serving the area have caused some operating problems for DART.

ECONOMICS

Start up costs for DART were about $40,000, including planning, marketing, and the extra administration required by SDT during the first year of operation. Planning and administration costs are typical of what is needed for this type of service, but marketing costs are specific to the project.

DART total operating costs now average slightly over $300 per day. The farebox recovery rate, originally 11 per cent, has increased steadily during the project to its current rate of over 25 per cent. Net operating costs to SDT are $220 - $230 per day. In 1984, the total net contractor reimbursement by SDT was $56,000.

The average subsidy per passenger has decreased from over $4 at the start of the project to about $1.70 by the end of 1984. These rates do not include revenue to transit generated by DART; if these generated revenues are included, SDT's net subsidy per passenger is below $1.50. By comparison, SDT's average subsidy per passenger for FY1984 was $1.00. DART's per passenger subsidy is lower than 10 of SDT's 29 bus routes.

OTHER EVALUATION ISSUES

DART has been well received by SDT and the community. SDT took over service funding in Paradise Hills when the demonstration grant funding ended (SDT has since taken over funding of the second service area, Mira Mesa). The San Diego City Council supported the initial grant application by SDT and the SDT budget amendment required for SDT to take over funding the service. The city councilman from Paradise Hills is pleased with the service and sees it as a cost-effective way to provide public transit service to the area.

The contractor regards DART as a valuable new market for the taxi industry, and a basis on which to build new business. DART drivers have been enthusiastic about participating in a new type of service; their observations and suggestions have led directly to several improvements in service and operating procedures. They regard DART driving as more physically secure and economically rewarding than regular taxi driving.

DART is a cost-effective means of providing transit service to Paradise Hills. It provides better coverage of Paradise Hills at a lower cost than the bus route that used to serve the area. The total cost per passenger is lower than it would be for a regular taxi service paid for by a user-side subsidy.

TRANSFERABILITY

DART has already been transferred to other areas in and near San Diego. DART has been operating for two years in a second service area in San Diego: Mira Mesa; DART service recently began in a third area: Mid-City. The service there appears to perform even better than it has in Paradise Hills. The North County (San Diego) Transit District began funding a similar taxi feeder service in mid-1985. A taxi feeder service based on DART has also begun in an area of Los Angeles.

A taxi feeder appears to be a cost-effective alternative for transit service expansion to outlying low-density areas. Another potential area of application is to use it to feed rail service.

The demonstration has shown that an important component of a successful taxi feeder service is a contractor who understands the operating requirements of the service, and who uses dedicated vehicles operated by skilled and motivated drivers. Such a situation is more likely to arise in a city with a large, competitive taxi industry from which to draw upon.

1. INTRODUCTION

1.1 DEMONSTRATION OVERVIEW

This project has been designed to demonstrate the use of a subsidized taxi service as a feeder to regular fixed-route bus transit service. The new service is called DART, for Direct Access to Regional Transit. It is operated by a private taxi company under contract to the San Diego Transit Corporation (SDT), the grant recipient.

The original grant of $360,000 provided for planning and funding the service in two areas of San Diego: Paradise Hills, a community of 25,000 residents in the southeast corner of the city; and Mira Mesa, a community of 37,000 residents located about 15 miles north of downtown San Diego. DART began operating July 1982 in Paradise Hills, and July 1983 in Mira Mesa. In each service area, a six-month planning phase preceded an eighteen-month demonstration period. SDT has since received a grant to fund the demonstration in a third service area: Mid-City, an area immediately to the northeast of downtown San Diego; DART began operating in Mid-City in June 1985.

SDT has taken over funding of DART service at the end of the demonstration periods in Paradise Hills and Mira Mesa. The evaluation will continue to monitor the project in these areas through early 1986, when the demonstration in Mid-City ends. This interim report is on the evaluation of DART service in Paradise Hills, the first demonstration area. Much of the discussion on the operational results--demand, level of service, and economics--focuses on what happened during 1984 and early 1985. Although this was after the end of the demonstration period, these results more accurately reflect the operation of a mature taxi feeder service.

DART provides convenient service between Paradise Hills and three transfer points outside the area. The transfer points are served by three SDT bus routes, two National City Transit (NCT) routes, and one Chula Vista Transit (CVT) route. Service runs on weekdays from 5:45 a.m. to 7:30 p.m. Regular-fare passengers who use DART to go to the transfer points pay a $1.00 fare, which includes a free transfer to the bus; on the return trip, regular fare passengers with a local bus transfer pay a 20¢ fare upgrade; elderly and handicapped persons pay reduced fares.

DART has operated in Paradise Hills in two different modes of service:

1. Fixed Route. DART vehicles travel along a fixed route on a predetermined schedule. Passengers need only wait at a DART stop or at the transfer point for service; no advance reservation is required. DART schedules are coordinated with bus service schedules.

2. Demand Responsive. DART provides service between passengers' homes and the transfer points. Reservations for service must be made at least one hour in advance of the scheduled bus arrival at the transfer point.

1.2 ORGANIZATIONAL ROLES

The Office of Service and Management Demonstration (SMD) of the Urban Mass Transportation Administration (UMTA) was responsible for the demonstration. Evaluation of the project is the responsibility of the Transportation Systems Center (TSC) of the U.S. Department of Transportation. Crain & Associates, Inc., was selected by TSC to provide/design the evaluation, assist in the collection and transmittal of data for use in the evaluation, and prepare the evaluation reports. The Urban Institute, Inc., provided technical assistance to UMTA/SMD in demonstration design and management.

As the grantee, SDT had budgetary and management control of the demonstration and responsibility for contract administration. SDT was also responsible for planning, implementing, and monitoring the service, and for the collection and transmittal of necessary data.

The SDT Paratransit Coordinator was responsible for the day-to-day administration of the project. She also acted as the liaison between SDT and UMTA, TSC, Crain & Associates, and all other parties involved in the demonstration.

1.3 ORGANIZATION OF THIS REPORT

Chapter 2 of this report describes the project demonstration site in detail. The remaining chapters deal with the evaluation issues under the following headings:

Planning, Administration, and Objectives (Chapter 3) includes a description of how the project originated, how it was planned, and how it evolved during and after the demonstration period.

Demand (Chapter 4) covers patronage and travel patterns, characteristics of users, and user awareness and attitudes.

Level of Service (Chapter 5) treats service coverage, service times, and reliability.

Economics (Chapter 6) discusses project costs, revenues, and productivity and efficiency.

Other Evaluation Issues (Chapter 7) include those issues that do not fall conveniently under the above headings: community attitudes, contractor attitudes, and comparisons of DART and other transit services.

Chapter 8 presents a summary of the findings and a discussion of the transferability of the results.

2. DEMONSTRATION SITE

2.1 SAN DIEGO

2.1.1 General Characteristics

San Diego is the second largest city in California, having a population of about 900,000; the metropolitan area has a population of over 1.8 million. It is located in the extreme southwest corner of the state, about 120 miles south of Los Angeles. The region has a temperate climate with warm, dry summers and cool, rainy winters. Some population, income, and labor force characteristics of the city and the region are given in Table 2-1.

The city has grown rapidly in the past 20 years, in large part due to annexation and development of outlying areas. The region is broken up by canyons, valleys, and mesas; hence, much of the land within the city limits cannot be easily developed. The overall population density is lower than average for large U.S. cities, but similar to that of other cities in southern California.

The terrain has influenced the development of the transportation system. Direct links between adjacent areas are not always possible because of natural barriers. Public transportation service is therefore more difficult and expensive to provide for San Diego than for most large U.S. cities.

A large part of the region's economy is based on the defense and aerospace industries. The military accounts for a significant portion of employment; several U.S. Navy and Marine Corps bases are located in the city and the surrounding area. Industrial employment is dispersed throughout the region, much of it located in industrial parks in areas outside the central business area of the San Diego. The dispersion of employment throughout the region, combined with the high rate of automobile ownership and the lack of serious congestion on the roads (see Table 2-2), have discouraged the use of public transportation for work travel in 1980, only 3.3 per cent of the work trips and 1.9 per cent of the total trips in the region were made on public transportation.[1]

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[1]Estimates by San Diego Association of Governments.

TABLE 2-1. SAN DIEGO: POPULATION, INCOME, AND LABOR FORCE

	SAN DIEGO CITY	SMSA	U.S. SMSAs
POPULATION (1980)			
Total Population	875,538	1,861,846	--
Area (sq. mi.)	321.7	--	--
Population/sq. mi.	2,721.7	--	--
Age Groups (% of population)			
Under 18	24.1%	25.6%	27.7%
Over 64	9.7%	10.3%	10.7%
Median Age (years)	28.3	30.6	30.0
INCOME (1979)			
Median Family Income	$20,133	$20,304	$19,661
Income Below Poverty Level[a]	9.2%	8.4%	
LABOR FORCE			
Participation (1980)[b]	65.7%	64.3%	63.3%
Workers in Family (1979)[a]			
None	14.9%	15.2%	12.3%
1	33.5	33.8	32.9
2	41.1	40.6	41.8
3 or more	10.6	10.5	13.1

[a]Per cent of families.
[b]Per cent of persons 16 years and over in labor force.

TABLE 2-2. SAN DIEGO: VEHICLE OWNERSHIP AND WORK TRAVEL - 1980

	SAN DIEGO CITY	SMSA	U.S. SMSAs
VEHICLES AVAILABLE[a]			
None	12.1%	9.3%	12.3%
1	38.6	36.5	32.9
2	31.9	33.0	41.8
3 or more	17.4	21.2	13.1
JOURNEY TO WORK			
Travel Mode[b]			
Drive Alone	61.8%	63.8%	64.6%
Carpool	15.9	17.4	19.0
Public Transportation	4.3	3.3	8.1
Walk Only	9.9	9.9	5.1
Other Means	3.9	3.7	1.6
Work at Home	1.7	2.0	1.6
Persons/Private Vehicle	1.13	1.13	1.15
Mean Travel Time to Work (Minutes)	18.5	19.6	22.6
Workplace Location[c]			
San Diego City (CBD)	4.8%	3.7%	--
Remainder of San Diego City	74.5	52.3	--
Chula Vista	1.3	2.5	--
National City	1.7	2.2	--
Remainder of SMSA	10.9	33.5	--
Outside SMSA	6.9	5.8	--

[a]Per cent of households.
[b]Per cent of workers 16 years and over.
[c]Per cent of workers 16 years and over who reported workplace location.

2.1.2 Public Transportation

The Metropolitan Transit Development Board (MTDB) is the public transit funding authority for the region. MTDB is also responsible for long-range transportation planning for the region.

The San Diego Transit Corporation (SDT), which is owned by the City of San Diego, is the major public transportation provider for the San Diego region. SDT provides local and express bus service to most of San Diego; express service is provided under contract to some other cities. The system carries an average of about 70,000 passengers per weekday. Operating statistics for FY 1984 are given in Table 2-3.

Several other transit operators serve the San Diego region. Since 1981, the San Diego Trolley has operated light rail service between downtown San Diego and the international border; patronage is about 14,000 passengers per weekday. Several other jurisdictions -- e.g., National City, Chula Vista, and San Diego County -- operate their own transit and paratansit services. SDT formerly provided some of these services, but several local areas broke away from SDT in the late 1970s. Beginning in July 1985, most transit operators in the region were incorporated into MTDB.

Like most transit operators in California, SDT has faced increasing financial problems since the passage of state Proposition 13 in 1978, which drastically reduced local property tax revenues. SDT has also been forced to maintain a minimum farebox recovery rate in order to qualify for state transit operating subsidies.[2] These financial pressures, combined with declining patronage, have caused SDT to cut back service in recent years.

2.2 PARADISE HILLS

2.2.1 General Characteristics

The demonstration site, Paradise Hills, is an area of about 3 square miles in the southeast corner of San Diego (Figure 2-1). The area is geographically and

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[2]To qualify for state operating assistance, transit operators are required to maintain a farebox recovery rate of 20 per cent or the level at which they had been operating at the time state operating assistance began, whichever is greater. For operators who receive funding through MTDB, the farebox recovery requirement applies to them as a group. SDT has to maintain a high farebox recovery ratio to make up for operators who fall below the mandated minimum.

TABLE 2-3. SAN DIEGO TRANSIT STATISTICS - FY 1984

SYSTEM	
Passengers	23.4 million
Vehicle Miles	10.8 million
Vehicle Hours	805 thousand
Number of Routes	29
Vehicles	
Total Owned	295
In Peak Service	199
In Off-Peak Service	157
Average Weekday Passengers	75,000
Passenger Miles	114.8 million
SERVICE AREA	
Area (sq. mi.)	389
Population	1,315,700
FINANCIAL	
Operating Cost	$32.9 million
Fare Revenue	$12.8 million
Capital Expenditures	$13.1 million
Farebox Recovery Rate	38.8%
Average Subsidy per Passenger	$1.05

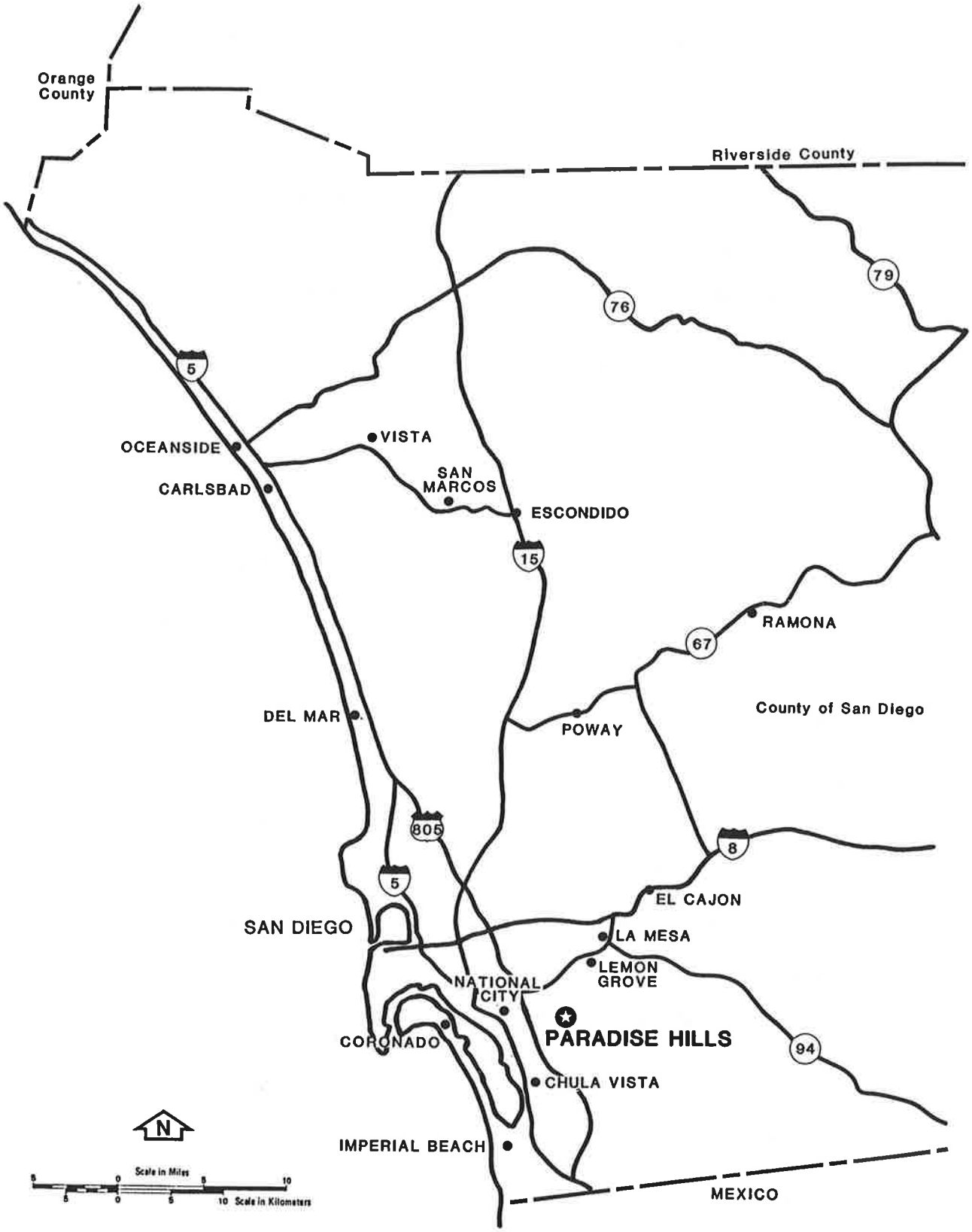

FIGURE 2-1: MAP OF THE SAN DIEGO AREA

economically linked to National City (a separate municipality); over 30 per cent of the trips from Paradise Hills go to National City.[3] For purposes of discussion and analysis, Paradise Hills will be considered to consist of four areas, designated as the northwest, west central, southwest, and east areas (Figure 2-2).[4] General characteristics of these areas are shown in Table 2-4; vehicle ownership and work travel characteristics are given in Table 2-5.

The most significant differences between the areas within Paradise Hills are those between the east and the other three areas. The west is an older area, with a higher population density than the east. Households in the east have higher incomes, higher automobile ownership, and more workers per household than those in the west. A large Navy housing development in the northwest corner of Paradise Hills accounts for the lower median age and income in the northwest area. Almost all of the recent population growth and land development in Paradise Hills has been in the east.

2.2.2 Public Transportation

Before 1979, the western part of Paradise Hills was served by SDT Route 12, which ran to National City (Figure 2-3). Route 12 was one of the more productive local SDT routes, carrying 1,100 riders per day. About 2.6 per cent of the trips out of Paradise Hills were made on transit.

National City began to operate its own transit service in 1979. Route 12 was temporarily dropped in July 1979; service was provided by National City. The route was reinstated in September 1979, but passengers going to National City had to transfer at Paradise Valley Hospital (Figure 2-4). The service was extended through Lemon Grove to the northeast in January 1980, but the extension was eliminated the following September at the request of Lemon Grove. The route was then carrying about 400 passengers per day, about 150 of which came from Paradise Hills.

In July 1981, Route 12 was completely discontinued. Paradise Hills was therefore without transit service for one year before the beginning of DART service.

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[3] San Diego Association of Governments.

[4] These areas correspond to the four 1980 U.S. Census tracts in Paradise Hills.

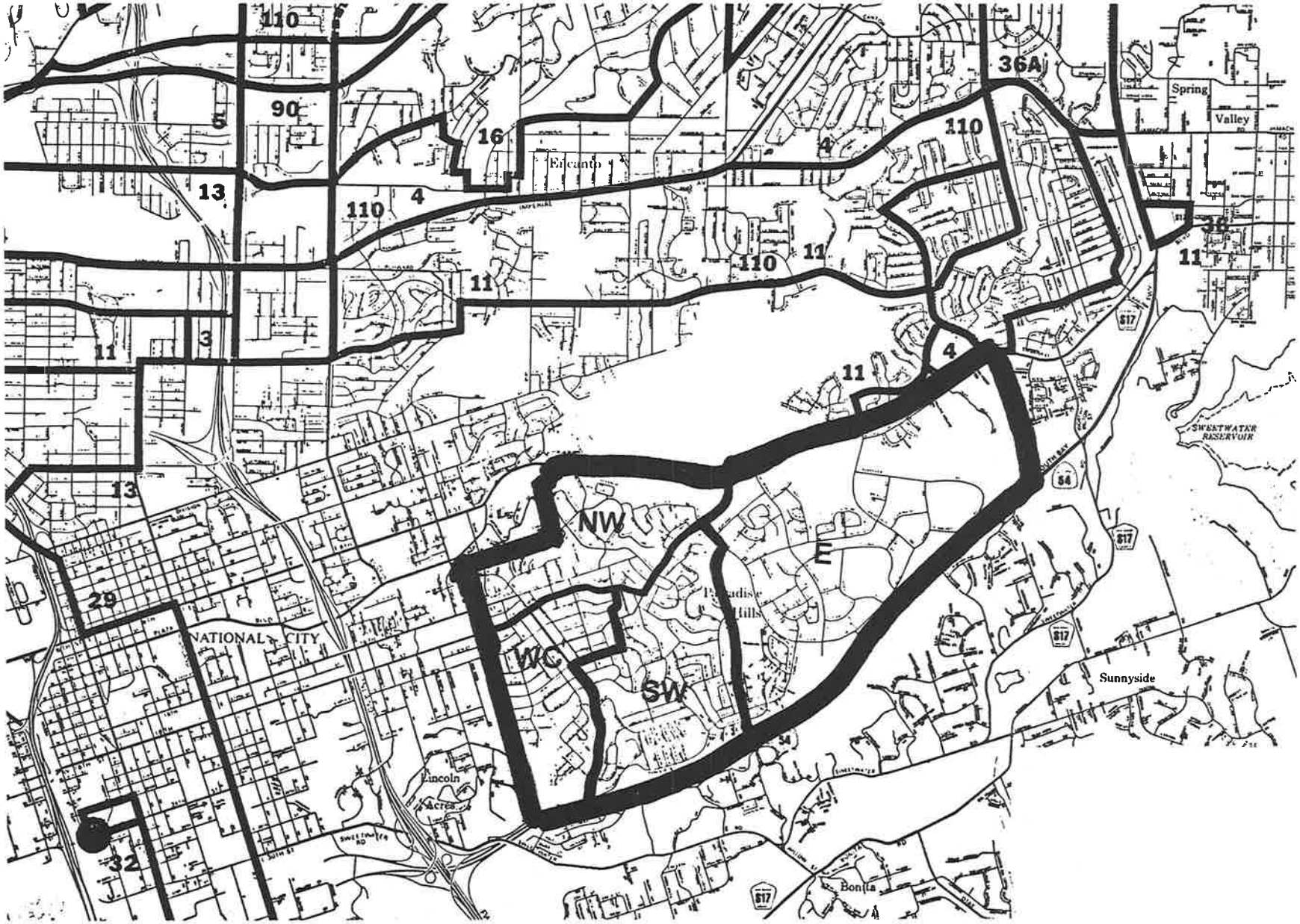

FIGURE 2-2. PARADISE HILLS AND NEARBY SDT ROUTES

TABLE 2-4. PARADISE HILLS: POPULATION, INCOME, AND LABOR FORCE

	NORTH-WEST	WEST CENTRAL	SOUTH-WEST	EAST	TOTAL
POPULATION (1980)					
Total Population	4,962	3,754	7,108	6,666	22,490
Area (sq. mi.)	0.6	0.5	0.8	1.4	3.3
Population/sq. mi.[a]	7,900	7,600	8,400	4,800	6,800
Age Groups (% of population)					
Under 18	44.0%	33.4%	36.0%	27.9%	34.9%
Over 64	2.6%	9.4%	6.4%	2.5%	4.9%
Median Age (years)	23.0	29.4	27.8	26.2	26.5
INCOME (1979)					
Median Family Income	$15,212	$18,860	$22,486	$20,586	$19,752
Income Below Poverty Level[b]	9.4%	9.3%	6.3%	4.8%	7.0%
LABOR FORCE					
Participation (1979)[c]	67.6%	57.3%	65.6%	82.6%	70.0%
Workers in Family[b]					
None	6.6%	15.9%	9.8%	2.7%	8.0%
1	38.0	36.8	30.3	23.7	31.0
2	42.9	39.0	43.0	63.0	48.4
3 or more	12.6	8.3	16.9	10.6	12.5

[a]Rounded to two significant figures.
[b]Per cent of families.
[c]Per cent of persons 16 years and over in labor force.

TABLE 2-5. PARADISE HILLS: VEHICLE OWNERSHIP AND WORK TRAVEL - 1980

	NORTH-WEST	WEST CENTRAL	SOUTH-WEST	EAST	TOTAL
VEHICLES AVAILABLE[a]					
None	1.5%	5.1%	2.2%	2.2%	2.6%
1	36.6	33.1	18.6	37.7	31.3
2	45.4	34.7	42.5	44.1	42.3
3 or more	16.4	27.1	36.7	16.0	23.8
JOURNEY TO WORK					
Travel Mode[b]					
Drive Alone	67.8%	73.1%	65.8%	68.1%	68.1%
Carpool	25.6	20.0	28.7	26.5	26.1
Public Transportation	1.2	0.4	1.5	1.1	1.1
Walk Only	1.0	1.4	1.3	0.4	0.9
Other Means	4.0	5.0	2.7	3.2	3.4
Work at Home	0.3	0.0	0.0	0.8	0.4
Persons/Private Vehicle	1.18	1.13	1.20	1.19	1.18
Mean Travel Time to Work (Minutes)	22.8	20.0	22.6	21.5	21.9
Workplace Location[c]					
San Diego City (CBD)	3.5%	5.6%	4.8%	4.9%	4.3%
Remainder of San Diego City	59.7	66.9	63.9	59.9	62.1
Chula Vista	5.9	2.6	3.7	4.0	4.1
National City	10.6	8.6	9.6	8.6	9.3
Remainder of SMSA	11.2	16.3	14.8	20.5	16.6
Outside SMSA	9.1	1.1	3.2	2.1	3.6

[a]Per cent of households.
[b]Per cent of workers 16 years and over.
[c]Per cent of workers 16 years and over who reported workplace location.

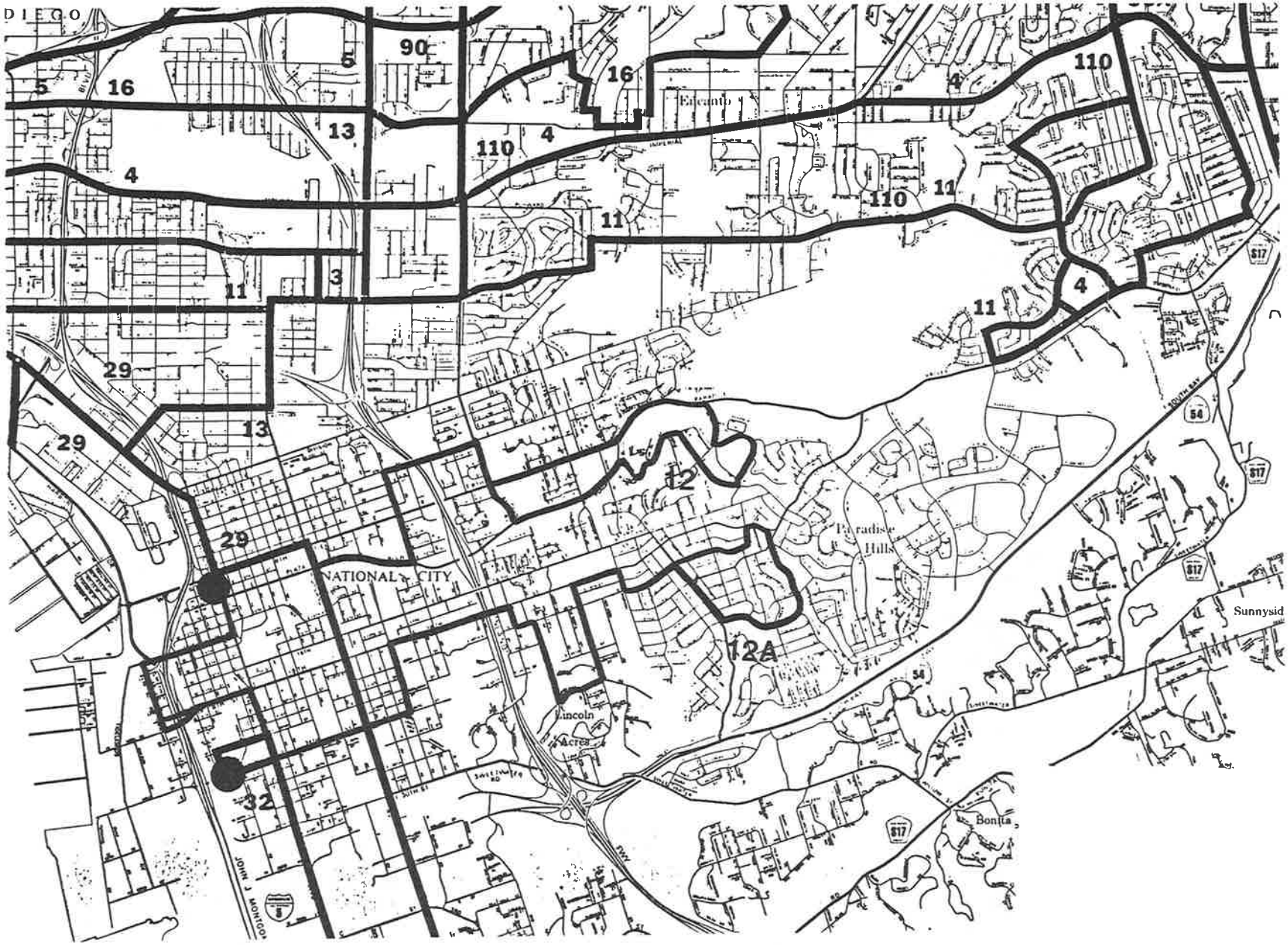

FIGURE 2-3. ORIGINAL ALIGNMENT OF ROUTE 12 (BEFORE JULY 1979)

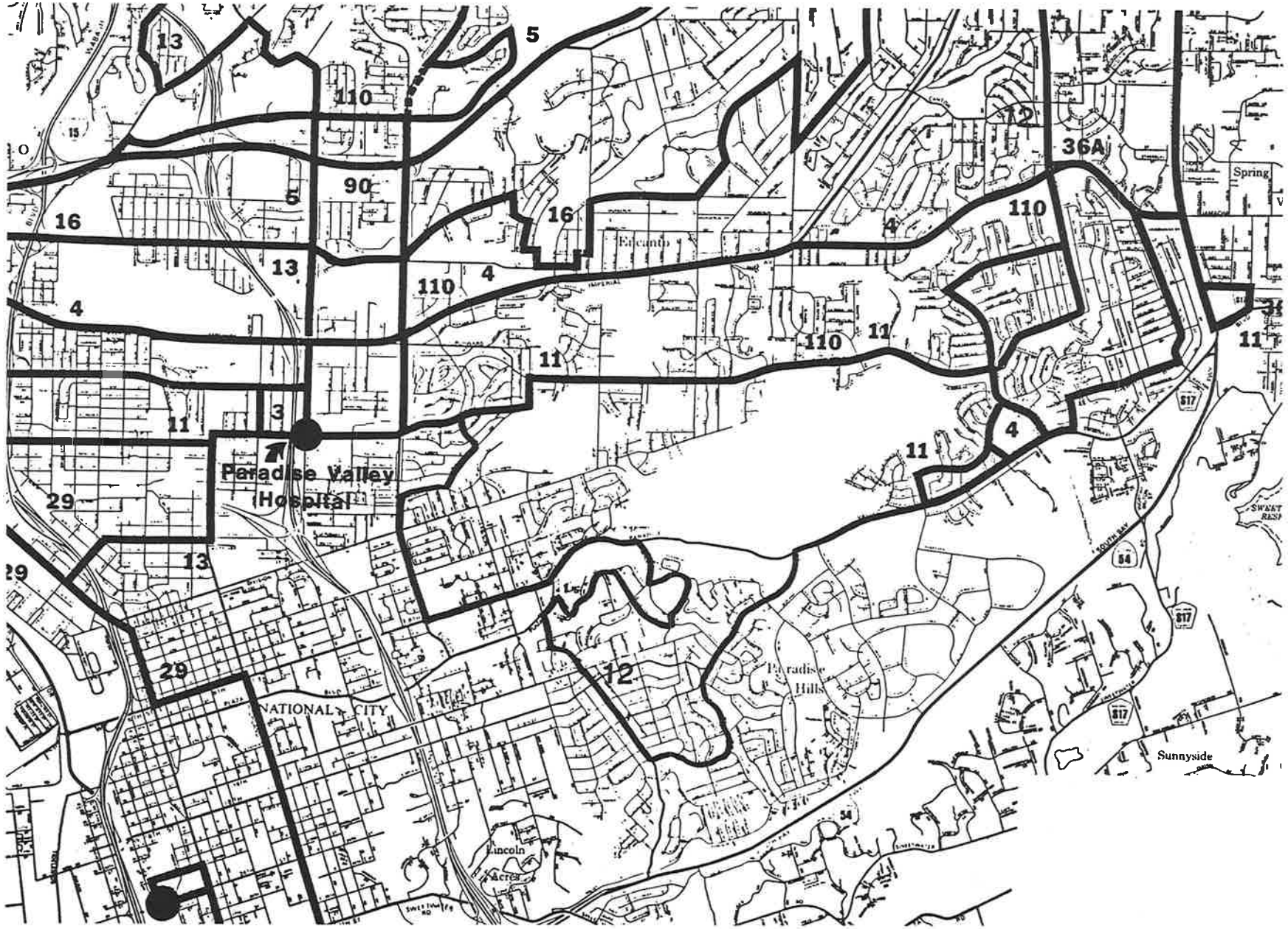

FIGURE 2-4. LATER ALIGNMENT OF ROUTE 12 (1979-80)

3. PLANNING, IMPLEMENTATION, AND OPERATIONS

DART service in Paradise Hills was preceded by a six-month planning phase during which the service was designed and a contractor was selected. The demonstration funding for the service ran through January 1984, at which time SDT took over funding of the service. The evaluation has continued to monitor the service after the SDT takeover. The major events in planning, implementation, and operations are summarized in Table 3-1.

3.1 SERVICE PLANNING

During the six-month planning period preceding implementation of DART service, the SDT Paratransit Coordinator worked on the following:

1. Making and maintaining contact with community groups in Paradise Hills to get them involved with the service and committed to its success.
2. Designing the feeder service: the areas to be served, hours of operation, method of operation, and method of reimbursing the contractor.
3. Seeking and selecting a service contractor.
4. Publicizing the new service in the area.

The main topic of this section is the issues in service design.

The city of San Diego is divided into a number of communities, each of which has its own citizens' planning group. SDT got the planning group involved with DART by soliciting their views on the service and incorporating them into the design of the system. A considerable amount of the time of the SDT Paratransit Coordinator was taken up on outreach work, meeting with the planning group and other community groups to ensure that DART would be welcomed into the area.

Design of the service posed a considerable problem because SDT had little knowledge about the expected level of demand, and when and where it was likely to occur. Experience with SDT Route 12 did not provide much information for planning; service had ended more than a year before DART was to be implemented. Moreover, the most recent transit service had provided much less coverage and access than the original Route 12 service into National City, which had ended in 1978.

TABLE 3-1. DART PLANNING AND IMPLEMENTATION - MAJOR EVENTS

SMD grant awarded to SDT	August 1981
Service planning	January-June 1982
Request for proposal issued	April 1982
Bids received	May 1982
Co-op Cab selected as contractor	June 1982
Service begun	July 1982
DART-1 changed to demand-responsive service	November 1982
Distribution of DART brochures in city water billing	May 1983
Distribution of DART brochures and free ride coupons to military housing units	July 1983
DART-2 route change	November 1982
SDT assumes funding for DART in Paradise Hills	January 1984
DART-2 phased over to demand-responsive service	June-October 1984
New request for proposal issued by SDT for service in Paradise Hills	June 1984
American Paratransit Services selected by SDT as contractor	July 1984

SDT did, however, feel that the western part of the service area had more potential for generating DART ridership than the eastern part. Residents in the west have lower incomes than those in the east (see the previous chapter). Moreover, residents in the west had had direct experience with transit service, and were therefore thought to be more likely to use DART. The west also has a higher residential density than the east. Hence, the west would very likely be the main source of DART riders. This conclusion led SDT to concentrate service coverage in the west during the peak hours.[1]

Hours of operation were set so that DART could serve work trips, which were expected to be a major portion of DART patronage, and midday travel. Service hours were initially to be from 5:40 a.m. to 7:00 a.m.[2] Weekend and holiday service was not considered because SDT believed that there was not enough demand to justify it, and that the grant funding was insufficient to pay for it.

DART as it was designed by SDT was different from the original conception of a taxi feeder service in several important ways. The original proposal was to use taxis in normal operation to provide feeder service; feeder calls would be handled like any other call for taxi service. The transit operator would pay the taxi operator a fixed amount per feeder passenger carried. DART differed from this original idea in three ways.

1. Dedicated vehicles would be used to provide the service.
2. The taxi operator would be reimbursed according to the number of vehicle service hours provided.
3. DART would operate as a fixed-route service during the peak hours.

The original scheme has advantages for the transit agency and the taxi operator. The only fixed costs incurred by the transit agency would be for planning, administration, and marketing; the amount paid to the taxi operator depends only on demand. Hence, if demand is low, the transit agency does not have to pay for unused capacity, as it would have to under the adopted design. It would also be possible to

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[1] See Section 3.2

[2] Actual hours of operation were determined by SDT bus schedules at the transfer points. See Section 3.2.2 and Table 3-2.

have more than one taxi operator provide the service with moderate increases in administrative effort, because the payment rate per passenger is fixed; hence, the potential supply of vehicles available for feeder service could be made as large as desired. The taxi operator has the advantage that he can make use of existing unused vehicle capacity for low levels of demand, rather than having to reserve one or more vehicles exclusively for feeder service.

It was decided that dedicated vehicles would have to be used if DART were to provide a sufficiently high level of service. Paradise Hills is not well served by taxis, and there are no direct road links between the area and the rest of San Diego. If a feeder service request were made when there were no taxis in the area, it would take at least 30 minutes for a taxi to reach the service area from most other parts of the city, assuming that one could be dispatched immediately the call was received. Furthermore, a taxi driver would probably be reluctant to deadhead for at least an hour just to pick up one or two calls in an outlying area when he could more profitably pursue business elsewhere. Hence, it would be difficult to predict pickup times accurately, and service speed and reliability would suffer. SDT wanted to provide a feeder service that was quick and reliable. Without a high level of service, patronage would be discouraged and SDT's public image would suffer. The use of dedicated vehicles was seen as the only way to ensure a good level of service in Paradise Hills.

The use of dedicated vehicles makes it more reasonable to reimburse the contractor on the basis of vehicle service hours provided, rather than the number of passengers carried. A per passenger reimbursement scheme would appear to be the obvious choice if vehicles were to operate simultaneously as regular taxis and feeder service vehicles; it would be easier to administer, and the contractor would have a financial incentive to attract more feeder passengers. But the number of passengers carried would be more difficult for the transit agency to verify than the number of on service hours. Furthermore, the use of per passenger reimbursement for dedicated vehicles forces the contractor to assure the risk that the service will attract enough passengers to be profitable.

It was therefore decided to reimburse the contractor for the number of vehicle service hours provided. As will be discussed presently, several modifications were later made to this method; these simultaneously provide productivity incentives to the

contractor and cause the subsidy per passenger to decrease as service productivity increases.

The community planning group in Paradise Hills requested that peak-period service be fixed-route. SDT believed that they could accommodate this request, and planned the service accordingly. As will be discussed in Section 3.3, the fixed-route service eventually evolved into a totally demand-responsive service.

SDT wanted DART to look to its passengers like an extension of regular fixed-route bus service. Service standards were therefore set with this in mind. Passengers were to wait no more than 10 minutes at the transfer point for DART or for buses. Advance times for reservations for demand-responsive service were also keyed to bus schedules; a demand-responsive service reservation would have to be made at least an hour in advance of the scheduled bus arrival time at the transfer point.

The method of fare payment was also intended to facilitate coordination between DART and transit. A regular fare paying passenger who used DART would pay a total of $1.00 for his entire trip. Thus, a passenger out of Paradise Hills would pay the DART driver $1.00 and receive a transfer which would be good on any transit line served by DART. A returning passenger into Paradise Hills would be required to pay the DART driver an amount to upgrade his fare to a total of $1.00. Hence, a local bus passenger, who pays an 80 cent fare, pays a 20 cent upgrade to the DART driver along with his transfer; an express bus passenger, who pays a $1.00 fare, simply uses his express transfer to pay the DART fares. SDT Saver Passes (monthly passes that sell for $36) would not be good on DART because SDT felt that too much revenue would be lost. DART fares are discussed in detail in Section 3.2.3.

3.2 SERVICE IMPLEMENTATION

3.2.1 Bidding and Contractor Selection

A request for proposal (RFP) for DART service in Paradise Hills was issued by SDT in April 1982.[3] Copies of the RFP were sent to major taxi and paratransit operators in the San Diego; the RFP was also advertised in Passenger Transport.

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[3]Appendix C contains a copy of the RFP.

The RFP contained detailed descriptions of the types of service to be provided during the peak period and base day. Detailed requirements were set forth for operating performance standards, personnel performance standards, fare collection, equipment condition, and record keeping. Peak period service was required to be bid on an hourly rate based on six hours of service daily; base day service was to be bid on a per capita basis. SDT provided for periodic renegotiation of the contract to adjust the cost and type of service.

A conference was held in mid-May to answer questions from prospective bidders. SDT informed them that the overall cost ceiling for the service would be in the neighborhood of $100,000. Those present at the meeting represented the largest taxi operator in San Diego, the largest association of independent taxi owners, a medium-sized taxi company, and a paratransit operator.

Only one responsive bid was received by the deadline--from the San Diego Cab Owner's Cooperative Association, Inc. (Co-op Cab).[4] SDT staff were concerned by this lack of response, but decided to continue the contractor selection and contract negotiation process with Co-op Cab as the only bidder.

Three other taxi and paratransit operators who attended the conference but did not bid were interviewed to find out their reasons for not bidding. Two of them, who were then operating other contract paratransit services in the county, felt that the overall amount of money available for DART was too low to provide the level of service required in the RFP; they were also concerned about the stringent standards for operating performance and record keeping. The third, who operates a traditional radio-dispatched taxi service, felt that regular cab operators were not accustomed to bidding for service, and were intimidated by the length and detail of the RFP. All three expressed concern about the provision for per capita reimbursement during the base day because of uncertainty about the level of patronage that could be expected. The consensus among the three was that the expected gain from winning the contract would not be worth the trouble of bidding for and operating the service.

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[4]Several other bids were received, but they were over the total cost ceiling or were received past the deadline.

SDT had several concerns when contractor selection and negotiation began. First, Co-op Cab is not a normal private business; it is a nonprofit cooperative association of independent taxicab owners that provides a radio service for its members. At the time of their proposal, Co-op Cab had about 60 companies with over 300 drivers operating over 100 taxicabs. DART service would be provided by a selected group of owners and drivers from the Co-op ranks. The Co-op General Manager would assume overall responsibility for management of the project. SDT thought that the cooperative arrangement, unlike the organization of a regular business, might not have sufficiently well defined lines of authority to ensure proper management of DART service. Co-op was, however, able to reassure SDT that there were in fact sufficient management controls under the arrangement described in its proposal.

The arrangements with DART drivers were a further possible concern. Taxi drivers typically lease their vehicles from the owners; they are independent contractors who cannot have a traditional employer/employee relationship with the owner. The DART project manager might therefore not be able to control the drivers sufficiently. Co-op alleviated this concern by proposing to pay the drivers a straight wage of $7 per hour; owners would be paid separately for the use of their vehicles. Drivers would therefore earn about as much as a good exclusive-ride taxi driver would clear after paying for his lease and fuel.

SDT directors were also concerned about the effect of DART on SDT's public image. DART was to be a SDT project, and therefore any problems with the service would reflect adversely on SDT. The SDT Board of Directors wanted to make sure that the contractor who was selected would have the capability to run the new service economically at a high level of service.

SDT staff recommended the selection of Co-op based on Co-op's proven record of reliability and level of management skills, technical competence based on Co-op having the necessary equipment and staff to run the service, and the low proposed costs. A significant point in favor of Co-op was the provision to pay DART drivers $7 per hour, a high wage for taxi drivers. Co-op argued that this rate was necessary in order to attract skilled and experienced drivers.

The Co-op General Manager was questioned intensively by the SDT directors on how the service would be operated and managed. As negotiations proceeded, they were impressed with Co-op's response to the project; the management appeared to be responsive and innovative in addressing the problems posed by the new service.

The Board also agreed with Co-op's proposal for a minimum reimbursement per hour for base day service, rather than the terms of the RFP.

The Board awarded the contract to Co-op in June 1982.[5] Service was scheduled to begin in July 1982 and run for 18 months. Co-op would be reimbursed at a rate of $14.32 per hour for peak service, and $1.61 per passenger for off-peak service, with a guaranteed minimum of $16.10 per hour guaranteed.[6] All fares collected on DART would be applied toward reimbursing the contractor. The overall contract ceiling was set at $103,000.

3.2.2 Initial Marketing

SDT's outreach work in the Paradise Hills community was an essential part of the initial marketing effort for DART. By soliciting the views of the community planning group and other citizen groups in Paradise Hills, SDT could publicize the new service as they were gathering information on the attitudes of residents toward the service.

DART received coverage in the local press as the date for implementation neared. Coverage was provided by the two major newspapers in the city, as well as the local weekly newspaper in Paradise Hills.

Two weeks before service began, SDT conducted a direct mailout to Paradise Hills residents. The mailout included a brochure describing the service, with a timetable for fixed-route service, and a letter from the community planning group supporting the service.

As part of their marketing effort, SDT installed signs to identify DART stops along the fixed routes in Paradise Hills and at the transfer points. These signs showed a special DART logo and identified the DART fixed-route number (DART-1 or DART-2).

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[5]Appendix D contains a copy of the initial service contract.

[6]The additional cost of base-day service was to pay for a dispatcher, who was not required for the fixed-route service during peak hours. See Section 3.3.3.

3.2.3 Initial Operations

DART service began on Thursday, July 15, 1982. Peak-hour service was provided along two fixed routes serving the western end of Paradise Hills (see Table 3-2 and Figure 3-1). The base fare was set at $1.00 for trips out of Paradise Hills, and a 20¢ upgrade for trips into Paradise Hills where the passenger had a valid local transfer (making the total fare $1.00; see Table 3-3). Free rides were given during the first two days to enable passengers to become familiar with the service at no cost.

DART fixed-route service (during the peak hours) operated like a regular bus route. The DART vehicle traveled along the route on a predetermined schedule. A passenger could simply wait at the nearest stop and board the vehicle when it arrived. No advance arrangement was required for service.

TABLE 3-2. DART SERVICE TYPES - INITIAL CONFIGURATION

SERVICE TYPE	DESCRIPTION	BUS ROUTES SERVED[a]
Peak Hour[b]		
DART-1	Fixed route running north-south from Valencia and Skyline to Plaza Bonita. Half-hour headways.	SDT 11, 110 NCT 601, 602 CVT 705 Transfer to DART-2.
DART-2	Fixed route running east-west looping through western Paradise Hills and terminating at 16th & Highland in National City. Half-hour headways.	SDT 29 NCT 602 Transfer to DART-1.
Base Day[c]	Demand-responsive. Service requests at least 1 hour in advance of scheduled bus arrival.	

[a]SDT=San Diego Transit. NCT=National City Transit. CVT=Chula Vista Transit.

[b]Peak hour service operates 5:40-9:00 a.m. and 3:40-7:00 p.m.

[c]Base day service operates 9:30 a.m.-3:30 p.m.

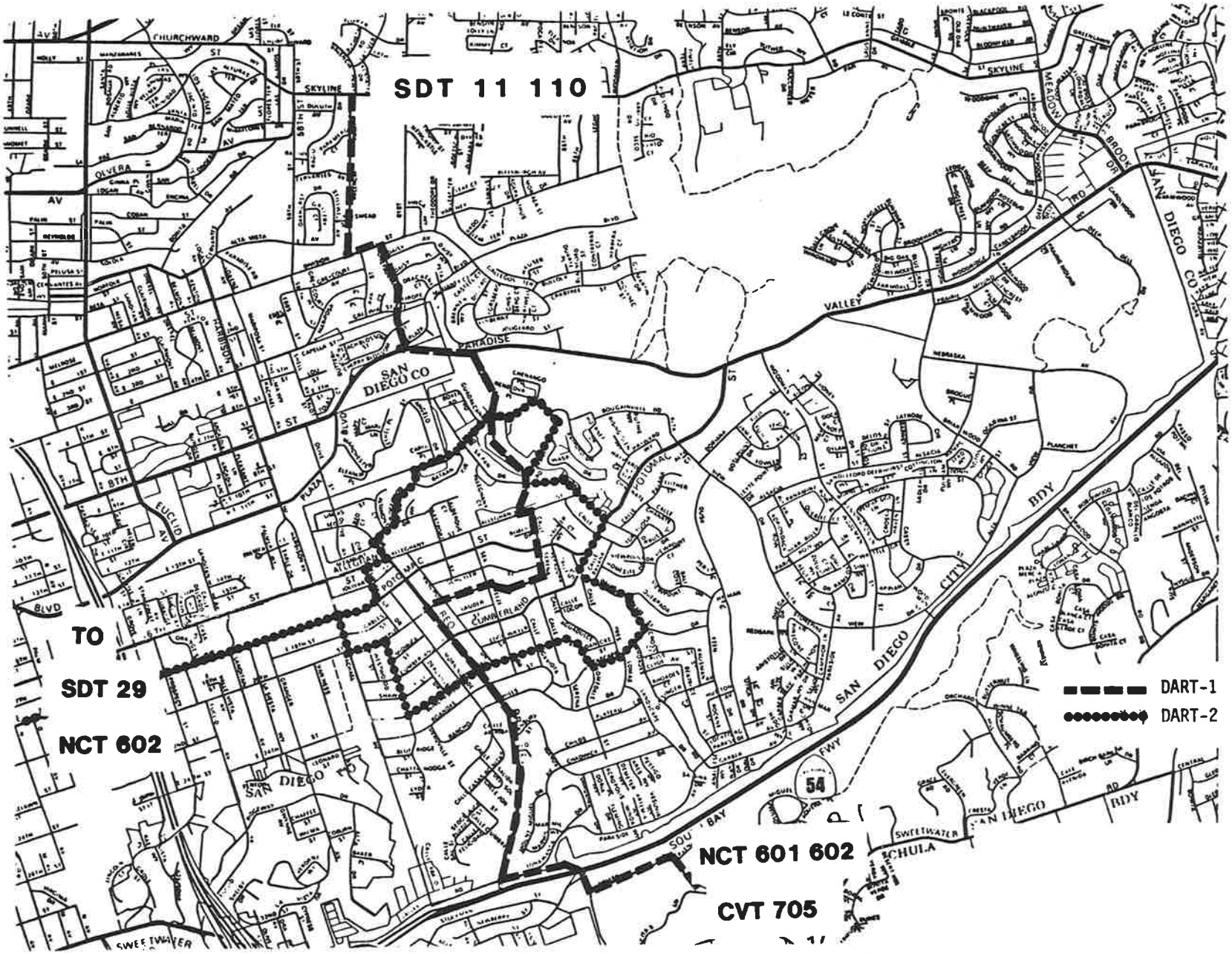

FIGURE 3-1. ORIGINAL DART PEAK-HOUR SERVICE ALIGNMENT

TABLE 3-3. DART FARES

FROM PARADISE HILLS[a]

Regular $1.00
Elderly/Handicapped $0.40[b]

TO PARADISE HILLS

With local transfer $0.20
With express transfer Free
With elderly/handicapped transfer Free[b]
Without transfer $1.00

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[a]Passengers from Paradise Hills receive a transfer that is good on connecting bus routes.

[b]Elderly/handicapped fares were in effect only during the off-peak period. This restriction was removed in the fall of 1982.

Passengers using demand-responsive service (base day) were required to telephone for service at least one hour in advance of the scheduled arrival time of the bus at the transfer point; for example, a passenger who wanted to transfer to a bus that arrived at the transfer point at 3:45 would be required to call for service by 2:45.[7] A passenger who was returning to Paradise Hills had to make the reservation for his return trip on DART at the same time he made his outbound reservation, or before boarding the bus for his return trip.

Regular taxi vehicles were used to provide DART service. These were usually nine passenger station wagons or vans for fixed-route service, and regular or compact cars for base day service. Magnetic signs carrying the DART logo were displayed on the vehicles; these covered the signs showing taxi rates of fare.

The initial response to DART was encouraging. In August 1982, the first full month of service, DART carried an average of 60 passengers per day.

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[7]The call would be taken by a dispatcher at Co-op, who would relay the call by radio to the driver. The driver would arrange his stop sequence if he was serving more than one call.

3.3 SERVICE EVOLUTION

3.3.1 Design and Operations

At the time DART began service, SDT and Co-op Cab were still uncertain about how demand patterns would develop. It was therefore essential that all parties concerned be alert to conflicts between service design and demand patterns so that service changes could be made as needed. A number of service modifications have been made since service began; the major changes are summarized in Table 3-4.

DART drivers and dispatchers made significant contributions to recognizing problems and dealing with them. They have been committed to making the service work, and have therefore sought ways to improve it. Some of the most significant changes listed in Table 3-4 were originally suggested by the drivers.

TABLE 3-4. DART SERVICE CHANGES

MODIFICATION	REASON	DATE
DART-1 changed to demand-responsive service covering all areas not covered by DART-2. Transfers to DART-2 for passengers going to 16th & Highland.	Low ridership and operational problems on DART-1; unserved peak-hour demand in eastern Paradise Hills.	November 1982
Modification of DART-2 route.	Better coverage of service area.	November 1982
DART-2 deviation from route for trips into Paradise Hills.	Better coverage.	January-June 1984
DART-2 becomes demand-responsive.	Increased ridership. Inefficiencies of fixed-route. Inability to coordinate DART-1 and DART-2 for transfers.	June-October 1984

DART-1 was never a very productive service in its fixed-route configuration. Initial demand for service to the northern and southern transfer points was low. Drivers had difficulty in meeting the schedule, being required to cover about 11 miles in a half-hour; vehicle speeds were slowed by the street layout in Paradise Hills and the long delays at traffic signals when crossing the South Bay Freeway to go to Plaza Bonita.[8] DART dispatchers also observed that there was a backlog of demand for service from the eastern part of Paradise Hills, which was not served during the peak hours; there would be a large number of calls for service from that area immediately base day service began.

DART-1 was therefore changed in November 1982 to a demand-responsive service to serve the areas of Paradise Hills not covered by DART-2. The northern transfer point was moved closer to the service area, to Deck Dell and Paradise Valley Roads. Transfers between DART-1 and DART-2 were coordinated for eastern residents going to 16th and Highland, and for western residents going to Deep Dell and Paradise Valley Road, or Plaza Bonita.[9] Operational problems were immediately reduced.

DART-2 was modified to provide better coverage of its service area. The route was changed in November 1982 (see Figure 3-2). As demand increased, and as it became more difficult to coordinate transfers between DART-1 and DART-2, DART-2 drivers began to deviate from the route to provide curbside service for passengers to Paradise Hills. This slightly increased the area covered by the route.

As demand increased further, it became more and more difficult to coordinate transfers between DART-1 and DART-2. DART-2 drivers noted that it was inefficient to traverse the fixed route because the majority of the stops had no passengers. Problems with schedule reliability on SDT Route 29 during the evening peak made it difficult for DART-2 to maintain its schedules.[10] Drivers felt that it would be more

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[8]The northern terminus of DART-1 was initially at 61st and Skyline, as shown in Figure 3-1. This was soon changed to Paradise Valley Road at Deep Dell, which shortened the route.

[9]If there was sufficient slack in his schedule, a DART-1 driver might sometimes take a passenger bound for 16th and Highland directly to the transfer point.

[10]See Chapter 5.

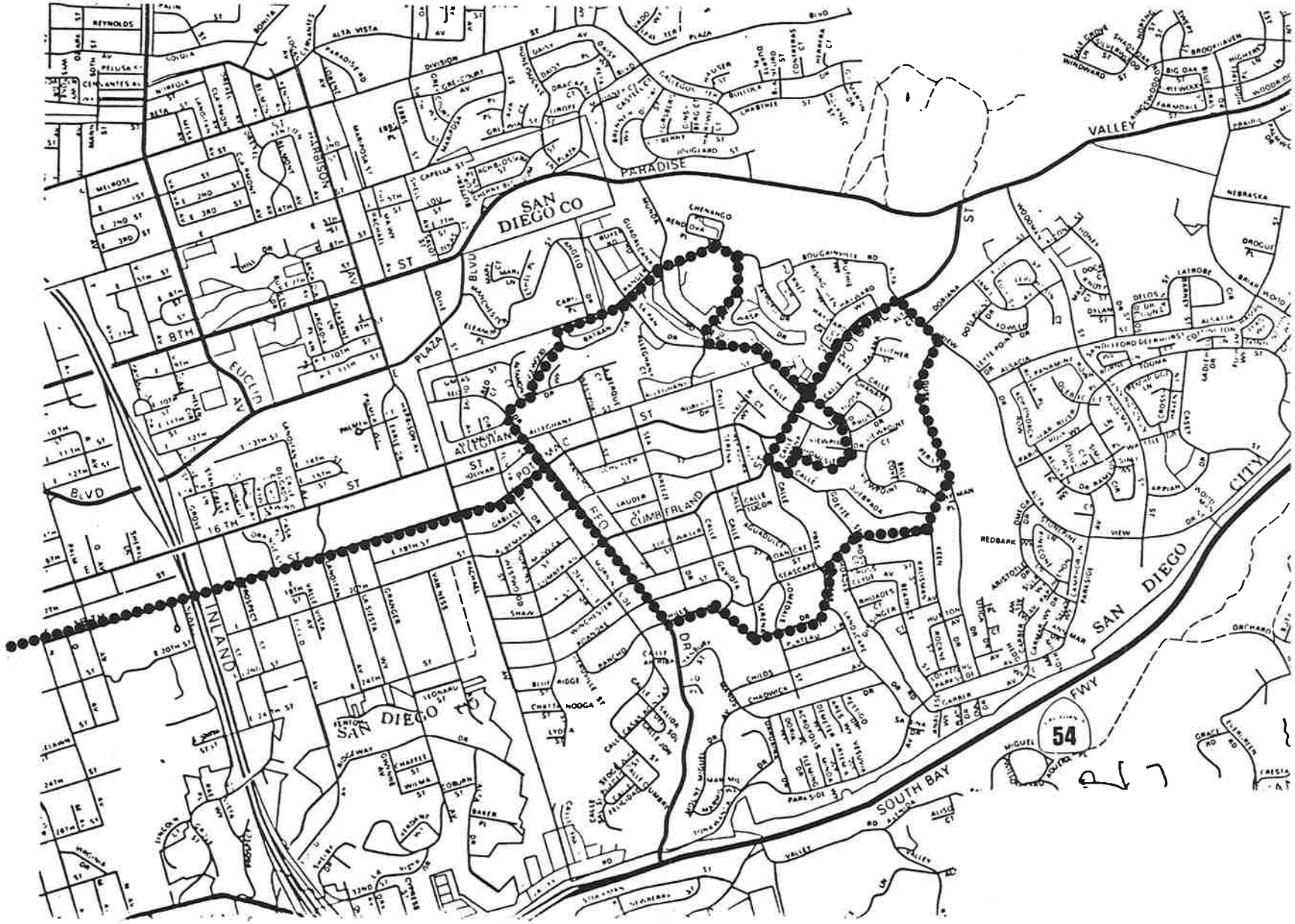

FIGURE 3-2. LATER DART-2 ALIGNMENT (NOVEMBER 1984 ONWARD)

DART has also experienced difficulties serving Plaza Bonita shopping center. In addition to the delays encountered when crossing the South Bay Freeway, DART was further hampered when the bus stop for NCT 601 and 602 and CVT 705 was moved. Originally, the stop was at the end of the shopping center nearest Paradise Hills; but it has been to the far end of the shopping center, causing about a 2 to 3 minute increase in vehicle travel time.

3.3.2 Management and Dispatching

The style of DART management has continued in about the same form as it had at the beginning. The SDT Paratransit Coordinator is responsible for service planing, contract monitoring, and coordination of promotional activities. The contractor has a project manager who is responsible for managing all aspects of DART service: drivers, dispatching, equipment, record keeping, and billing. A dispatcher handles all calls for demand-responsive service and relays them to the drivers. When operating in a demand-responsive mode, drivers are responsible for their own routing and for determining the sequencing of their pickups and dropoffs. When more than one vehicle is operating in a demand-responsive mode, one driver acts as a lead driver who assigns trip requests to vehicles in the field.

Dispatching has undergone two significant changes: a new type of radio communication, and the use of a computer to assist in dispatching and record keeping. The new radio system is an advance in technology. Calls had been sent from a single base station at the dispatcher's office; calls are now sent via a relay station in the field. Coverage is much better, and communications are therefore more reliable. The new 800 MHz band allows for more channels so that the dispatcher can communicate individually with selected vehicles or groups of vehicles. DART communications can therefore be separated from other communications from the contractor.

The contractor purchased his own personal computer in 1983, and has programmed it to assist in dispatching and record keeping. The dispatcher can now enter the pickup and dropoff locations of a call into the computer, and the computer keeps an ongoing record of calls pending and calls completed. This system enables the dispatcher to give more accurate pickup time estimates than were possible before. The time spent on record keeping has decreased, and the contractor is better able to monitor the performance of individual drivers.

efficient during the evening for DART to wait at the transfer point for the arrival of the SDT Route 29 from downtown San Diego.[11]

During 1984, DART peak-hour service evolved into its current configuration. DART-1 remains demand-responsive, serving mainly trips to and from the transfer points at Deep Dell and at Plaza Bonita. DART-2 serves the entire area as a demand-responsive service mainly for trips to 16th and Highland. Operationally, there is now no distinction between DART-1 and DART-2; there are simply two vehicles in demand-responsive service during the peak hours.

Several other operational problems have arisen with DART service. As discussed in Chapter 5, evening peak service on SDT Route 29 is not very reliable. This problem became apparent at the very start of DART operations. Several schemes have been tried to get around the problem. SDT arranged for drivers to notify the bus dispatcher by radio when the bus was falling behind schedule; the bus dispatcher would call the Co-op dispatcher, who would then notify the DART driver.[11] This practice has seldom been followed. DART and bus drivers made arrangements for the bus driver to flash his lights when he was running late and was a few blocks from the transfer point, so that the DART driver would be notified; but this, too, did not work. DART drivers tried to wait until the bus arrived, but this made it impossible to follow the DART schedules on time. This difficulty with SDT Route 29 schedule reliability contributed to the decision to make DART-2 a demand-responsive service.

A recent schedule change on Route 29 has made it more difficult for DART to coordinate with the bus. Instead of running on half-hour headways, buses now run on alternating 15 and 45 minute headways. Fifteen minutes is not enough time for DART to go to Paradise Hills and then return to the transfer point.

Because of these problems, the DART vehicle that serves the 16th and Highland transfer point in the evening now waits at the transfer point for the bus from downtown San Diego to arrive.[12] If there are calls waiting to be served, they are picked up first.

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[11]See Appendix B.

[12]This procedure is followed in Mira Mesa in the evening. DART drivers go to the main transfer point each time the bus is scheduled to arrive, and wait for the bus if it has not yet arrived.

3.3.3 Contract Changes

The DART service contract has changed several times since service began. Most of these changes have had to do with the service hours to be provided and the reimbursement schedule. These changes are presented in summary form in Table 3-5.

The initial contract called for peak-hour service to be provided by two vehicles for 30 hours per week each at a rate of $14.32 per hour. Base-day service was provided by a single vehicle at a rate of $1.61 per passenger, with a minimum reimbursement for 10 passengers per hour. This rate of demand was never reached by the time the reimbursement provisions were changed in November, 1982. Hence, the effective rate for base-day service was $16.10 per hour.

Co-op justified the base-day rate by pointing out that demand-responsive service required a dispatcher, which fixed-route service did not. A vehicle had to be present in the service area at all times to handle DART trip requests, but there was very little regular taxi business to take up the slack when DART demand was low. A minimum reimbursement was therefore necessary if Co-op were not to lose money on base-day service.

Co-op and SDT agreed to change the rates for DART-1 service when it was modified in November 1982. A base rate of $10 per hour covered the cost of the driver wages and the lease on the vehicle; a mileage rate of 11¢ per mile covered fuel, oil, and maintenance costs.

SDT took over funding of DART service in Paradise Hills in January 1984, when the demonstration funding ended. SDT staff and the Board of Directors were pleased with the success of the service, especially the continuous growth in patronage and productivity throughout the demonstration period. DART was also supported by community groups in Paradise Hills and the city councilman from the area. The Board of Directors adopted a budget amendment, which was approved by the San Diego City Council, to fund DART service through the remainder of FY 1984; thereafter, DART was included in the regular SDT budget.

When SDT took over funding of the service, the contract with Co-op was extended for six months; several changes were made to improve productivity and farebox recovery. DART-1 service rates were unchanged, but a maximum of 37.5 hours per week and a maximum of 2.8 miles per passenger were imposed to encourage efficient vehicle use. DART-2 continued to be reimbursed at the same rate, although additional hours (up to 33.75 per week) were allowed because of expanded peak-hour service.

TABLE 3-5. SUMMARY OF DART CONTRACT CHANGES

DATE	PEAK HOUR		BASE DAY	OTHER
	DART-1	DART-2		
July 1982	$14.32/hr.; 30 hr./wk.	$14.32/hr.; 30 hr./wk.	$1.61/passenger; min.: 10 pass./hr.	Original contract with Co-op Cab.
November 1982	Unchanged.	Unchanged.	$10/hr., 11¢/mi.	
January 1984	$10/hr., 11¢/mi.; max.: 37.5 hr./wk., 2.8 mi./passenger.	$14.32/hr.; 32.5 to 33.75 hr./wk.	$13.90/hr. to 30 hr./wk., $12.50/hr. to 10 additional hrs.; 11¢/mi.; max. 3.0 mi./passenger. (See note a.)	Revenue above 25% of cost shared with drivers. 22% minimum farebox recovery rate. New contract with APS.
August 1984	$15/hr., 12¢/mi.; max.: 37.5 hr./wk., 2.8 mi./pass.	$16.63/hr., 32.5 hr./wk.	$14.07/hr., 13.3¢/mi.; max.: 30 hr./wk., 3.0 mi./passenger.	Revenues above 25% of cost shared with drivers. 22% minimum farebox recovery rate. New contract with APS.

[a]Additional hours allowed provided farebox recovery rate does not fall below 20%.

Base-day service reimbursement was increased to $13.90 per hour up to 30 hours per week, and $12.50 per hour for up to 10 additional hours; mileage was reimbursed at a rate of 11¢ per mile up to a maximum of 3.0 miles per passenger.

Another significant change in the contract was the provision for revenue sharing between SDT and the contractor. Revenues above 25 per cent of the gross costs were shared evenly between SDT and Co-op, thereby rewarding the contractor for efficient service and high patronage. The amount of revenue sharing was initially small, but has increased steadily in the past year (see Chapter 6).

SDT put the Paradise Hills contract out to bid in the summer of 1984. They believed that although Co-op had been providing good service, they could not continue the contract indefinitely without giving other operators a chance to bid.

At the time, problems had been developing within Co-op over DART service. As DART patronage increased, use of Co-op's radio service for DART service calls increased. Co-op drivers who were not involved with DART were hearing the calls, and felt that DART was taking up too much of Co-op's radio time. They also felt that DART was a good operation from which they were being excluded. Some of the cab owners in Co-op also felt that DART was not benefiting the entire organization. The internal problems of Co-op were beginning to affect the quality of DART dispatching.

The Co-op general manager had been managing DART since service began. He had been interested in developing nontraditional taxi services, but felt that this could not be easily done within the Co-op organization. He therefore formed a separate business, American Paratransit Services, Inc. (APS), to pursue paratransit business. APS bid on the new Paradise Hills contract. Co-op chose not to bid on the new contract.

Two other companies bid on the contract: American Cab and Yellow Cab. American Cab is a medium-sized operator with about 20 taxis. Yellow Cab is the largest operator in San Diego with about 300 taxis. Both companies had seen the success of DART in Paradise Hills and felt that it was worthwhile to bid on the service now that a demand had developed.

SDT evaluated the bidders on their technical capabilities, experience, and cost.[13] The proposal evaluations were supplemented by site visits by the SDT Paratransit Coordinator to observe the operations of each operator.

American Cab bid at a significantly lower cost than the other two companies, but was not rated very high on technical capability and experience. Yellow Cab bid at a slightly lower cost than APS, but was not rated as high on technical capability and experience.[14] APS received the highest technical and experience ratings. It was obviously an advantage to APS that their president was already managing DART service for Co-op Cab. But several other points weighed in APS's favor: availability of good quality radio communications and computer-assisted dispatching and record keeping (see the preceding section); and a higher effective driver wage than the other two companies.[15] SDT staff and the Board of Directors felt that higher driver wages would help APS to attract and keep better drivers, and therefore maintain high service quality.

The new service rates for APS were significantly higher than those paid to Co-op Cab. Co-op Cab is a non-profit organization, but APS is a private business; the rates therefore had to include a return on investment. The president of APS felt that DART required significantly more management time than he had allowed for when bidding with Co-op Cab. APS's overhead costs were also higher than Co-op's.

The new contract contained several provisions to encourage productivity and increased patronage.[16] The revenue sharing provision of the old Co-op contract was retained, but the shared revenues were to be given to the drivers. APS would be penalized for low farebox recovery; if revenues fell below 22 per cent of gross costs, the contractor would have to make up the difference between actual revenues and 22

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[13]UMTA did not review or comment on contractor selection because SDT had assumed full funding of DART.

[14]Yellow Cab cited their experience as ongoing dial-a-ride contractor for the City of El Cajon. SDT felt that DART is a totally different type of operation, requiring a much higher level of service to be provided.

[15]Yellow Cab had proposed to pay the minimum wage. American Cab proposed to pay $8 per hour, but drivers would have had to pay for fuel, resulting in a lower effective wage than APS's proposed $7 per hour.

[16]For example, if assessed gross costs were $1,000 and revenues were $190, the contractor would be assessed the difference between $190 and $220, or $30.

per cent of gross cost.[17] The ceilings on mileage per passenger were retained for demand-responsive service (see Table 3-5).[18]

APS believed that even with the higher rates, SDT would be better off than before. The higher rates would enable APS to improve service and attract more riders; and APS would be able to develop a shared-ride taxi business in Paradise Hills to supplement revenues from DART service.[19] APS have also increased their capacity by purchasing a 16 passenger van for DART-2 peak-hour service to 16th and Highland. The van has allowed DART to carry more riders than before, and patronage has increased.

The higher rates initially resulted in a lower farebox recovery and a higher per passenger subsidy than in the months immediately preceding the new contract with APS. Since then, however, farebox recovery has increased from 22 to 27 per cent, and the average subsidy per passenger has declined from $2.30 to $1.70. This is due mainly to increased patronage; but improved efficiency because of service design has also contributed significantly.

3.4 MARKETING

Several major marketing efforts have been carried out by SDT to promote DART service in Paradise Hills. During the initial planning period before service began, the SDT Paratransit Coordinator met extensively with community groups in Paradise Hills to solicit their views on the new service. These meetings were also an opportunity to promote the service by increasing community awareness.

A large-scale promotional mailing to all Paradise Hills residents was conducted several weeks before DART service began. The mailout packet included a letter from the community group in support of the service, a brochure describing the service, and timetables for the DART peak-hour fixed-routes.

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[17] A copy of the second contract appears in Appendix E.

[18] The most recent version of the contract contains standards on passengers per vehicle service hour and farebox recovery only.

[19] As in Mira Mesa, a vehicle in DART service can carry shared-ride taxi passengers. Revenues from these passengers are counted toward DART revenues.

A further promotional campaign was conducted in May 1983. A new DART brochure was enclosed with the water bill of each Paradise Hills resident. The mailing reached all residents except those in military housing and apartment complexes.

SDT distributed DART brochures and free ride coupons to military housing residents in July 1983. The free ride coupons were intended to get members of military families to try the service. The free ride coupons were part of the promotional campaign because SDT felt that the military was a prime market for DART. The distribution covered over 2,000 residents who had not been reached by the water bill mailing in May.

SDT now has an arrangement with the military housing officer, whereby DART promotional packets are distributed to new residents upon their arrival. The packets contain an information brochure and a free ride coupon.

Several smaller promotional efforts have been conducted. Special DART signs were made up to further publicize the service. These signs give a brief description of the service and a number to call for further information. SDT placed these signs in the windows of businesses in shopping areas in Paradise Hills and at military housing centers. Ads have been placed in the Paradise Hills edition of the Penny Saver, a weekly classified advertising newspaper. DART drivers have also promoted the service on their own by talking with local business owners and passers-by.

The marketing efforts appear to have contributed to increased demand for DART service. There have, however, been no major marketing campaigns in Paradise Hills for more than a year; marketing since then has been limited to displaying signs and distributing brochures to local businesses. The SDT Paratransit Coordinator feels that more promotion is needed to attract more riders as current riders move or change their travel habits. DART now has a marketing budget which is currently included in SDT administrative costs; the marketing budget is $5,000 per year for each DART service area.

4. DEMAND

This chapter covers DART patronage, travel patterns, characteristics of DART passengers, and passenger awareness and attitudes toward the service.

4.1 PATRONAGE AND TRAVEL PATTERNS

DART patronage has increased steadily since the service began. During the first month of service, DART carried an average of 60 riders per day; this has increased to a current average of 140 to 160 riders per day. Figure 4-1 shows the trend in average daily DART patronage.

These data show some seasonal patterns, although other variations may be hidden because of the general growth. There is a noticeable drop in DART travel during the holiday months at the end of the year. Patronage may also tend to be less in the summer than in the winter: growth during the summer months was lower, and over 20 per cent of DART trips are school trips.[1]

Day-to-day variations in patronage are similar to those on other transit services. During a typical month, the busiest days generally occur during the first week of a month, and travel is lowest during the last two weeks. During the busiest days, DART has carried 180 passengers; this has occurred several times during the last half of 1984.

DART demand peaks significantly during the morning and evening rush hours, especially between the hours of 4:00 to 5:00 p.m. (Figure 4-2). Most of the high demand during the peak hour is from by travelers who leave Paradise Hills during the morning rush hours and the early base day period.

Total DART patronage for 1984 by type of service is shown in Table 4-1. Almost two-thirds of DART travel occurs during the peak period. DART-2, which serves SDT Route 29, carries about 60 per cent of the peak period trips. This distribution of demand among the three service types has remained about the same over 1984, although there have been some minor variations. During the busiest months, most of the patronage increases have occurred in DART-2 and base day service.

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[1] See the discussion in Section 4.2.

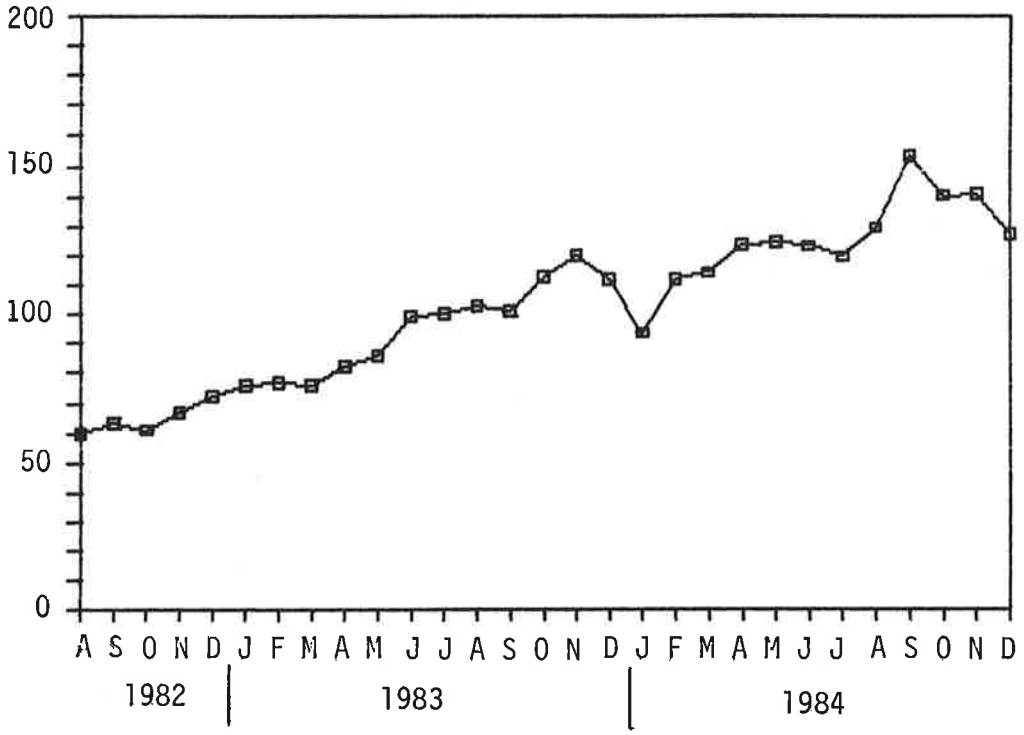

FIGURE 4-1. AVERAGE DAILY PATRONAGE

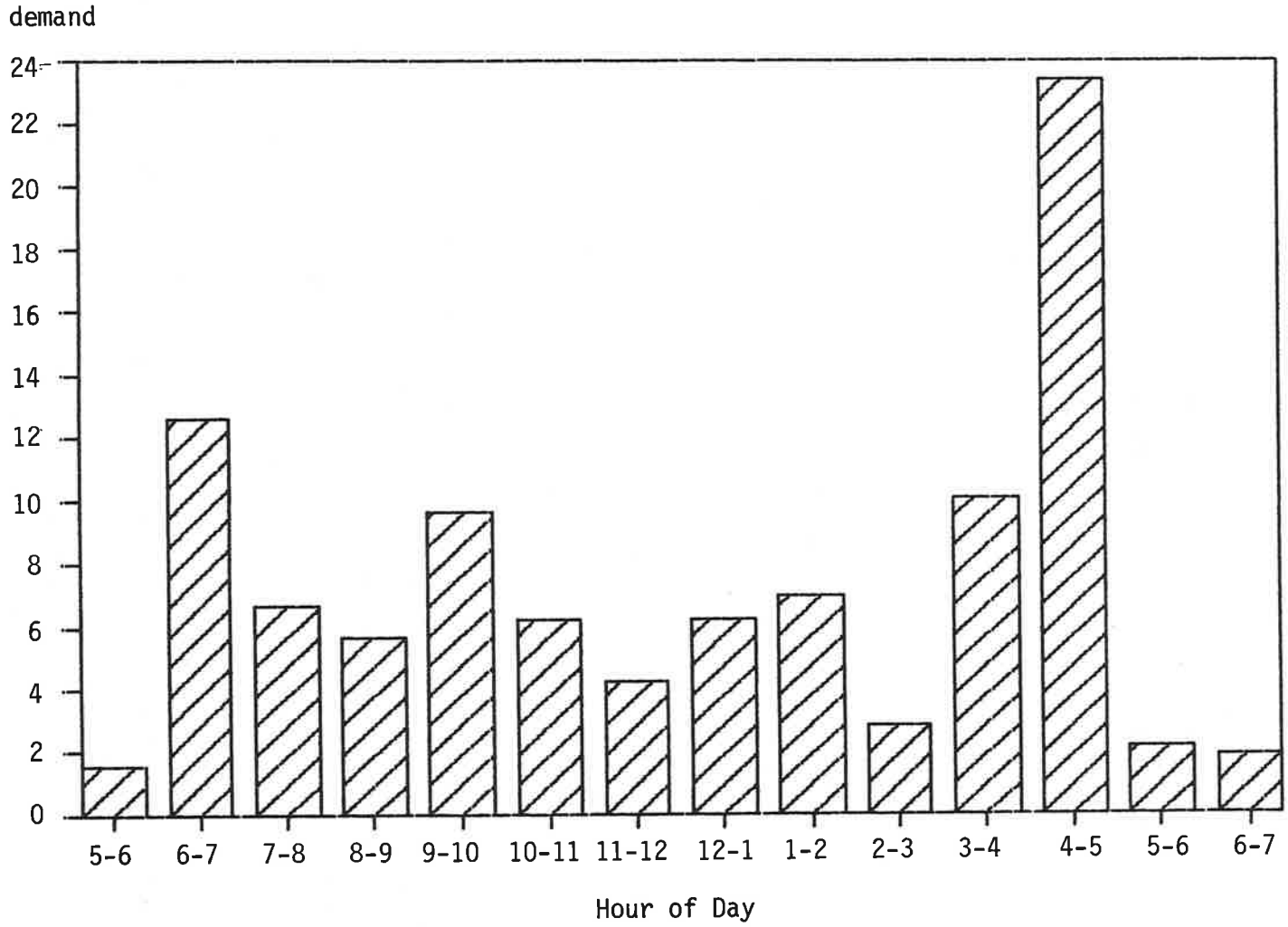

FIGURE 4-2. DEMAND BY TIME OF DAY - JUNE 1984

TABLE 4-1. TOTAL ANNUAL DART PATRONAGE BY TYPE OF SERVICE - 1984

	Riders	%
PEAK		
DART-1	8,288	26.0
DART-2	12,008	37.7
Subtotal	20,296	63.6
BASE	11,594	36.4
TOTAL	31,890	100.0

Table 4-2 shows the distribution of DART travel by direction: to and from Paradise Hills. The figures are derived from two week long on-board surveys of DART passengers in October 1982 and June 1984. As shown in the table, the travel patterns are not symmetric; there appears to be a consistent imbalance in favor of travel out of Paradise Hills. One possible explanation for this is that some passengers who use DART to go to work or school may get a ride from another member of the family on the way home. A more complete analysis will be done when further detailed travel data are in.

Paradise Hills origins and destinations of DART trips are shown in Table 4-3. The most significant change is the increase in the share of DART patronage for travel to and from the eastern section. This increase is attributable in part to changes in DART peak-hour service; in November 1982, the east was not served by DART during the peak hours. Some of this increase is probably because of the large population growth in the east.

There has been a large decline in the share of trip origins and destinations in the northwest area, where the military housing is located. Some of this change is due to different rates of ridership growth in the different areas of Paradise Hills. In particular, ridership growth in the east and west central areas appears to have been significantly higher than in the northwest and southwest areas. But there also appears to have been a decline in the absolute numbers of trips to and from the northwest.

TABLE 4-2. DART TRAVEL TO AND FROM PARADISE HILLS

	October 1982		June 1984	
	N	%	N	%
From Paradise Hills	181	56.2	405	56.3
To Paradise Hills	141	43.8	314	43.7
TOTAL	322	100.0	719	100.0

Sources: Week-long on-board surveys of DART passengers, November 1982 and June 1984.

TABLE 4-3. ORIGINS AND DESTINATIONS WITHIN PARADISE HILLS

	October 1982				June 1984			
	Origin		Destination		Origin		Destination	
	N	%	N	%	N	%	N	%
Northwest	44	24.3	67	47.5	49	12.1	26	8.3
West Central	61	33.7	41	29.1	137	33.8	92	29.3
Southwest	34	18.8	22	15.6	41	10.1	35	11.1
East	42	23.2	11	7.8	178	44.0	161	51.3
TOTAL	181	100.0	141	100.0	405	100.0	314	100.0

Sources: On-board surveys of DART passengers, October 1982 and June 1984.

One likely cause is the higher turnover rate of the military population compared to that for civilians.[2] DART would therefore have to be marketed more actively among the military than among civilians in order for ridership not to decrease. SDT has not actively marketed DART in the military housing area since May 1983.[3] Hence, further marketing efforts may be necessary to reverse the decline in military passengers.

Another contributing cause could be schedule reliability problems on SDT Route 29, which occur mainly in the evenings.[4] These problems may encourage some persons who use DART to go from Paradise Hills in the morning to use another mode of travel for the return trip.

These changes were observed while DART-2 was operating as a fixed-route service, with several stops in the military housing area. The SDT Paratransit Coordinator believes that military ridership may have decreased even more since DART-2 was changed to a demand-responsive service, since it is now less convenient for passengers from the military housing area to use.

Table 4-4 shows the distribution of DART origins and destinations outside Paradise Hills. The sharp decrease in the share of travel to and from the military bases supports the above conclusion that military travel on DART has fallen off since 1982. Downtown San Diego continues to account for the dominant share of DART travel outside Paradise Hills.

Work and school travel continue to account for the majority of DART trips (Table 4-5). While travel for all purposes has increased, school travel has increased by the greatest percentage. Shopping accounts for a higher share of trips on DART than on SDT in general; many of these trips are to the shopping areas at Plaza Bonita Shopping Center and at 16th and Highland, and do not involve a transfer to regular bus service.

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[2]The military housing officer reports a turnover of 30 families (out of 800) per month, or nearly 45% per year; this corresponds to an average length of stay of 2.2 years. The average residence in military housing of 2.2 years. The average length of residence in Paradise Hills for all DART riders is about 3.9 years (see Section 4.2.2).

[3]SDT has supplied the military housing office with information packets on DART, which are to be distributed to families as they move in.

[4]This conjecture was made by the SDT Paratransit Coordinator and the DART manager at APS.

TABLE 4-4. ORIGINS AND DESTINATIONS OUTSIDE PARADISE HILLS

	October 1982				June 1984			
	Origin		Destination		Origin		Destination	
	N	%	N	%	N	%	N	%
Downtown San Diego	89	49.2	46	32.6	147	36.3	132	42.0
Chula Vista	15	8.3	20	14.2	55	13.6	26	8.3
National City	32	17.7	16	11.3	66	16.3	42	13.4
Southwest San Diego	0	0.0	20	14.2	34	8.4	26	8.3
Military Base	22	12.2	10	7.1	8	2.0	9	2.9
Other	23	12.8	29	20.6	95	23.4	78	24.9
TOTAL	181	100.0	141	100.0	405	100.0	314	100.0

Sources: On-board surveys of DART passengers, October 1982 and June 1984.

TABLE 4-5. DART TRIP PURPOSES

	October 1982 (N=136)	June 1984 (N=552)
Work	43.2%	42.4%
School	11.5	22.6
Shopping	13.0	10.5
Social/recreation	12.5	3.6
Medical	5.7	5.1
Personal business	12.5	9.8
Other	1.6	6.0

Sources: On-board surveys of DART passengers, October 1982 and June 1984.

4.2 CHARACTERISTICS OF DART PASSENGERS

4.2.1 DART Use

The use of DART by its riding population has influenced, and been influenced by, the design of the system. Table 4-6 presents some statistics on characteristics of the use of DART shortly after the service had begun, and after it had been running for almost two years.

The design of the service accounts for the higher proportion of those who used demand-responsive service in 1984 compared to 1982; the earlier survey took place shortly after DART-1 peak-hour service had been changed from fixed route to demand responsive. At the time of the 1984 survey, DART fixed-route service was deviating from its route on to provide better service for passengers returning to Paradise Hills. Route deviation is probably the main cause of the observed increase in average distance between passengers' homes and DART stops from 1982 to 1984.

Fewer DART demand-responsive passengers have been following the rules for making the reservation for their return trip to Paradise Hills. In late 1982, nearly two-thirds of the demand-responsive users were making their return reservation in the proper way; by mid-1984, this had fallen to slightly over one-half. As noted in the previous chapter, the increasing tendency to just wait at the transfer point for the vehicle to arrive has caused some operational problems for the contractor.

Almost 90 percent of DART users in 1984 use the service at least once a week, and more than half of them use it at least four times a week. Almost one in seven use the service every weekday. The apparent change in average trip frequency between 1982 and 1984 shown in the table is misleading; based on comparisons to actual patronage during the survey period, it appears that the figure for 1982 is an overestimate and that for 1984 a slight underestimate of the actual values. In fact, the average trip frequency of DART use appears to have increased between 1982 and 1984.[5]

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[5]During the time of the 1982 telephone survey, average weekly DART patronage was about 350, which is much less than the sample size multiplied by the estimated average frequency (over 570); hence, many infrequent DART users were missing from the 1982 telephone sample. For 1984, the sample size multiplied by the estimated trip frequency is about 610, which is close to the average weekly patronage of 610 to 615 during the survey period.

TABLE 4-6. DART USE CHARACTERISTICS

	December 1982 (N=111)	July 1984 (N=124)
DART Service Used[a]		
Fixed route[b]	60.4%	39.0%
Demand-responsive[c]	67.3	95.1
No. Blocks Home to DART Stop[d]		
Mean	2.3	3.4
Median	1.2	2.4
How Reservation for Trip Home Usually Made[e]		
When making reservation at home	18.8%	10.7%
Before boarding bus on way home	47.8	41.1
When arrive at transfer point	20.3	26.8
Don't make reservation; wait for DART	13.0	21.4
One-way DART Trips Per Week		
Less than 1	6.4%	10.7
1-2	12.7	13.1
3-4	24.5	22.1
5-6	26.4	30.3
7-8	9.1	5.7
9-10	18.2	13.9
Over 10	2.7	4.1
Mean	5.2[f]	4.9
Median	4.5[f]	4.3

TABLE 4-6. DART USE CHARACTERISTICS
(Continued)

	December 1982 (N=111)	July 1984 (N=124)
DART/Bus Usual Mode for Work Travel[g]	60.0	58.5
DART/Bus Usual Mode for School Travel[h]	64.0	45.5
Length of Time a DART User		
Less than 1 month	--	9.8%
1-5 months	--	35.7
6-11 months	--	26.8
12-17 months	--	5.4
18 months or more	--	22.3

[a]Multiple responses.

[b]Fixed route includes the following: DART-1, July through October 1982; and DART-2, July 1982 through August 1984.

[c]Demand-responsive includes the following: DART-1, November 1982 onward; and base-day service.

[d]Fixed-route DART users only.

[e]Demand-responsive DART users only.

[f]These figures very likely overestimate travel frequencies in December 1982. See the text.

[g]Per cent of DART users who are employed full time or part time.

[h]Per cent of DART users who are students.

Sources: Telephone surveys of DART passengers, December 1982 and July 1984.

Of those DART users who are employed or go to school, DART is the main mode of travel to work or school. DART is the usual mode of travel to work for over half of those who are employed full time or part time, to school for nearly half of those who are students.

Users were also asked if they use DART for shopping trips to areas where they shop once a month or more. Over half of them use DART for shopping trips to downtown San Diego; and over 40 per cent use DART for shopping trips to National City and Plaza Bonita. As noted above, DART transfer points in National City and at Plaza Bonita are located in shopping districts, so that many shopping trips there are made without transferring to regular bus service.

A large number of DART users have continued to use the system. The nearly one-quarter of DART users who had used DART for more than a year and a half account for over half the patronage on DART during late 1982. The high percentage of new users (less than six months) indicates that DART has managed to successfully attract new users despite lack of a concerted marketing effort in the past year and a half.

DART passengers were asked how they would make their current trip on DART if the service were not yet available. The results, shown in Table 4-7, show that DART is used primarily to make trips that would have been made less conveniently (walk to bus, get ride with family/friends, walk only) or would not have been made at all. Less than 4 per cent of DART trips would have been made by driving.

TABLE 4-7. HOW DART PASSENGERS WOULD MAKE TRIPS IF DART WERE NOT AVAILABLE

"How would you make this trip today if DART did not yet serve Paradise Hills?"	(N=537)
Would not travel	19.6%
Drive	3.7
Get ride from family/friends	33.5
Walk to bus	30.5
Get ride to bus	1.5
Call a cab	2.0
Walk only	3.5
Other	3.9
Don't know	1.7

4.2.2 Socioeconomic and Travel Characteristics

The socioeconomic and travel characteristics of DART passengers have changed during the time the service has been running. Table 4-8 shows these characteristics of DART passengers shortly after the service started and after it had been running for two years.

The changes in the distribution of residential locations of DART passengers reflect the changes in demand patterns discussed in section 4.1. The percentage of DART users who live in the northwest part of Paradise Hills has dropped, providing support for the view that DART patronage from the military has dropped. The higher proportion of DART passengers in the east in 1984 is due primarily to the improved service there since 1982.

DART passengers come from households with fewer vehicles than the average for Paradise Hills.[6] Nearly one-fifth come from households with no vehicles, whereas only 2.6% of all Paradise Hills households have no vehicles. The average number of vehicles per household is 1.5 for DART riders and 1.9 for all Paradise Hills residents. Of households that do have at least one vehicle, 58% of DART households have two or more vehicles, compared to 68% for all Paradise Hills households. Because most DART households have more than three persons, and the age, sex, and employment characteristics of DART users, a major share of the DART market appears to consist of secondary workers in households with one or no cars.

As discussed in the above section, DART is the usual means of travel to work for most of its users who are employed, and to school for nearly half of its users who are students. Driving alone and carpooling are the next most frequently used work travel modes.

Other than DART, the most frequently used mode is to get rides from family and friends. Only about one-quarter ever drive alone. From this, and from passengers' statements of their alternatives to DART service (Table 4-6), it can be concluded that a significant share of the current DART market in Paradise Hills is from transit dependents.

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[6]Compare with Table 2-5.

TABLE 4-8. DART PASSENGER SOCIOECONOMIC AND TRAVEL CHARACTERISTICS

	December 1982 (N=111)	July 1984 (N=124)
Residential Location		
Paradise Hills		
Northwest	22.7%	15.7%
West Central	25.5	36.4
Southwest	28.2	9.9
East	16.4	28.1
Outside Paradise Hills	7.3	9.9
How Long At Current Address		
Less than 6 months	18.3%	10.6%
6-11 months	10.1	15.4
1-5 years	35.8	43.1
Over 5 years	35.8	30.9
Number of Vehicles In Household		
None	21.8	18.0
One	37.3	34.4
Two	31.8	31.1
Three or more	9.1	16.4
Number of Persons In Household		
1	2.4%	5.6%
2	17.9	17.8
3	19.5	19.6
4	13.8	23.4
5	16.3	17.8
6	13.0	8.4
7 or more	17.1	7.5

TABLE 4-8. DART PASSENGER SOCIOECONOMIC AND TRAVEL CHARACTERISTICS (Continued)

	December 1982 (N=111)	July 1984 (N=124)
Age		
Under 16	2.7%	9.8
16-18	13.6	13.9
19-24	22.7	18.9
25-44	29.1	27.9
45-64	19.1	19.7
65 and over	12.7	9.8
Sex		
Male	28.8%	33.3%
Female	71.2	66.7
Main Occupation		
Employed		
Civilian	42.3%	41.5%
Military	8.1	1.6
Student	22.5	26.8
Housewife	9.9	9.8
Retired	12.6	12.2
Unemployed	4.5	8.1

TABLE 4-8. DART PASSENGER SOCIOECONOMIC AND TRAVEL CHARACTERISTICS (Continued)

	December 1982 (N=111)	July 1984 (N=124)
Usual Travel Mode to Work[a]		
Drive alone	21.8%	15.1%
Carpool/vanpool	9.1	13.2
DART & bus	60.0	58.5
Bus or trolley only	1.8	5.7
Other	7.3	7.5
Usual Travel Mode to School[b]		
Drive alone	4.0%	3.0%
Carpool/vanpool	16.0	21.2
DART & bus	64.0	45.5
SDT bus or trolley only	4.0	9.1
School bus	4.0	6.1
Other	8.0	15.2
Shopping Locations (Uses once a month or more)[c]		
Paradise Hills	46.4%	67.9%
National City	67.3	77.9
Plaza Bonita	85.5	79.8
Downtown San Diego	43.6	47.2
Use DART for Shopping Trips to[d]		
Paradise Hills	31.8%	22.2%
National City	58.6	43.6
Plaza Bonita	58.1	42.5
Downtown San Diego	49.4	53.4
Other Areas	35.7	39.6

TABLE 4-8. DART PASSENGER SOCIOECONOMIC AND TRAVEL CHARACTERISTICS (Continued)

	December 1982 (N=111)	July 1984 (N=124)
Other Travel Modes Used (Besides DART)[c]		
Drive alone	36.0%	26.2%
Get rides from family/friends	42.3	63.9
Walk	20.7	27.0
Bus/trolley (without DART)	12.6	34.4
Taxi	4.5	7.4
Other	13.5	4.1
Access to Bus/Trolley (Besides DART)[e]		
Walk	100.0%	72.8%
Get a ride	0.0	24.2
Other	0.0	3.0

[a]Per cent of those who are employed.

[b]Per cent of students.

[c]Multiple responses.

[d]Per cent of those who shop at given location.

[e]Per cent of those who use bus/trolley.

4.3 USER AWARENESS AND ATTITUDES

DART users first heard about the service primarily from friends and neighbors, and from SDT's mailout campaigns (Table 4-9). Word-of-mouth advertising appears to have grown in importance since 1982; nearly two-thirds of DART users in mid-1984 had first heard about the service this way. This increase is also likely due to the lack of a concerted promotional effort by SDT since mid-1983. Newspaper appears to have reached only a small minority of DART users.

TABLE 4-9. HOW PASSENGERS FIRST HEARD ABOUT DART

	December 1982 (N=111)	July 1984 (N=124)
Mail-out pamphlet	28.8%	20.9%
Community meeting	6.3	3.5
Newspaper	4.5	4.3
Friend/neighbor	36.9	65.2
Saw DART vehicle	9.0	0.9
DART sign	N.A.	2.6
Other	14.4	0.0

N.A. = Not applicable.

The importance of word-of-mouth advertising indicates that providing a high level of service is crucial to attracting and keeping passengers. Those who use the service and are satisfied with it have been DART's best means of promotion. Indeed, as DART's level of service improved in the latter half of 1984, patronage on the service has grown.

Passengers appear to be highly pleased with DART service. In 1984, almost all aspects of DART fixed-route and demand-responsive service were rated good or excellent by three-fourths or more of its ridership (Tables 4-10 and 4-11). DART passengers especially like the amount of the fare, the courtesy of DART drivers, and the ability of DART drivers to provide information about DART and buses. In general, those aspects of the service that had the lowest ratings had to do with the DART/bus connection. As discussed in the next chapter, schedule reliability on the most heavily used SDT bus route has continually been a problem for DART passengers and drivers.

Ratings given to the service in 1982 appear to be somewhat higher than those in 1984. There are several possible explanations for this. The initial group of DART users may have been those most in need of the service, and therefore more easily satisfied than those who started to use the service later. DART level of service has probably decreased somewhat as patronage has increased. DART was in fact experiencing dispatching problems in June and July 1984, when the survey was done, due to internal problems within Co-op cab. Despite the somewhat lower ratings, DART is still rated overall as good or excellent by 90 per cent of its users.

A further indication of passenger satisfaction with the reliability and overall quality of demand-responsive service is the rate of no-shows (Table 4-12). In November 1984 and February 1985, the no-show rate was less than 3 per cent, which is less than has been observed for some other dial-a-ride systems.[6] The higher no-show rate for June is typical for that month.[7]

DART passengers who had used SDT Route 12 were asked to compare the two services. The results are given in Table 4-13. Over 90 per cent of those who had used Route 12 used it when it ran into National City. DART was overwhelmingly favored as the better service; only about one-quarter thought that DART was worse than Route 12.

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[6]By comparison, the no-show rates for dial-a-ride systems in Orange County, California, and Glendale, Arizona, are between 5 and 10 per cent. The higher no-show rate of these systems is most likely due to the inherent differences between them and DART: larger service areas, higher ridership, and many-to-many (compared to many-to-few) service; hence, less accurate pickup time estimates, longer service times, and lower reliability.

[7]DART riders who use DART to go to school usually have standing time calls to be picked up regularly. When school lets out in June, some of these riders do not call in to DART; when the vehicle goes to make the scheduled pickup, the passenger is not there, causing a no-show to be recorded.

TABLE 4-10. PASSENGER ATTITUDES TOWARD DART FIXED-ROUTE SERVICE

	December 1982 (N=67)				July 1984 (N=48)			
	Excellent	Good	Fair	Poor	Excellent	Good	Fair	Poor
Hours of operation	41.8%	46.3	11.9	0.0	22.4%	57.1	14.3	6.1
Amount of fare	44.8	46.3	6.0	3.0	42.9	46.9	8.2	2.0
Convenience of paying fare	45.5	48.5	6.1	0.0	36.7	53.1	10.2	0.0
Distance From Home to DART Stop	48.5	45.5	4.5	1.5	38.8	38.8	16.3	6.1
DART Gets to Bus On Time	N.A.	N.A.	N.A.	N.A.	25.5	48.9	14.9	10.6
DART picks up on time	43.9	43.9	12.1	0.0	25.0	47.9	18.8	8.3
Bus arrives on time at transfer point	25.0	53.1	21.9	0.0	14.9	53.2	12.8	19.1
DART waits if bus is late	N.A.	N.A.	N.A.	N.A.	29.5	47.7	18.2	4.5
DART goes to buses that go where you want to go	51.6	43.8	4.7	0.0	38.3	46.8	8.5	6.4
Courtesy of DART drivers	74.2	22.7	0.0	3.0	42.9	44.9	8.2	4.1
DART drivers provide information on DART and buses	N.A.	N.A.	N.A.	N.A.	44.7	40.4	8.5	6.4
Comfort of DART vehicles	60.6	36.4	1.5	1.5	14.3	42.9	34.7	8.2
Courtesy of bus drivers	40.9	43.9	15.2	0.0	29.2	50.0	20.8	0.0
Overall quality of service	66.2	26.2	6.2	1.5	36.7	53.1	10.2	0.0

NOTE: N.A. = Not asked.

TABLE 4-11. PASSENGER ATTITUDES TOWARD DART DEMAND-RESPONSIVE SERVICE

	December 1982 (N=79)				July 1984 (N=117)			
	Excellent	Good	Fair	Poor	Excellent	Good	Fair	Poor
Hours of operation	N.A.	N.A.	N.A.	N.A.	24.3%	48.7	20.0	7.0
Amount of fare	50.6	43.0	5.1	1.3	48.7	40.9	9.6	0.9
Convenience of paying fare	43.0	50.6	6.3	1.3	40.9	51.3	7.0	0.9
Ease of making reservation	60.8	31.6	6.3	0.0	36.2	44.0	14.7	5.2
Amount of time must call in advance	24.1	50.6	21.5	3.8	21.7	49.6	20.0	8.7
DART picks up on time at home	N.A.	N.A.	N.A.	N.A.	29.7	42.3	19.8	8.1
Waiting for bus	25.7	59.5	12.2	2.7	20.9	44.5	25.5	9.1
Bus arrives on time	N.A.	N.A.	N.A.	N.A.	25.0	44.4	21.3	9.3
Waiting for DART at transfer point	36.3	47.9	14.1	1.4	17.9	46.4	23.2	12.5
DART goes to buses that go where you want to go	N.A.	N.A.	N.A.	N.A.	36.7	52.3	6.4	4.6
Courtesy of DART drivers	64.6	30.4	2.5	2.5	52.6	34.2	8.8	4.4
DART drivers provide information on DART and buses	N.A.	N.A.	N.A.	N.A.	45.9	44.0	4.6	5.5
Comfort of DART vehicles	49.4	44.3	5.1	1.3	22.1	48.7	23.0	6.2
Courtesy of bus drivers	40.8	51.2	7.9	0.0	33.9	47.7	18.3	0.0
Helpfulness & courtesy of dispatcher	62.0	32.9	5.1	0.0	39.8	47.8	10.6	1.8
Overall quality of service	63.6	31.2	2.6	2.6	38.8	53.4	5.2	2.6

NOTE: N.A. = Not asked.

TABLE 4-12. NO-SHOWS - DEMAND-RESPONSIVE SERVICE

Month	No. of Calls	No-Shows No.	No-Shows %
June 1984	1,191	91	7.6
November 1984	2,478	68	2.7
February 1985	2,390	68	2.8

TABLE 4-13. PASSENGER COMPARISONS OF DART AND FORMER SDT ROUTE 12

Used SDT Route 12[a]	33.3%
Used Route 12 when it served National City[a]	30.1
How got to bus stop[b]	
- Walked	87.8
- Got ride	9.8
- Other	2.4
Compared to Route 12, DART is[b]	
- Better	59.0
- Worse	25.6
- About the same	15.4

[a]Per cent of DART users.

[b]Per cent of former Route 12 users (National City alignment).

5. LEVEL OF SERVICE

Level of service issues discussed here include coverage, service time, and reliability.

5.1 COVERAGE

DART service coverage has increased in several stages since the service began, as discussed in Chapter 3. Peak-hour DART service was initially limited to two fixed routes serving the western third of Paradise Hills. Changing DART-1 to demand-responsive service increased coverage to the entire area, although DART-1 passengers transferring at 16th and Highland had to transfer between DART vehicles. DART-2 coverage was expanded in early 1984 when drivers began deviating from the fixed route to better serve passengers returning to Paradise Hills. DART-2 has gradually changed so that it is now completely a demand-responsive service; all residents of Paradise Hills now have equal access to DART service.

5.2 SERVICE TIME

Depending on the type of trip and the service used, DART service time consists of one or more of the following components:

1. Pickup Wait Time (demand-responsive service only). The amount of time spent waiting to be picked up by DART after making a reservation.
2. Ride Time. Time spent on the DART vehicle from pickup to dropoff.
3. Transfer Wait Time (transfer passengers only). The amount of time spent waiting at the transfer point to be picked up by DART or the bus.

The data that are available at this time allow quantitative measures only of DART ride times.

The distribution of ride times for demand-responsive DART service is shown in Table 5-1 for several months. During these three months, more than half the trips took less than 10 minutes. The few trips with ride times over 20 minutes are usually due to passengers who have not made a reservation and have boarded a DART vehicle at a transfer point; if passengers with reservations are in the vehicle at the same time, they are usually given service preference over those without reservations.

TABLE 5-1. RIDE TIME - DEMAND-RESPONSIVE SERVICE[a]

RIDE TIME (minutes)	JUNE 1984 (N=978)	NOV. 1984 (N=2397)	FEB. 1985 (N=2315)
1 to 5	17.2%	13.1%	16.1%
6 to 10	51.2	44.3	38.5
11 to 15	21.9	23.5	25.0
16 to 20	6.6	12.0	11.9
Over 20	3.1	7.1	8.5
Median (minutes)	9.8	9.2	10.0
90th Percentile	14.9	19.0	20.0
Mean (minutes)	9.5	11.1	11.2
Standard Deviation	4.7	5.8	6.3

[a]DART-1 and base day service only for June 1984. All DART service for November 1984 and February 1985.

Source: DART driver logs and dispatcher tickets.

Ride times on DART-2 fixed-route service in June 1984 were similar in magnitude. Based on the schedule, ride time on DART-2 fixed-route service was 20 minutes at the longest, 7 minutes at the shortest, and 13 minutes from the midpoint of the loop.

APS had experimented with using a 16-passenger van to handle larger loads during the evening peak hours. But this resulted in longer average ride times for passengers going back to Paradise Hills. It therefore appears that a 9-10 passenger vehicle is the optimum size to ensure good level of service.

According to the rules for making reservations, passengers must call for service at least one hour in advance of the scheduled arrival time of their bus at the transfer point. Average pickup waiting times should therefore be on the order of 40 minutes. DART dispatchers have, however, noted an increasing tendency for passengers to call when they want to go, instead of an hour ahead; actual pickup waiting times are therefore probably less than 40 minutes. Measurements of pickup waiting times will be carried out in a subsequent analyses.

The available data do not allow measurement of transfer wait times. DART service standards call for passengers to be dropped off at the transfer point no more

than 10 minutes before the scheduled arrival of the bus. If buses follow their schedules faithfully, this would guarantee transfer wait times of 10 minutes or less for DART passengers going to the bus. This is probably true for trips during the morning that are going towards downtown San Diego. Most transfer wait times during the evening also fall within this standard, because DART drivers who serve the 16th and Highland transfer point wait there for the bus to arrive.

5.3 RELIABILITY

5.3.1 Pickup Deviation

An important measure of demand-responsive service reliability is the pickup deviation, or the difference between promised and actual pickup times. Table 5-2 shows the distribution of pickup deviation during three months of operation.

SDT has set a standard of six minutes plus or minus for pickup deviation; over 80 per cent of the pickups fall within the standard. The results for June occurred at a time when DART was experiencing considerable problems with dispatching because of internal troubles within Co-op Cab; pickup deviations for subsequent months show better performance.

5.3.2 Bus Schedule Reliability

DART has experienced a number of problems with schedule reliability on SDT Route 29, to which most DART passengers transfer. This is one of the busiest routes in the SDT system, running at half-hour headways from Point Loma through downtown San Diego and National City to Chula Vista. The route has experienced schedule reliability problems, especially during the evening peak hours. Although some of this is due to the length of the route, most of the schedule reliability appears to be due to the large amount of construction in the downtown area, which inhibits the movement of traffic.

When DART-2 was operating as a fixed-route, drivers would periodically note arrival times of SDT Route 29. A summary of the observations for the evening peak hours during the spring of 1984 is presented in Table 5-3. On most occasions, the driver was not able to observe the arrival of the bus. Because DART drivers would usually wait for seven to to eight minutes for the bus to arrive in the evening, this

TABLE 5-2. PICKUP DEVIATION[a]

DEVIATION (minutes)[b]	JUNE 1984 (N=1165)	NOV. 1984 (N=2478)	FEB. 1985 (N=2390)
Less than -10	0.9%	0.0%	0.2%
-10 to -6	3.3	0.0	1.5
-5 to -1	8.6	0.1	2.0
0	51.1	38.1	33.2
1 to 5	23.0	61.8	50.5
6 to 10	5.8	0.0	11.6
11 to 15	2.9	0.0	1.0
Over 15	4.5	0.0	0.0
Mean	2.0	1.5	1.5
Standard Deviation	7.0	1.5	2.0

[a]DART-1 and base day service only for June 1984. All DART service for November 1984 and February 1985.

[b]Pickup deviation is defined as actual pickup time minus promised pickup time. Negative values indicate early pickups, positive values indicate late pickups.

Source: DART driver logs and dispatcher tickets.

indicates that in most instances the bus was at least seven to eight minutes late most of the time.[1]

As discussed in Chapter 3, the problems with schedule reliabilty on Route 29 was one of the reasons for changing DART-2 from a fixed-route to a demand-responsive service. DART-2 drivers now go to the 16th and Highland transfer point in the evenings, after they have dropped off their passengers, and simply wait for the next arrival of the southbound Route 29 from downtown San Diego.

[1]Route 29 schedule reliability will be measured in a forthcoming schedule check as part of the evaluation.

TABLE 5-3. SDT ROUTE 29 ON-TIME PERFORMANCE AT 16th AND HIGHLAND
(Southbound, PM Peak)

ARRIVAL TIME OF SDT ROUTE 29[a]	No.	%
6 to 15 minutes early[b]	54	13.0
5 minutes early - 5 minutes late	50	14.0
6 to 15 minutes late	5	1.2
Bus not observed	297	71.8
TOTAL	414	100.0

[a]Compared to scheduled arrival time at 16th and Highland. Scheduled time estimated by interpolating between two nearest SDT Route 29 time points.

[b]Some buses recorded as being early may have been delayed by 20 minutes.

[c]Usually indicates bus arrival later than seven or eight minutes past scheduled arrival time.

Source: DART-2 driver logs, April-June 1984.

6. ECONOMICS

DART economic performance has improved steadily since the demonstration began. The discussion in this chapter focuses on DART operating costs and productivity in 1984. Although most of this period is after the demonstration was officially over, it was chosen for detailed analysis because it better represents DART economic performance as mature service.

6.1 COSTS

6.1.1 Start-Up Costs

DART start-up costs were for service planning, initial marketing, and extra administration during the first year of operation. These costs are listed in Table 6-1. The total start-up cost was $40,612.

The major component of startup costs was staff time: a full-time professional, the Paratransit Coordinator, plus clerical support for six months, plus administration time during part of the first year of service. The time was spent on service design, developing the request for proposal, and contractor selection. This level of effort is typical of what would be required to start this type of service in a new area.

Marketing costs include those paid to advertising agencies for promotion plus SDT Marketing Department staff costs. Total marketing cost depends solely on the level of promotion desired by the transit operator. It is specific to the project, and therefore not transferable to other implementation. SDT believes that some of marketing costs may not have been necessary. For example, the initial mailout campaign in Paradise Hills cost about $3,500; SDT now thinks that there are more cost-effective, less expensive ways to promote the service.

The initial administration costs listed in the table were estimated from SDT expenditures on administration during the first year less what SDT now feels is necessary to administer the service. During the first year, administration costs were about $13,500 higher than the current SDT estimate of $3,200 per year per service area. This extra cost was due to the close supervision that was required during the first year, plus additional time for planning service modification and for negotiating changes to the contract. This extra cost should properly be considered as part of the start-up costs, and is therefore listed here.

TABLE 6-1. START-UP COSTS

Planning:	System design, contractor selection. Six months.	$14,032
Marketing:	Initial promotion. Five months.	12,080
Initial administration (est.)[a]		13,500
	TOTAL	$40,612

[a]Estimated difference between initial and current SDT administrative expenditures. See text.

6.1.2 Operating Costs

DART operating costs include contracting costs and SDT administrative costs. Administrative costs are now budgeted by SDT at $3,200 per year per service area. Their effect on overall productivity and efficiency will be discussed in Section 6.3.

DART contracting costs have changed significantly since the service first started. Service rates were adjusted after DART had been in operation for four months. The details are specified in Table 6-2. These rates remained in effect until SDT took over funding of DART in Paradise Hills early in 1984. At that time, rates for base day service were increased slightly; more service hours were allowed during the peak period; service efficiency standards were introduced; and a revenue sharing incentive was begun. The new service contract with APS provided for a significant increase in rates; service efficiency standards and revenue sharing were continued; and penalties were specified for cost recovery below 22 per cent.

Total DART contracting costs for 1984 were $55,464. Summary DART costs and operating statistics for 1984 are given in Table 6-3.[1] The average daily gross cost of DART service remained fairly constant (about $275) from January, when DART service was still being funded by the SMD grant, through July, when SDT was funding

[1]Appendix A presents DART operating statistics by month for 1984.

TABLE 6-2. CONTRACT SERVICE RATES

DATE	PEAK HOUR		BASE DAY	OTHER
	DART-1	DART-2		
July 1982	$14.32/hr.; 30 hr./wk.	$14.32/hr.; 30 hr./wk.	$1.61/passenger; min.: 10 pass./hr.	Original contract with Co-op Cab.
November 1982	Unchanged.	Unchanged.	$10/hr., 11¢/mi.	
January 1984	$10/hr., 11¢/mi.; max.: 37.5 hr./wk., 2.8 mi./passenger.	$14.32/hr.; 32.5 to 33.75 hr./wk.	$13.90/hr. to 30 hr./wk., $12.50/hr. to 10 additional hrs.; 11¢/mi.; max. 3.0 mi./passenger. (See note a.)	Revenue above 25% of cost shared with contractor. SDT takes over service funding.
August 1984	$15/hr., 12¢/mi.; max.: 37.5 hr./wk., 2.8 mi./pass.	$16.63/hr., 32.5 hr./wk.	$14.07/hr., 13.3¢/mi.; max.: 30 hr./wk., 3.0 mi./passenger.	Revenues above 25% of cost shared with drivers. 22% minimum farebox recovery rate. New contract with APS.

[a]Additional hours allowed provided farebox recovery rate does not fall below 20%.

TABLE 6-3. SUMMARY DART OPERATING STATISTICS - 1984

	DART-1	DART-2	BASE DAY	TOTAL
TOTAL				
Service hours	1,735	1,618	1,700	5,053
Service miles	23,331	29,419	29,871	82,621
Passengers	8,288	12,008	11,594	31,890
Revenue	$ 5,591	$ 6,175	$ 6,885	$18,651
Gross cost	$23,183	$24,673	$26,259	$74,115
Net cost[a]	$17,592	$18,498	$19,374	$55,464
Farebox recovery	24%	25%	26%	25%
Revenue share[b]	--	--	--	$372
AVERAGES				
Cost/passenger	$ 2.80	$ 2.05	$ 2.26	$ 2.32
Fare/passenger	$ 0.67	$ 0.51	$ 0.59	$ 0.58
Subsidy/passenger	$ 2.12	$ 1.54	$ 1.67	$ 1.75
Passenger/hour	4.8	7.4	6.8	6.3
Miles/passenger	2.4	2.4	2.6	2.6
DAILY AVERAGES				
Service hour	6.8	6.3	6.7	19.8
Service miles	91.5	115.4	117.1	324.0
Passengers	33	47	45	125
Revenue	$21.93	$24.21	$27.00	$33.14
Gross cost	$90.91	$96.76	$102.98	$290.65
Net cost	$68.99	$72.54	$75.98	$217.51

[a]Does not include revenue share paid to contractor

[b]Revenue paid to contractor as part of revenue sharing provision in contract. Effective 15 January 1984.

the service with Co-op Cab as the contractor. In August, the average daily gross service cost increased by nearly 20 per cent to $321; this was the first month of operation under the new contract with APS. Operating costs subsequently declined as service miles and hours were reduced slightly. During the last three months of 1984, the average gross operating cost was about $307 per day.

Average operating costs for the three service types--DART-1, DART-2, and base day--were roughly equal during 1984. The new contract with APS has made the biggest difference in DART-1 operating cost; this averaged about $75 per day through July, and nearly $110 per day in August and after, for an increase of over 40 per cent. The average daily cost of DART-2 service increased from $93 to $101, about an 8 per cent increase. Base day service cost decreased by 2 per cent, from $104 to $102 per day, due to the tighter limits on service hours.

Revenue sharing averaged less than $20 per month during the first seven months of 1984; it has increased substantially beginning in September 1984 because patronage has increased. The total amount of revenue sharing for 1984 was less than one half of one per cent of gross service cost; but during September through December, revenue sharing averaged over one per cent of service cost. The effect of revenue sharing on incomes of drivers was to raise their average hourly pay by 20 cents, or about 3 per cent, from September through December.[2]

Administration costs have decreased over time. As noted in the previous section, the initial costs were high due to the amount of time needed for monitoring the service, planning service modifications, and close supervision. The administration cost per service area has also decreased as new service areas have been added. Administration costs are now estimated by SDT to be $3,200 per year per service area, which includes one-tenth time on the part of the Paratransit Coordinator. This is what SDT believes is the minimum amount of time that is needed to provide effective supervision and promotion of DART. This amount is equal to about 4 per cent of the

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[2]The current contract specifies that all revenue that is shared with the contractor must be paid to the driver.

total cost of DART service, and about 6 per cent of the SDT's net contracting cost, during 1984.[3]

6.2 REVENUE

DART revenue has increased steadily as patronage has grown. In 1984, the average daily revenue increased from $54 in January to over $80 in December. The average fare per passenger has been about the same since the service began: about 60 cents per passenger.

DART revenue is counted by SDT in the same way bus revenue is counted: fares are credited on the vehicle on which they are paid. Bus fares paid by DART passengers on the return trip, which count toward paying the DART fare, are counted as regular bus revenue rather than DART revenue. But most current DART passengers would probably not ride the bus if DART were not available.[4] DART is therefore generating revenue for SDT and other transit services that would not have been received if DART were not in operation.

Table 6-4 shows the distribution of fares by type for June 1984; which is typical for DART. Full-fare and elderly and handicapped fares include shared-ride taxi and nontransfer passengers. SDT estimates that about 10 per cent of DART passengers do not transfer to or from a bus; these passengers pay a fare each way on DART.[5]

The average fare paid to DART by passengers in this sample was 60 cents; but the total average revenue to transit (DART plus bus) from these passengers is 91

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[3]This amount may be artificially low, and therefore not transferable, for several reasons. The SDT Paratransit Coordinator is a contract employee, with lower overhead costs than a regular SDT employee. SDT also administers more than one review area, which reduces the administration time per service area. And a single contractor provides service in all areas, which further reduces the total administration time. This may be partially offset by the way in which DART is administered and marketed, which is kept separate from existing SDT operations. Closer integration of DART could result in lower administration and marketing costs.

[4]See Table 4-7 and the associated discussion in Section 4.2.1

[5] Shared-ride taxi passengers also pay a $1.00 fare. When a taxi vehicle is serving both DART and shared-ride taxi passengers, the shared-ride revenue is counted as DART revenue.

TABLE 6-4. DART FARES BY TYPE

FARE TYPE	AMOUNT	% OF PASSENGERS (N=617)
Full fare	$1.00	49.6%
Elderly/handicapped	0.40	9.9
Transfer:		
Local bus	0.20	32.4
Express bus	Free	2.1
Elderly/handicapped	Free	4.8
Intra-DART	Free	1.2

Source: June 1984 on-board survey of DART passengers.

cents, or 50 per cent above the average revenue to DART. As discussed in Section 4.2.1, about 30 per cent of DART passengers said that they would use the bus even if DART were not available. Even if the revenue from these passengers is subtracted from this, the total transit revenue generated by DART averages 73 cents per passenger.[6] Of the DART passengers who use the bus, 88 per cent use SDT buses. The net revenue to SDT that is generated by DART is therefore at least 75 cents per passenger. This is 25 per cent greater than actual DART farebox revenue, or a total of about $4,500 for 1984.

6.3 PRODUCTIVITY

Service productivity has improved steadily over time because of increased demand and improvements to service efficiency. Figure 6-1 illustrates how the average subsidy per passenger has declined from over $4 to about $1.70 from the beginning of service through 1984. The sharp decrease in late 1982 was due mainly to the reduction in DART-1 service costs and the increase in patronage in response to service improvements. Since then, decreases in the per passenger subsidy have been

[6]This assumes that all those who said they would use the bus if DART were not available would actually use it as often as they stated. The calculation takes away that part of DART revenue that goes to pay the local transit fare, or 80 cents.

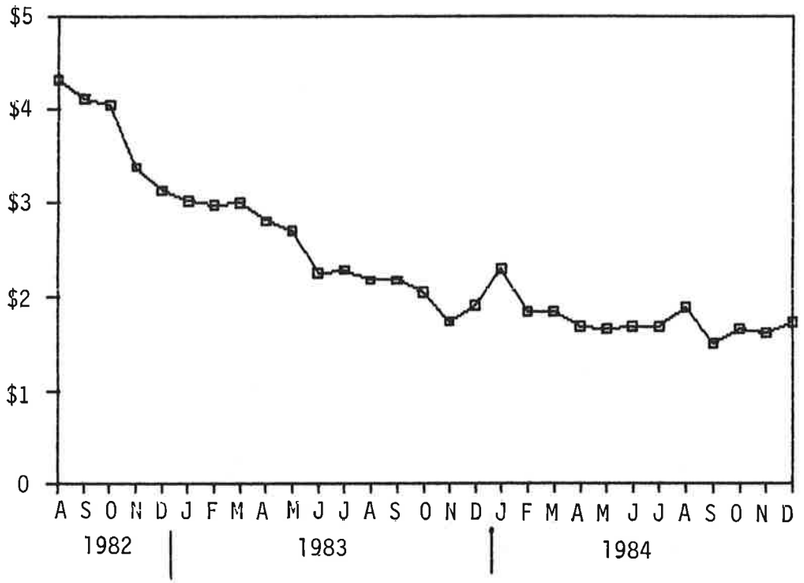

FIGURE 6-1. AVERAGE SUBSIDY PER PASSENGER

due to increases in patronage. The higher service rates beginning in August 1984 caused the average subsidy to increase, but it has again fallen as patronage has increased further. The lowest average subsidy of $1.53 per passenger occurred in September 1984, the month with the highest patronage. During the last quarter of 1984, the average subsidies per passenger on DART-2 and base day service were nearly the same, about $1.50; DART-1 had the highest average subsidy, over $2.00. The average subsidy per passenger for all of 1984 was $1.75.

The increase in the farebox recovery rate (Figure 6-2) has mirrored the drop in the average subsidy. DART began with a farebox recovery rate of 11 per cent, which has increased to over 25 per cent, with a high of 29 per cent in September 1984. The effect of reducing DART-1 service cost between November and December 1982 can be seen in the change in the recovery rate; the slight decrease between July and August 1984 is due to the service rate increases. DART farebox recovery rates are now well above the State of California mandate of 20 per cent. The farebox recovery for all of 1984 was 25 per cent.

The average subsidy and farebox recovery were calculated based on contracting costs only. If current budgeted administration and marketing costs ($8,200 per year) are included, the average subsidy per passenger in 1984 becomes $2.01 and the farebox recovery becomes 23 per cent. These estimates, however, are not very transferable because administration and marketing costs will depend on the individual transit property and the degree to which taxi feeder and marketing are integrated into regular transit management.

Two other productivity measures applied to demand-responsive service are passengers per vehicle service hour and miles per passenger. These measures are shown for 1984 in Figures 6-3 and 6-4. DART now averages over 7 passengers per vehicle service hour. This is somewhat higher than is typical for regular dial-a-ride service.[7] One obvious reason for this higher productivity is that DART is primarily a many-to-few service, rather than many-to-many; but DART productivity is hampered by the location of two out of the three transfer points, which require an additional 10 to 15 minutes of travel outside the service area.

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[7]For example, most dial-a-ride service areas in Orange County, California, average 3 to 5 passengers per hour.

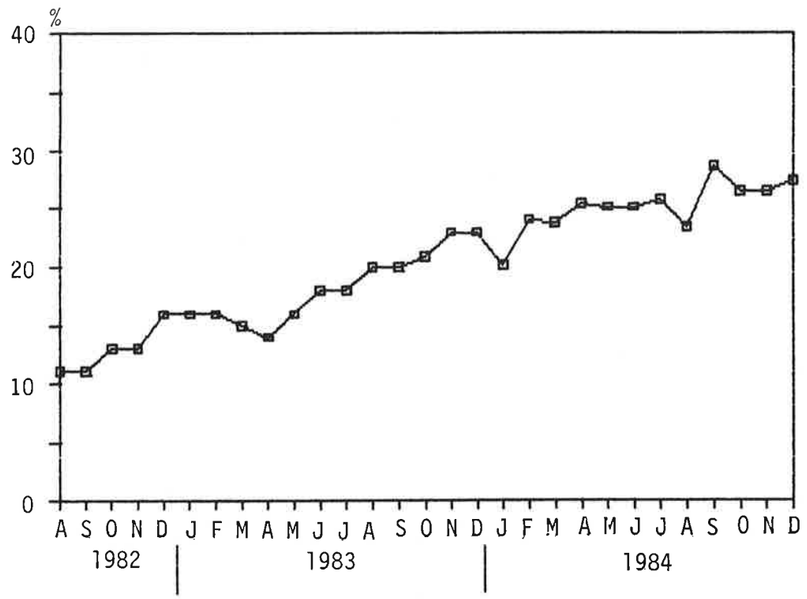

FIGURE 6-2. FAREBOX RECOVERY RATE

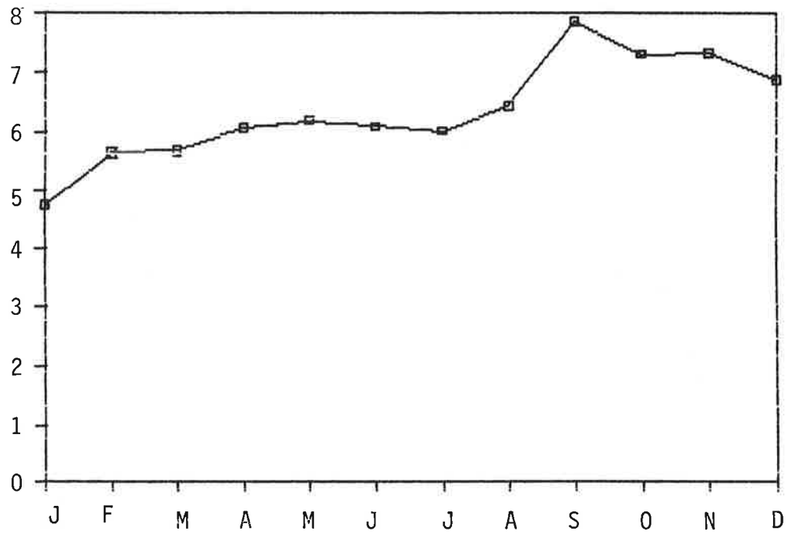

FIGURE 6-3. PASSENGERS PER VEHICLE SERVICE HOUR - 1984

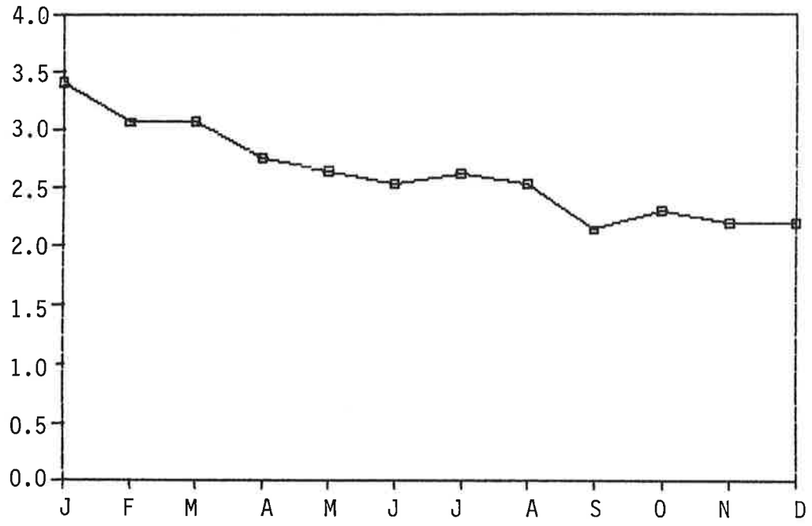

FIGURE 6-4. AVERAGE MILES PER PASSENGER - 1984

The average vehicle miles per passenger has decreased throughout the year as a result of increased patronage and gradual changeover of DART-2 from fixed-route to demand-responsive service. Early in the year, DART-2 averaged between 120 and 130 miles per day; in the last quarter, this had decreased to 100 to 110 miles per day.

7. OTHER EVALUATION ISSUES

This chapter treats several issues that do not fall conveniently within the topics treated in the previous chapters.

7.1 COMMUNITY ATTITUDES

DART appears to have been well received by the community at large. Community attitudes will be measured in a forthcoming survey of a sample of Paradise Hills residents.

One indication of community attitudes is the support DART has received from the San Diego City Council in general, and the city councilman for Paradise Hills, in particular. The city council supported SDT's initial grant application for the demonstration, and later supported the amendment to SDT's budget that was necessary for SDT to take over DART funding when the demonstration funding ended. Other councillors have been interested in exploring the possibilities of similar service for their areas. The city councilman has consistently supported DART service. He views it as an economical way to provide transit service for Paradise Hills, which had been without transit service for more than a year before DART began operating. He, too, sees DART as a potentially attractive service for other areas of San Diego.

7.2 CONTRACTOR AND DRIVER ATTITUDES

The same person has been the manager of DART service in Paradise Hills since its beginning, originally as General Manager of Co-op Cab, and now as President of American Paratransit Services. When SDT initially went out to bid for DART, he felt that it was a good business opportunity for San Diego's highly competitive taxi industry. He had already been interested in building a business based on nontraditional taxi service, and saw a service such as DART as a logical part of this business. DART has provided a stable business basis for the development of other transportation business in and near Paradise Hills. For example, APS has developed regular and shared-ride taxi business in the area, and also has a contract for transportation service to the local regional service center. He views services like DART as a new area for business expansion; ideally, these services would develop sufficiently so that no public subsidy would be required.

The contractor believes that DART would not have been successful without close attention on the part of management. Drivers and dispatchers have to be carefully selected, and their performance monitored. The high level of service demanded by DART requires that performance in the field be continuously monitored so that problems can be quickly recognized and dealt with; a falling off in the level of service would cause patronage to drop and service performance to suffer. Hence, DART requires more day-to-day management effort than traditional dial-a-ride service, which is typically not linked to other transportation services to the degree that DART is.

DART drivers have been key to the success of the service. Driving, especially for demand-responsive service, requires a thorough knowledge of the area and consistently high driving performance. Drivers often have to provide information on transit service and schedules. And, driver recognition of problems in the field has led to several important modifications to service design and procedures. The DART contractor has therefore paid drivers a sufficiently high hourly wage so that experienced taxi drivers will be attracted to the service.

DART drivers have been enthusiastic participants in the demonstration. They view DART as a refreshing departure from regular taxi service. DART driving is more physically and economically secure than regular taxi driving. Drivers have also enjoyed participating in starting out a new type of transportation service. There have been more drivers seeking to work on DART than there are available positions.

7.3 COMPARISON OF DART AND OTHER TRANSIT SERVICES

Comparisons between DART and other transit services are difficult to make objectively. DART is a unique type of service serving a special market. Performance standards for DART should therefore be set differently from those set for other services.

When its average subsidy per passenger and farebox recovery ratio are compared with those for regular SDT bus routes, DART ranks slightly lower than average. In 1984, the average subsidy per passenger was $1.75 for DART and $1.00 for the SDT system; DART ranked better than 10 of SDT's 29 bus routes. DART's farebox recovery ratio of 25 per cent was better than on three SDT routes; the average for SDT was 41 per cent. DART therefore compares favorably with other SDT routes according to these measures.

DART's economic performance appears to be much better than that of SDT Route 12, which used to serve Paradise Hills. Several comparative performance indicators are presented in Table 7-1. DART carries half the Paradise Hills passengers that Route 12 did in its original alignment, but DART has twice the farebox recovery ratio and half the subsidy per passenger. DART compares even more favorably to Route 12 after direct service to National City was eliminated; it carries about the same number of Paradise Hills passengers, but at only about 40 per cent of the net cost per passenger of Route 12. The coverage provided by DART is better than that of Route 12 in either alignment.

DART also provides a higher level of service than is possible with regular bus service. DART covers the entire Paradise Hills area. A passenger must walk only to the curbside to board the vehicle. Transfers with connecting bus routes are timed in order to minimize waiting times at the transfer points.

DART therefore appears to be a better way of providing transit service to Paradise Hills than regular bus service. It is more economical and it provides a higher level of service to its users. DART has the additional advantage that the amount of service provided, and therefore the cost of the service, can be quickly adjusted in response to patronage changes.

A user-side subsidy does not seem to be a feasible alternative for providing feeder service to Paradise Hills. As discussed in Chapter 3, Paradise Hills is poorly served by taxis; hence, it is unlikely that a vehicle would be available when needed, or that a taxi driver would be willing to spend a total of an hour of deadhead time to serve a call in Paradise Hills. It would therefore be difficult to start such a service in Paradise Hills, especially when initial demand would be low. Now that the market has been built up, a user-side subsidy might be put in place of DART. But SDT could not guarantee that the level of service would remain as high as it is on DART.

The total cost per passenger would probably be higher for a user-side subsidy. A regular taxi ride of three miles, the approximate travel distance on DART, would cost between $4.50 and $6.00; the average total cost per DART passenger in 1984 was $2.32. In order to maintain the same average subsidy per passenger as DART, SDT would have to charge the passenger $2.75 to $4.25 per trip; alternatively, SDT could set the fare at $1.00, but the subsidy per trip would be between $3.50 and $5.00, compared to the current average of $1.60 to $1.70 on DART.

TABLE 7-1. COMPARATIVE MEASURES: DART AND SDT ROUTE 12

	ROUTE 12 NATIONAL CITY[a]	ROUTE 12 LEMON GROVE[b]	DART[c]
Passengers/day	350[d] (est.)	150-170	165
Farebox recovery rate	12.9%	8.5%	26.7%/33.1%[e]
Net subsidy per passenger[f]	$3.15	$4.05	$1.65/$1.49[e]

[a]Original alignment through National City. Statistics for 1977.

[b]Alignment through Lemon Grove. Statistics for fourth quarter, FY 1980.

[c]Statistics for September-November 1984.

[d]Estimate from on-off counts in Paradise Hills only.

[e]First figure based on SDT statistics. Second figure includes transit farebox revenue generated by DART.

[f]1984 dollars.

A user-side subsidy has the further disadvantage. Under the current DART contract, SDT's net subsidy per passenger decreases, and the contractor's reimbursement increases, as patronage and productivity increase. It would be difficult to incorporate these productivity incentives into a user-side subsidy arrangement, especially when more than one operator provided the service. Although a sliding reimbursement scale, by which the reimbursement per passenger would decrease as patronage increased, could theoretically be put in place, such a scheme would increase the risk to the taxi operators and would reduce the benefits of increased patronage.

8. CONCLUSIONS

8.1 FEASIBILITY

The history of DART to date shows that the idea of a taxi feeder is clearly workable. The service was designed and a contractor was selected within a six-month period. During the planning period, SDT gained a thorough knowledge of the service area and how best to serve it at the time DART was to be implemented. Despite no previous experience, SDT and the contractor were able to field a system with a high level of service from the beginning. The SDT Paratransit Coordinator, the contractor project manager, and DART drivers and dispatchers have worked together throughout the service to recognize problems as they arose, and to identify useful service improvements and quickly implement them.

A service of this type requires staff from the transit operator who know what they want and a contractor who can give it to them. The goal of the SDT Paratransit Coordinator was to design DART so that it would appear to its passengers as a logical extension to transit service. The service design followed from this principle: timed connections to transit stops, service reservation procedures tied to transit schedules, and a service configuration - DART route locations and locations of the transit stops to be served - to ensure quick and reliable service.

DART requires close supervision by the transit operator and the contractor. Drivers must be highly skilled and must know what the service is trying to accomplish; they need to know the service area thoroughly and to be aware of transit schedules at the transfer locations. The dispatcher has to maintain continual contact with the drivers so that he can provide accurate information on service times to passengers when they call in.

A taxi feeder is a special type of service that has elements of traditional dial-a-ride and regular bus service, but is different from either of them. The distinguishing feature of DART is the requirement for coordination with transit schedules. In addition to the requirements for drivers and dispatchers mentioned above, a taxi feeder requires bus service that reliably follows its schedules. Transit schedule reliability, especially during the evening peak hours, has been the main operational problem facing DART in Paradise Hills. But, the experience with DART has shown

that this problem can be at least partly solved with the appropriate service configuration and operating procedures.

The method of reimbursing the contractor appears to be the most workable method that can be used in Paradise Hills: payment based on the amount of vehicle service provided, limited by fixed productivity standards. Reimbursement on a per passenger basis would have been much harder to verify; and it would also have been harder to provide incentives for the contractor to increase patronage that would not have increased SDT's total subsidy.

SDT confirmed the feasibility of DART and its success when it took over funding of the service after the demonstration funding ended. DART service in Paradise Hills and Mira Mesa is now a part of SDT's regular operating budget.

8.2 DEMAND

DART patronage has grown steadily since the service began. During the first month of operation, the service carried an average of 60 passengers per day; by the end of 1984, patronage had increased to 140 - 160 passengers per day.

The initial level of demand and subsequent growth were helpful to the development of DART. Initial demand was high enough to give everyone confidence that the service was well received; but it was low enough so that the contractor could provide a high level of service from the start and gain operating experience. Although subsequent growth in demand strained the service at some times, growth was moderate enough to allow SDT and the contractor to respond to it and to maintain a high level of service.

DART users are primarily transit dependents. They come from households with fewer vehicles than the average household in Paradise Hills. About one-third had used the previous SDT transit route in Paradise Hills. If DART service were not available, most trips on DART would be made by walking to the bus, getting rides from family or friends, or the trip would not be made.

Users appreciate the service. Over 90 per cent rate overall service quality as good or excellent. Those aspects of the service with the lowest rating have to do with coordination with bus service, reflecting bus schedule reliability problems that have continued throughout the project.

8.3 LEVEL OF SERVICE

DART has managed to provide a high level of service throughout its operation. As noted above, DART requires a high degree of reliability on the part of its drivers. DART has provided a high level of reliability to its users. Over 80 per cent of demand-responsive passengers are picked up within 5 minutes of the time given them by the dispatcher. DART vehicles are supposed to drop passengers off at the transfer point no more than 10 minutes before the bus is due to arrive, but bus schedule reliability problems have caused some passengers to wait longer than this. Fixed-route passengers had ride times of 8 to 20 minutes. Demand-responsive passengers have ride times of about 10 minutes.

8.4 ECONOMICS

DART is a more economical means of providing transit service to Paradise Hills than regular bus service or a user-side subsidy for regular taxi service. DART total operating costs now average slightly over $300 per day. Net operating costs to SDT are $220 - $230 per day. The net cost per year to SDT was $56,000 in 1984, or about half or less of what a bus route would cost. The average total cost per passenger in 1984 was $2.32; the average subsidy per passenger is now $1.50 to $1.70, depending on whether generated revenues to regular transit service are counted. The total cost per passenger of a user-side subsidy for regular taxi service would be at least twice that of DART. ($4.50 to $6.00 vs. $2.32; see Section 7.3.)

8.5 TRANSFERABILITY

The results here have been shown to be transferable at least to one other area in San Diego; DART service in Mira Mesa also appears to be working well, and SDT has taken over funding of the service there. In the summer of 1985, the North (San Diego) County Transit District will begin funding a taxi feeder service in a low-density area where regular bus service is not economical. Another taxi feeder service based on DART has been started in an area of Los Angeles.

The contracting costs of DART service will depend on the service rates of potential service contractors in a particular locality. Administration and marketing costs incurred by the transit operator will depend on the degree to which a taxi feeder is integrated into regular transit operations. DART administration and marketing

costs are for a system that is still somewhat separate from regular transit operations; if it were more closely integrated, administration and marketing costs could be lower.

A taxi feeder appears to be well suited to areas where it is difficult to provide transit service with adequate coverage. Based on the results of DART, a taxi feeder appears to be an alternative that should be considered for expansion of transit service into low-density outlying areas, or as a replacement for unproductive local transit service. Another potential application is as a feeder to rail service from nearby areas.

The results to date show that a taxi feeder service can work with dedicated vehicles provided by a contractor who knows what is wanted and operated by skilled drivers. A service like DART therefore requires a taxi operator who understands the special operating requirements of the service and can respond to them. Such an operator is more likely to be found in an area with a large, competitive taxi industry.

As the demonstration was originally conceived, feeder service would be provided by taxi vehicles from a number of operators. These vehicles would carry transit passengers along with regular taxi passengers, or would go in and out of feeder service depending on demand. Reimbursement would be on a per passenger basis. SDT is not sure whether or not this idea would work even in an area that is already served by taxis; it probably would not have worked in Paradise Hills, which was not well served by taxis. The results of this demonstration give little information on the workability of such a system.

APPENDIX A

MONTHLY DART OPERATING STATISTICS - 1984

APPENDIX A: DART MONTHLY OPERATING STATISTICS-1984

Month	SERVICE	DAYS	HOURS	MILES	PASS	REVENUE	GROSS COST	NET COST	OPER. RATIO	REV. SHARE	NET SDT REIMBURS
JAN	DART-1		131.4	1,766.2	578	$403.00	$1,492.02	$1,089.02	27%		
	DART-2		133.3	2,478.8	617	$248.20	$1,908.86	$1,660.66	13%		
	BASE DAY		126.4	2,114.6	672	$431.80	$1,967.28	$1,535.48	22%		
	TOTAL	20	391.1	6,359.6	1,867	$1,083.00	$5,368.16	$4,285.16	20%		
FEB	DART-1		129.2	1,922.4	645	$444.60	$1,490.22	$1,045.62	30%		
	DART-2		130.0	2,614.8	760	$363.40	$1,861.60	$1,498.20	20%		
	BASE DAY		134.2	2,282.9	827	$502.40	$2,094.46	$1,592.06	24%		
	TOTAL	20	393.4	6,820.1	2,232	$1,310.40	$5,446.28	$4,135.88	24%	($18.26)	$4,117.62
MAR	DART-1		172.9	2,437.5	816	$560.20	$1,977.61	$1,417.41	28%		
	DART-2		162.5	3,231.7	987	$485.60	$2,327.00	$1,841.40	21%		
	BASE DAY		165.5	3,087.6	1,052	$597.30	$2,599.87	$2,002.57	23%		
	TOTAL	25	500.9	8,756.8	2,855	$1,643.10	$6,904.48	$5,261.38	24%	$5.41	$5,266.79
APR	DART-1		143.6	2,045.7	702	$494.20	$1,652.14	$1,157.94	30%		
	DART-2		130.0	2,574.6	868	$407.00	$1,861.60	$1,454.60	22%		
	BASE DAY		133.4	2,195.7	899	$519.40	$2,076.41	$1,557.01	25%		
	TOTAL	20	407.0	6,816.0	2,469	$1,420.60	$5,590.15	$4,169.55	25%	$11.53	$4,181.08
MAY	DART-1		163.4	2,198.1	706	$488.40	$1,851.44	$1,363.04	26%		
	DART-2		156.0	2,944.2	1,289	$607.10	$2,233.92	$1,626.82	27%		
	BASE DAY		164.2	2,791.6	994	$576.20	$2,563.95	$1,987.75	22%		
	TOTAL	24	483.6	7,933.9	2,989	$1,671.70	$6,649.31	$4,977.61	25%	$15.45	$4,993.06
JUN	DART-1		139.2	1,654.2	544	$368.20	$1,558.58	$1,190.38	24%		
	DART-2		130.0	2,331.2	1,049	$513.80	$1,861.60	$1,347.80	28%		
	BASE DAY		136.1	2,265.9	869	$511.40	$2,118.88	$1,607.48	24%		
	TOTAL	20	405.3	6,251.3	2,462	$1,393.40	$5,539.06	$4,145.66	25%	$27.31	$4,172.97
JUL	DART-1		129.2	1,621.0	491	$343.00	$1,442.73	$1,099.73	24%		
	DART-2		123.5	2,241.9	952	$506.00	$1,768.52	$1,262.52	29%		
	BASE DAY		126.2	2,107.3	829	$487.20	$1,971.77	$1,484.57	25%		
	TOTAL	19	378.8	5,970.2	2,272	$1,336.20	$5,183.02	$3,846.82	26%	$22.56	$3,869.38
AUG	DART-1		171.6	2164.2	704	$479.70	$2,810.85	$2,331.15	17%		
	DART-2		162.5	2975.2	1315	$639.60	$2,702.40	$2,062.80	24%		
	BASE DAY		169.1	3096.2	1214	$764.20	$2,522.30	$1,758.10	30%		
	TOTAL	25	503.2	8235.6	3233	$1,883.50	$8,035.55	$6,152.05	23%	($9.63)	$6,142.42
SEP	DART-1		122.2	1737.3	666	$407.80	$2,038.43	$1,630.63	20%		
	DART-2		123.5	2082.8	1204	$680.00	$2,053.82	$1,373.82	33%		
	BASE DAY		125.1	2414.3	1043	$650.60	$1,966.16	$1,315.56	33%		
	TOTAL	19	370.8	6234.4	2913	$1,738.40	$6,058.41	$4,320.01	29%	$111.90	$4,431.91

Month	SERVICE	DAYS	HOURS	MILES	PASS	REVENUE	GROSS COST	NET COST	OPER. RATIO	REV. SHARE	NET SDT REIMBURS
OCT	DART-1		125.0	1728.6	710	$458.80	$2,081.97	$1,623.17	22%		
	DART-2		130.0	2226.1	1042	$616.50	$2,161.92	$1,545.42	29%		
	BASE DAY		129.1	2514.9	1050	$586.60	$2,022.88	$1,436.28	29%		
	TOTAL	20	384.1	6469.6	2802	$1,661.90	$6,266.77	$4,604.87	27%	$68.14	$4,673.01
NOV	DART-1		175.0	2224.0	890	$567.20	$2,583.71	$2,016.51	22%		
	DART-2		142.7	2307.1	1207	$683.90	$2,368.45	$1,684.55	29%		
	BASE DAY		164.1	2906.8	1280	$702.70	$2,437.31	$1,734.61	29%		
	TOTAL	24	481.7	7437.9	3377	$1,953.80	$7,389.47	$5,435.67	26%	$71.27	$5,506.94
DEC	DART-1		132.4	1831.8	836	$576.00	$2,203.07	$1,627.07	26%		
	DART-2		94.0	1410.9	718	$423.60	$1,563.23	$1,139.63	27%		
	BASE DAY		126.8	2093.0	865	$555.00	$1,917.53	$1,362.53	29%		
	TOTAL	19	353.2	5335.7	2419	$1,554.60	$5,683.83	$4,129.23	27%	$66.60	$4,195.83
1984 TOTALS	DART-1		1,735.0	23,331.0	8,288	$5,591.10	$23,182.77	$17,591.67	24%		
	DART-2		1,618.0	29,419.3	12,008	$6,174.70	$24,672.92	$18,498.22	25%		
	BASE DAY		1,699.9	29,870.6	11,594	$6,884.80	$26,258.78	$19,373.98	26%		
	TOTAL	255	5,052.8	82,620.9	31,890	$18,650.60	$74,114.47	$55,463.87	25%	$372.28	$51,550.99

		AVERAGES					DAILY AVERAGES					
Month	SERVICE	Av cost	Av fare	Av subsid	Pax/vsh	Mi/pass	HOURS	MILES	PASS	REVENUE	GROSS COST	NET COST
JAN	DART-1	$2.58	$0.70	$1.88	4.4	3.1	6.6	88.3	29	$20.15	$74.60	$54.45
	DART-2	$3.09	$0.40	$2.69	4.6	4.0	6.7	123.9	31	$12.41	$95.44	$83.03
	BASE DAY	$2.93	$0.64	$2.28	5.3	3.1	6.3	105.7	34	$21.59	$98.36	$76.77
	TOTAL	$2.88	$0.58	$2.30	4.8	3.4	19.6	318.0	93	$54.15	$268.41	$214.26
FEB	DART-1	$2.31	$0.69	$1.62	5.0	3.0	6.5	96.1	32	$22.23	$74.51	$52.28
	DART-2	$2.45	$0.48	$1.97	5.8	3.4	6.5	130.7	38	$18.17	$93.08	$74.91
	BASE DAY	$2.53	$0.61	$1.93	6.2	2.8	6.7	114.1	41	$25.12	$104.72	$79.60
	TOTAL	$2.44	$0.59	$1.84	5.7	3.1	19.7	341.0	112	$65.52	$272.31	$206.79
MAR	DART-1	$2.42	$0.69	$1.74	4.7	3.0	6.9	97.5	33	$22.41	$79.10	$56.70
	DART-2	$2.36	$0.49	$1.87	6.1	3.3	6.5	129.3	39	$19.42	$93.08	$73.66
	BASE DAY	$2.47	$0.57	$1.90	6.4	2.9	6.6	123.5	42	$23.89	$103.99	$80.10
	TOTAL	$2.42	$0.58	$1.84	5.7	3.1	20.0	350.3	114	$65.72	$276.18	$210.46
APR	DART-1	$2.35	$0.70	$1.65	4.9	2.9	7.2	102.3	35	$24.71	$82.61	$57.90
	DART-2	$2.14	$0.47	$1.68	6.7	3.0	6.5	128.7	43	$20.35	$93.08	$72.73
	BASE DAY	$2.31	$0.58	$1.73	6.7	2.4	6.7	109.8	45	$25.97	$103.82	$77.85
	TOTAL	$2.26	$0.58	$1.69	6.1	2.8	20.3	340.8	123	$71.03	$279.51	$208.48
MAY	DART-1	$2.62	$0.69	$1.93	4.3	3.1	6.8	91.6	29	$20.35	$77.14	$56.79
	DART-2	$1.73	$0.47	$1.26	8.3	2.3	6.5	122.7	54	$25.30	$93.08	$67.78
	BASE DAY	$2.58	$0.58	$2.00	6.1	2.8	6.8	116.3	41	$24.01	$106.83	$82.82
	TOTAL	$2.22	$0.56	$1.67	6.2	2.7	20.1	330.6	125	$69.65	$277.05	$207.40
JUN	DART-1	$2.87	$0.68	$2.19	3.9	3.0	7.0	82.7	27	$18.41	$77.93	$59.52
	DART-2	$1.77	$0.49	$1.28	8.1	2.2	6.5	116.6	52	$25.69	$93.08	$67.39
	BASE DAY	$2.44	$0.59	$1.85	6.4	2.6	6.8	113.3	43	$25.57	$105.94	$80.37
	TOTAL	$2.25	$0.57	$1.69	6.1	2.5	20.3	312.6	123	$69.67	$276.95	$207.28
JUL	DART-1	$2.94	$0.70	$2.24	3.8	3.3	6.8	85.3	26	$18.05	$75.93	$57.88
	DART-2	$1.86	$0.53	$1.33	7.7	2.4	6.5	118.0	50	$26.63	$93.08	$66.45
	BASE DAY	$2.38	$0.59	$1.79	6.6	2.5	6.6	110.9	44	$25.64	$103.78	$78.14
	TOTAL	$2.28	$0.59	$1.70	6.0	2.6	19.9	314.2	120	$70.33	$272.79	$202.46
AUG	DART-1	$3.99	$0.68	$3.31	4.1	3.1	6.9	86.6	28	$19.19	$112.43	$93.25
	DART-2	$2.06	$0.49	$1.57	8.1	2.3	6.5	119.0	53	$25.58	$108.10	$82.51
	BASE DAY	$2.08	$0.63	$1.45	7.2	2.6	6.8	123.8	49	$30.57	$100.89	$70.32
	TOTAL	$2.49	$0.58	$1.90	6.4	2.5	20.1	329.4	129	$75.34	$321.42	$246.08
SEP	DART-1	$3.06	$0.61	$2.45	5.5	2.6	6.4	91.4	35	$21.46	$107.29	$85.82
	DART-2	$1.71	$0.56	$1.14	9.7	1.7	6.5	109.6	63	$35.79	$108.10	$72.31
	BASE DAY	$1.89	$0.62	$1.26	8.3	2.3	6.6	127.1	55	$34.24	$103.48	$69.24
	TOTAL	$2.08	$0.60	$1.52	7.9	2.1	19.5	328.1	153	$91.49	$318.86	$227.37

BULLETIN 83-71

MAY 3, 1983

TO ALL OPERATORS - DART SERVICE -ROUTES 29, 11, 4:

TO IMPROVE THE RELIABILITY OF TRANSFER CONNECTIONS AND DECREASE THE WAIT TIME, ALL OPERATORS OF ROUTES 29, 11 & 4 ARE TO NOTIFY DISPATCH WHENEVER THEY ARE RUNNING MORE THAN SEVEN (7) MINUTES OFF SCHEDULE AT A DART TRANSFER LOCATION TIMEPOINT. SDT DISPATCH WILL THEN NOTIFY CO-OP CAB DISPATCH AT 280-2556 OF THE ESTIMATED BUS ARRIVAL TIME. THE DART TIMEPOINTS ARE AS FOLLOWS:

BUS ROUTES	TRANSFER LOCATIONS
SDT ROUTE 29	16TH & HIGHLAND
SDT ROUTE 11	DEEP DELL & PARADISE VALLEY RD.
SDT ROUTE 4	DEEP DELL AND PARADISE VALLEY RD.

NEW DART BROCHURES HAVE BEEN PRINTED AND ARE AVAILABLE TO ANY OPERATOR ASSIGNED TO A DART CONNECTING BUS ROUTE (29, 11, 4). YOUR ASSISTANCE WITH THE DISTRIBUTION OF THESE BROCHURES TO ANY INTERESTED PASSENGER IS APPRECIATED. SHOULD YOU HAVE ANY QUESTIONS OR SUGGESTIONS CONCERNING THE DART SERVICE, PLEASE CONTACT THE PLANNING DEPT.

SANDRA SHOWALTER - EXTENSION 84
JEFF MARTIN - EXTENSION 86

THANK YOU FOR YOUR COOPERATION IN MAKING THIS NEW TYPE OF SERVICE A SUCCESS FOR THE PASSENGER, SAN DIEGO TRANSIT AND CO-OP CAB.

Leo Valentine
ASST. MGR. OF TRANSPORTATION

BULLETIN 83-110

JUNE 28, 1983

TO ALL OPERATORS - DART TRANSFER CONNECTION(S):

DUE TO RECENT INCIDENTS OF TRANSFER CONNECTIONS BEING MISSED AT 18TH & HIGHLAND, IT IS IMPERATIVE THAT WE MAKE EVERY EFFORT TO GET ANY DART TRANSFERS.

DART DRIVERS HAVE BEEN COOPERATIVE AND WE MUST RECIPROCATE SO AS TO CONTINUE TO SERVE OUR PASSENGERS IN THIS AREA PROMPTLY AND EFFICIENTLY AS USUAL.

SEE PREVIOUS BULLETINS 82-105 AND 83-26 FOR ADDITIONAL DART INFORMATION.

MANAGER OF TRANSPORTATION

APPENDIX C

REQUEST FOR PROPOSAL - PARADISE HILLS DART SERVICE

San Diego Transit

100 Sixteenth Street
P.O. Box 2511
San Diego, CA 92112
(714) 238-0100

April 28, 1982

REQUEST FOR PROPOSAL

Dear Sir/Madam:

San Diego Transit Corporation is soliciting proposals for the operation of a paratransit service. The system will function as a community transportation service which provides timed transfer connections to mass transit bus routes.

Please review the attached Request for Proposal, which includes a detailed description of the work to be performed. If you choose to submit a proposal, the original and six (6) copies must be received no later than 5:00 p.m., May 28, 1982. The sealed proposals must be clearly marked: Request for Proposal, Paratransit Project-06-0165, "Paradise Hills". Proposals shall be addressed to:

SAN DIEGO TRANSIT CORPORATION
100 Sixteenth Street
P.O. Box 2511
San Diego, CA 92112

A pre-proposal conference is scheduled for May 14, 10:00 a.m. at the San Diego Transit Corporation. This conference will serve to clarify basic Proposal requirements. A brief summary of the Request for Proposal will be presented, however, the majority of the discussion will be based on specific issues raised by the prospective contractors.

Should additional information concerning this Request for Proposal prove necessary, please contact Sandra Showalter, Paratransit Coordinator, San Diego Transit, at (714) 238-0100, extension 84.

Sincerely,

Roger Snoble
General Manager

RPS:SS:cm

Attachment I : Request for Proposal
Exhibit "A" : Service Area Map
Exhibit "B" : Proposal Form
Attachment II : Standard Subcontract Clauses

PARADISE HILLS PARATRANSIT PROJECT

REQUEST FOR PROPOSAL

TABLE OF CONTENTS

REQUEST FOR PROPOSAL
PARATRANSIT PROJECT

SECTION I - INTRODUCTION

San Diego Transit has received a demonstration grant which provides federal funding for the development of a paratransit service. This project will demonstrate the productivity of paratransit service in areas where low demand and/or difficult terrain have impaired the efficiency of conventional transit systems. The project is designed to utilize low capacity vehicles which function as a connector service providing cost efficient community access to regional transit.

The grant funding which is provided by the Urban Mass Transportation Administration has been budgeted for a 28 month period. This grant will fund the implementation of two demonstration projects, providing service in different target areas for 18 months per area. This Request for Proposal refers only to the first project which is scheduled to begin service by June of 1982.

SECTION II-GLOSSARY OF TERMS

This glossary will function as a standard reference for all sections of the Request for Proposal: defining those terms which are specific to the project description. As a new transportation system being demonstrated for the first time in this area, the Request for Proposal may include terms which are not known by general usage in the transportation industry.

Review of this glossary is important as it serves to identify key words which summarize the projects' basic operating procedures and requirements. This standard reference has been provided to insure a shared understanding of the service requirements by all prospective contractors.

(A) Project Definitions.

1. CONNECTOR SERVICE - a local transportation service which provides connections with major public transportation systems.
2. PEAK PERIOD SERVICE - designed to accommodate a high level of demand by providing prescheduled service operated on a fixed route.
3. BASE DAY SERVICE - a cost efficient method for the provision of transportation which is designed to serve the low demand levels of base day ridership.
4. TRANSITION PERIOD - a half hour time period separating the provision of peak and base period services, which functions to prevent any overlap in the operation of transportation services.
5. SERVICE AREA - a geographic area with designated boundaries in which transportation services are provided.

6. TRANSFER SITES - designated bus stops, located outside of the service area boundaries which have been identified as bus line transfer points.
7. TIMED TRANSFER CONNECTIONS - all connections to major bus routes are timed to bus arrival and departure times at the transfer sites.
8. NON-TRANSFER PASSENGERS - Connector service passengers who do not transfer to bus line service. The residential nature of the service area and the commerical location of the transfer sites will result in a number of non-transfer passengers who will use connector service transportation as the most direct access to their trip destination. This factor does not affect their eligibility nor alter the type of service provided. Non-transfer passengers will not receive transportation to or from areas other than the designated pick-up and drop-off sites.
9. DWELL TIME - the period of time when the vehicle is idle, after having arrived at the designated pick-up or drop-off point within the service area or at the transfer site. This includes the necessary time for passenger loading and unloading, as well as the specified wait times for late bus arrivals and base day passengers who are not ready to leave at the appointed pick-up time.

10. OUTBOUND AND INBOUND TRIPS - outbound trips are those which originate in the service area, traveling to destinations at designated transfer sites. Inbound trips originate at the transfer site and return to the service area.
11. CONNECTOR FARES - cash fares will be collected for all outbound trips. Bus line transfer slips are collected as the return fare for inbound trips. Upgrades are required as an additional fare for all transfers from National City and Chula Vista bus routes, as these transit systems have a fare which is less than one-dollar ($1.00).

(B) Peak Period Service Terms

1. VEHICLE SERVICE HOUR - This represents the time in which service is offered to the public, totaling to six (6) hours for the operation of Peak Period Services. Vehicle service hours are the basis of payment for peak period service with the total operating costs reimbursed at an hourly fixed rate. Additional payment information is provided in Section IV, page 21.
2. PREDETERMINED SCHEDULING - scheduling which allows peak period connector routes and major bus routes to arrive at designated transfer at the same time, minimizing the wait period for bus line transfer connections.

3. ZONES, WESTERN AND EASTERN - division of the service area into smaller zones allowing peak period service to operate two fixed routes serving different transfer sites based on their location to the Northwest or to the Northeast. There is, however, a transfer site located south of the service area which is accessed by both routes.

4. PASSENGER BOARDING AND DROP SITES - designated points which are located within the service area or at bus line transfer sites. All passenger pick-up and drop-off activity must occur at specified sites.

5. HEADWAY - the time required for completion of a round trip on a peak period fixed route, the headway time represents the frequency of service which is provided.

(C) Base Day Service Terms

1. PER CAPITA - the basis of payment for the provision of base day services; with the operating costs reimbursed at a fixed rate per passenger carried.

2. ADVANCE RESERVATION SERVICE - a transportation service which is generated by telephone requests placed by the passenger prior to the time service is needed. This allows for improved efficiency through the planned dispatching of available vehicles, by minimizing the number of trips required while maximizing the number of passengers carried.

3. MANY TO FEW - passenger pick-ups for outbound trips at any point requested within service area boundaries, with all passenger drop-offs limited to authorized transfer sites. Inbound service therefore operates in the reverse as a few to many system.
4. WINDOW TIME - the allowed discrepancy which may occur between the estimated passenger pick-up time and the actual vehicle arrival time. On time performance must be maintained within this time frame, with the vehicle arriving at the pick-up point no earlier or later than permitted by the window.

SECTION III - PROJECT DESCRIPTION

Community Connector Service

The paratransit project will operate in Paradise Hills, a six square mile area with a population of 25,000. Although this community is located in the City of San Diego, a significant percentage of all travel out of the Paradise Hills area is to National City and Chula Vista. In order to accommodate these travel patterns, the paratransit service will provide transfer connections to San Diego, National City and Chula Vista Transit systems. Connector service routing will operate from within the Paradise Hills area to transfer sites located in the City of San Diego and in National City. All passenger pick-up and drop-off activity occurring outside of service area boundaries is restricted to the designated transfer locations.

(A) Service Levels and Types

Two types of service will be provided to accommodate the differing demand levels of peak period and base day ridership. Each type is designed to provide an adequate level of service operated by the most cost efficient procedures for a projected ridership range.

1. Peak Period Service

This service will operate six (6) hours a day, five (5) days a week, from 6:00 - 9:00 a.m. and 4:00 - 7:00 p.m. Two fixed routes, each providing 2.0 round trips per hour, has been defined as the level of service which is required to adequately accommodate the projected ridership range of 20-30 passengers per hour. The operation of this service type will require the assignment of trained drivers and dedicated vehicles to insure the maximum efficiency and reliability of peak period service.

a. Operating procedures:

Peak period routing and scheduling was determined by the location and transfer sites

and the bus arrival times of those routes accessed by peak period service. Transfer Connections will be provided to seven (7) bus routes.

In order to provide both conveniently timed transfer connections and frequently scheduled service, the Paradise Hills area was divided into an Eastern and Western zone. In each zone service is scheduled on half hour headways, with distinct routing based on the assignment of different bus line transfer sites. Western zone routing serves transfer locations to the northwest and southwest with an approximate round trip distance of ten (10) miles. Routing for the eastern zone operates to the northeast and southwest with a round trip length of approximately eleven (11) miles. Round trips in each zone provide scheduled stops at passenger boarding and drop sites within the service area and at the designated transfer locations. Hail stops along the fixed route are permitted only within the service area boundaries.

2. Base Day Period

This service will also operate six (6) hours daily, Monday through Friday, from 9:30 a.m. - 3:30 p.m. The anticipated base day demand level is lower than the projected peak period ridership. A projected ridership of 10 - 20 passengers per hour may be adequately served without the high costs of providing fixed route service. The base day advance reservation system will respond to individual requests for service, accessing only those transfer locations as determined by the trip destination.

a. Operating Procedures:

Base day service is designed as a many to few, advance reservation system. The trip destinations are indicated as few due to the restriction of designated transfer locations. The basic route structure is determined by the driver, who will maximize per trip mileage efficiency and the number of passengers carried. This route will deviate to accommodate various curbside pick-ups and requested trip destinations. The term curbside is used to preclude any responsibility for the provision of passenger assistance from the door of their home to the vehicle or from the vehicle to their home.

The operation of base day service will not require the assignment of drivers or the use of dedicated vehicles. However, any available driver responding to base day trip requests must be familiar with the necessary operating procedures and standards. The number of trips possible per vehicle is approximately 3 to 4 per hour, with the average one way trip distance approximately 3.0 miles. A driver operating a sedan-type vehicle could carry from twelve to sixteen (12-16) passengers per hour if the times and locations of requested service allowed the maximum per trip grouping of passengers. In addition to insuring the availability of drivers capable of providing adequate and timely trip response, base day service will also require the availability of telephone answering and dispatching personnel adequate to the anticipated level of demand.

b. Outbound Service:

Telephone requests are to be placed one hour in advance of the desired arrival time at the transfer site destination. The dispatcher will provide the caller with an estimated pick-up time for the arrival of the nearest available vehicle. It is the user's responsibility to request a destination arrival time which is coordinated to bus line schedules.

c. Inbound, Return Trip:

Reservations for the return trip may be placed with the original request for service or one hour in advance of the desired pick-up time. Passengers may not arrange return trip service from any location other than one of the designated transfer points. The vehicle arrival time must correspond to the requested pick-up time, the passenger must be at the transfer point at this time or the operator will leave after the allowed dwell time; these trips for both outbound and inbound service will be recorded by the driver as a "no show".

d. Service Efficiency:

Both the operator and the dispatcher should coordinate the provision of service in a manner which will optimize the number of passengers carried and minimize circuitous routing, while maintaining on time performance.

NOTE: A map of the service area and the assigned transfer locations are provided in Exhibit "A", page 28.

(B) Days and Hours of Service

The connector project will operate a minimum of thirteen (13) hours per day from 6:00 a.m. to 7:00 p.m., five days a week, Monday through Friday. Service will not operate on legal holidays, which are: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas.

SECTION IV - CONTRACTUAL RESPONSIBILITIES

Services to be Provided by the Contractor

San Diego Transit Corporation will assume all administrative responsibilities associated with the Connector project. These include but are not limited to: project development, implementation and promotion. Any use of program information and/or material by the contractor to promote or recommend any transportation service not associated with this project must be approved by San Diego Transit Corporation. The Corporation will purchase the necessary operational services at a contracted fixed fee based on vehicle service hours provided during the peak and at a per capita rate during the day. The contractor will provide all equipment, personnel and management necessary to the daily operation of paratransit service.

(A) Operating Requirements Unique to the Demonstration Project

As a new transportation service, both demand levels and travel patterns are relatively unknown variables, as they may differ from the areas' former transit ridership. In order to provide adequate levels of service, the contractor must be responsive to the potential need for additions and/or reductions in the level of service provided. The contractor must have available or be able to acquire in a timely fashion any additional equipment and/or personnel required for the operation of the project. Operational changes may occur as passenger travel patterns indicate the need for change, this will require flexibility in the type of service to be provided.

A primary function of the project is to demonstrate the operation of a connector service. In order to document this demonstration, the contractor will be required to maintain all project records as requested by San Diego Transit Corporation. The contractor shall permit authorized representatives of San Diego Transit Corporation to examine all data and records related to the

project upon request by the corporation or according to the scheduled reporting periods. All project records prepared by the contractor shall be owned by the San Diego Transit Corporation and are available to the corporation at no additional charge.

Additional documentation of the project will be provided through passenger surveys. These surveys will be administered by authorized representatives of San Diego Transit Corporation. It is the responsibility of the contractor to insure the cooperation of all personnel with any operational procedures pertaining to survey work. These procedures may include the distribution of survey questionnaires, and/or the presence of on-board surveyors during service hours.

(B) Personnel

The contractor shall be solely responsible for the satisfactory work performance of all employees as described by this Request for Proposal or any reasonable performance standard established by San Diego Transit Corporation. The contractor shall be solely responsible for payment of all employees' and/or subcontractor's wages and benefits, in accordance with the payment schedule established for this project. Without any expense to San Diego Transit Corporation, the contractor shall comply with the requirements of employee liability, worker's compensation, employment insurance and social security. The contractor shall hold harmless the San Diego Transit Corporation from any liability, damages, claims, costs and expenses of any nature arriving from alleged violations of personnel practices. The corporation shall have the right to demand removal from the project of any personnel furnished by the contractor for any reasonable cause. San Diego Transit Corporation must be notified of new hires or reassignments of project personnel.

1. Project Manager

The contractor will designate a Project Manager, who will oversee the proper operation of the para-transit connector service. The project manager will provide both on-line supervision and the management of the project's accounts and operating records. The project manager need not be assigned exclusively to this project. Other duties may be assigned which are related to the contractor's normal business operation.

a. On line supervision shall include but is not limited to the following duties:

- Scheduling of all regularly assigned project personnel
- Arranging the assignment of back-up personnel whenever necessary
- Distribution and collection of daily operating reports
- Daily collection of all fares and transfer slips.

b. Project Management shall include but is not limited to the following:

- Preparation of weekly summaries of the daily operational data
- Maintenance of project accounts
- Preparation of a weekly invoice which will document all charges minus the total amount of fares collected
- Immediate responsibility for any operational problems and/or passenger complaints, accurately reporting these problems to San Diego Transit in a timely manner.

2. Vehicle Operators

Vehicle operators must have a valid California Class II Driver's license and Medical Examination Certificate, as well as any other licenses required by applicable federal, state and local regulations.

a. Peak Period Operators:

The contractor must provide two (2) regularly assigned and two (2) available back up drivers for the operation of fixed route peak period service.

b. Base Day Operators:

To sufficiently accommodate potential demand levels, the contractor must insure the availability of two (2) drivers who will respond to trip requests for base day service. The total number of personnel available to project operations is to be determined by the contractor; however, both training and reporting requirements may limit this number.

c. Any vehicle operator providing paratransit service must be trained in all operational procedures relating to connector service. This includes available base day drivers, as well as regularly assigned and relief peak period operators.

3. Dispatcher

The contractor will provide personnel to answer telephone requests for service six (6) hours daily from 9:00 a.m. to 3:00 p.m., during the base day service hours. These employees may also be assigned other duties by the contractor. Dispatch personnel must be adequately trained to efficiently handle all incoming telephone calls and to dispatch the necessary vehicles. These employees must also be knowledgeable in all aspects of connector service operations.

Public timetables must be readily available to provide information on the bus line scheduling for those routes accessed by the connector service.

(C) Equipment

1. Vehicle Type and Number

a. Peak Period Vehicles:

The contractor shall provide a minimum of two (2) regularly assigned vehicles for the operation of peak period service. These vehicles shall initially have a minimum seating capacity of eight (8) passengers; however, the seating capacity of peak period vehicles may fluctuate according to demand levels. San Diego Transit Corporation will provide thirty (30) days

advance notice in the event of a required change in vehicle type.

b. Base Day Vehicles

The assignment of dedicated vehicles is not necessary to the operation of base day service. The projected vehicle availability required for the provision of base day service will be two (2) sedan type vehicles. Each vehicle shall be able to carry, in a comfortable manner, no less than three (3) passengers in the rear seat and one (1) passenger in the front seat.

2. Vehicle Condition

All vehicles provided by the contractor for the operation of paratransit connector service shall be equipped with a two-way radio, capable of communications with the dispatcher. The contractor must provide vehicles in good working condition both operationally and appearance-wise. Each used vehicle must have a proven performance history. San Diego Transit Corporation reserves the right in its sole discretion to inspect and reject temporarily or permanently by notice to the contractor, any vehicle the contractor proposes to use or subsequently utilizes which the corporation deems unacceptable.

3. Applicable Codes and Regulations

All vehicles capable of transporting more than ten (10) persons including the driver, shall meet all the requirements in the California Vehicle Code for a bus. All parts of the vehicle and all equipment mounted on or in the vehicle shall conform to the California Vehicle Safety Standards and the California Administrative Code, Title 13. Particular attention shall be directed to the California Highway Patrol Motor Carrier Safety Regulations. All vehicles shall have a certification that the vehicle meets or exceeds all state and federal requirements as of the date of manufacture. This certificate must be affixed to the driver door post or outer door edge. All vehicles with a passenger capacity of less than ten (10) persons must meet all the requirements as specified in the City of San Diego Paratransit Vehicle Code, Article I, Section 5.

4. Vehicle Operation and Maintenance

All vehicles operated to provide paratransit connector service must receive a pre-trip inspection prior to being placed in service. These daily pre-trip inspections must be supplemented by regular weekly inspections to insure the vehicles' proper operating condition. A record of all such inspections shall be kept by the contractor and be available to San Diego Transit Corporation as part of the scheduled operations report. Additionally, the contractor shall provide San Diego Transit Corporation with copies of the semi-annual California Highway Patrol Report, for all vehicles providing paratransit connector service.

The contractor is also responsible for insuring the vehicles' appearance. Vehicles must be kept in a clean and safe condition. This includes exterior washing at least weekly, with vehicles swept or vacuumed daily to remove all dirt and debris. San Diego Transit Corporation will provide the operator with magnetic signs for public identification of paratransit project vehicles. All project vehicles must display the appropriate signage when operating the paratransit connector service.

(D) Insurance

The contractor shall procure and maintain for the duration of the project an insurance policy naming San Diego Transit Corporation, and the City of San Diego, their officers, employees and agents as additionally insured. This policy will provide a minium of three million dollars ($3,000,000) in combined single limit liability coverage. The insurer shall agree that this policy will be for the full amount of any loss up to and including the total limit of liability without right of contribution from any other insurance effected by San Diego Transit Corporation. The insurer shall also stimpulate that the policy will not be cancelled until at least thirty (30) days prior written notice has been given to the Corporation. The Corporation will not be responsible for the payment of premiums or assessments. The contractor must provide a certificate of insurance, as verification of the above provisions, to San Diego Transit Corporation a minimum of ten (10) days prior to the project's scheduled start date.

(E) Management

The contractor will be held responsible for project management according to specified operating procedures. San Diego Transit Corporation may establish additional rules, which are reasonable for operation of this service after consultation with the contractor.

1. Operating Performance Standards

   a. Vehicles shall be operated in accordance with applicable laws of the State of California and local ordinances, and with due regard for the safety, comfort and convenience of passengers and the general public.

   b. Service shall be provided as scheduled or according to any adjusted schedule established by San Diego Transit Corporation. The contractor shall not be held responsible for the failure to provide on time service due to weather or traffic conditions, unavoidable vehicle malfunctions, and/or naturally occurring disasters.

   c. To maintain on-time performance, peak period service must observe the following operational procedures:

   . Operate within two (2) minutes accuracy of the scheduled service according to the designated arrival times for all stops, both within the service area and at the bus line transfer locations.

   . Peak period AM outbound vehicles must never depart service area stops prior to their scheduled arrival times.

   . PM return trip service operates with a provision for a dwell time of up to five (5) minutes at designated transfer locations for the arrival of a late bus. This provides the one exception to the two (2) minute operating requirement for the maintenance of on-time service.

   d. Base day service must maintain on-time performance while accommodating the greatest number of passengers over the shortest feasible route. To provide on-time base day service the following operating procedures must be observed:

   . Estimated passenger pick-up times should be maintained within a six (6) minute window of the actual vehicle arrival time.

- Vehicle operators shall not wait for the user more than two (2) minutes after sounding the horn at the curbside pick-up point.
- Passengers must be delivered to the trip destination no more than ten (10) minutes prior to their requested arrival time and never later than the requested bus line transfer connection.

2. Personnel Performance Standards

a. Regularly assigned drivers or a trained back-up must be available and on time daily to insure consistent and reliable peak period service.

b. All personnel are responsible for knowledge of the paratransit system design. Drivers will maintain in their vehicle an available supply of project brochures and public timetables for all bus line connections within their assigned route. Project personnel must maintain a courteous attitude, answering to the best of their ability any passenger questions regarding the provision of service. Personnel must also report all passenger complaints and/or any operational problems.

c. Drivers and dispatchers must accurately complete and submit daily the required operating reports.

3. Fare Collection

The fare structure for paratransit connector service will be $1.00. Cash fares will be collected for all outbound trips. Bus line transfer slips are collected as the return fare for inbound trips.

a. Outbound Fares:

All outbound passengers will pay the $1.00 fare to the vehicle operator, who will then issue the passenger a transfer slip which is valid on all connecting bus routes. This will be a two part transfer slip with one section retained by the operator.

b. Inbound Fares:

While bus line transfer slips are accepted as the return trip fare, there are three distinct fare structures determined by the category of passenger:

- Return trip passengers who are transferring from a SDTC bus route will pay their total inbound fare with the SDTC transfer slip.
- Passengers transferring from either National City or Chula Vista bus routes must pay a fare upgrade for the connector service. This upgrade represents the difference in fare structures between these two transit systems and the $1.00 connector fare. Transfers from both NCT and CVT bus routes will require a 40¢ upgrade to be paid along with the transfer slip to the connector service driver.
- Passengers who are accessing the connector service from one of the designated transfer sites but who have not transferred from a bus route, (Non-transfer passengers) will pay a cash fare of $1.00 for both outbound and return trip service.

c. Reduced Elderly and Handicapped Fare:

During the base day period a reduced fare for all elderly and handicapped passengers will be provided. This fare will be 40¢ and is consistent for all trip categories; i.e., the two-way fare for non-transfer elderly and handicapped passengers is 40¢, this reduced fare also applies to elderly and handicapped passengers transferring from NCT and CVT routes as a fare upgrade is not required.

d. Collection and Accountability:

All fares and transfer slips collected by the operator must be turned in daily to the project manager. The amount of the collected fares and transfer slips should correspond to the reported number of passengers carried. The manager will submit all transfer slips as back-up documentation for the reported amount of fares collected weekly. This amount represents all outbound fares, fare upgrades, and two-way non-transfer fares. This total amount is to be retained by the contractor and deducted from the service charge for both peak and base period operations. The base period service charge shall not include a per capita fee for any no shows occurring during the operation of advance reservation service.

4. Project Operational Records

These records provide documentation of the daily operational procedures and will serve as a data basis to monitor and evaluate the productivity of existant service requirements and methods. These records must be submitted to SDTC weekly, according to the established reporting schedule. Operational records shall include but are not limited to the following categories as specified within this section.

a. Driver Logs:

Drivers must maintain daily passenger and vehicle trip logs which shall include but are not limited to the following information:

- Driver name and vehicle number
- Total daily passenger counts
- Passenger counts for each of the designated stops on the peak period fixed route service
- The total number of paying passengers, categorized by: elderly and handicapped, reduced fares, bus line transfers, transfers requiring an upgrade, and non-transfer two-way fares. These counts are totaled as the daily revenue by vehicle
- The daily mileage by vehicle should be recorded to the nearest tenth
- A daily record of any bus line transfer connections not provided as scheduled; this record shall include any pertinent explanatory information

b. Dispatcher Records:

Dispatcher logs are to be maintained daily. These logs shall include but are not limited to the following information:

- The name, address and telephone number of the user requesting service
- The passenger's destination and the requested arrival time at the destination
- Identification number of vehicle responding to the trip request.
- Estimated passenger pick-up time
- The actual vehicle arrival time at the pick-up point and at the destination.

- Estimated passenger pick-up time
- The actual vehicle arrival time at the pick-up point and at the destination.

The format to be used for these operational logs will be established by San Diego Transit Corporation through consultation with the contractor.

c. Weekly Summaries:

The project manager, in accordance with the established reporting schedule will prepare a summary report to be submitted weekly. This summary shall include:

- Weekly totals of the operating data, documenting any discrepancies in the reported number of passengers carried and the amount of fares and transfer slips collected by the operator
- The project manager shall also document operational problems, or passenger complaints and describe any action taken regarding those problems
- The manager's report must include the daily operator and dispatcher logs as relevant back up information to the weekly summary report.

d. Financial Records:

The contractor must establish and maintain a separate account for all project expenditures and any other relevant financial records or documents. The project manager shall submit a weekly invoice to San Diego Transit Corporation for the services rendered during the reporting period. Such invoice will detail the hours of peak period service provided and the number of base day passengers carried for a one week period; the charge for these services minus the collected fares shall be submitted as the amount due the contractor.

The invoices shall be prepared in such a form and supported by such copies of invoices, payrolls and other documents as may be required by San Diego Transit Corporation, to establish that the amounts are allowable.

All invoices and related records are subject to audit by San Diego Transit Corporation and by the Urban Mass Transportation Administration.

SECTION V - PROPOSAL REQUIREMENTS

(A) Contents of Proposal

1. Operational Management

   a. The contractor must furnish a statement regarding his or her ability to perform the terms of this contract. This statement should include a list of clients, their addresses, and telephone numbers included for whom the proposer has performed services similar to those described in this Request for Proposal.

   b. Prospective contractors must acknowledge the potential for adjustments in the level and type of service to be provided by stating their willingness to comply with any reasonable service requirements, as requested by San Diego Transit Corporation. Required adjustments in the level and type of service to be provided are addressed in Section IV, (A), page 11.

   c. Prospective contractors will not be required to provide a hypothetical plan detailing the operational procedures to be implemented in the event of a required change in the level or type of service. However, any contractor wishing to supplement this section of their proposal may submit such a plan. This plan must include, but is not limited to:

   . A description of all adjustments necessary to accommodate a change in the type of base day service from an advance reservation system to pre-scheduled, fixed route service. This description should detail the methods to be used for increases and/or decreases in project personnel and equipment, as well as procedural modifications.

2. Technical Competence

   A technical proposal section must be provided, describing the contractor's method and resources to perform the work as described in this Request for Proposal. Personnel and equipment requirements are specified in Section IV, pages 13-15.

This section shall include, but is not limited to:

a. A listing of required personnel and qualifications for each position. Resumes of key personnel should be provided. If sub-contractors are to be used, describe the arrangement as well as their role in the project.

b. A listing of required vehicle availability by the vehicles' make, type and year. Any required vehicles not currently available must be discussed in a plan for acquisition, either through purchasing or leasing arrangements. A schedule which indicates when the vehicles would be ready for on-line performance must also be included.

3. Proposed Costs

a. To insure a standardized basis for the comparison of various bids, all proposed costs must be specified in accordance with Exhibit "B", Proposal Form Instructions. Operating costs as quoted on the Proposal Form must be based on the type of service to be provided as discussed in Section III, (A), pages 7-9.

b. The standard proposal form requires firm costs per service hour provided during the peak period, and per capita during the base period totaled to the daily operating cost. The bids, as provided in this proposal form, will be evaluated as the prospective contractor's most favorable terms and conditions, as negotiations may or may not be included in the selection process.

c. The total cost for the provision of both service types is the major evaluation criteria for a determination of reasonable cost and is also the primary measurement for a comparison of the competitive bids.

d. The costs, as determined by the type of service being provided, will also be reviewed, allowing the prospective contractor the opportunity to maximize cost efficiency of the service type which is most compatible with the contractor's existent operations.

(B) Evaluation Criteria

The Request for Proposal has been structured to provide specific requirements which function as a standardized framework for the evaluation of prospective contractor's qualifications. The evaluation criteria will examine the operational management ability, technical competence and the proposed costs for peak period and base day service. A selection panel will grade and rank all proposals with respect to the evaluation criteria. A recommendation will be made by the panel, with the final selection subject to approval by San Diego Transit Corporation's Board of Directors.

1. Operational Management

Operational management will be evaluated in terms of demonstrated experience with similar projects and the suitability of the proposal in relation to specified project objectives and performance standards. Any supplementary information will be evaluated by the adequacy of the proposed methods for accommodation of required adjustments in the level and type of service to be provided.

2. Technical Competence

Technical competence is determined by the availability of adequate technical and financial resources or the ability to obtain such resources which are necessary to the operation of service as currently planned.

3. Proposed Cost

The proposed cost will be evaluated in relation to the level of service to be provided. Reasonable amounts will be determined by an examination of the peak period cost per hour and the base day per capita rate, which will then be evaluated as the total daily cost.

(C) Limitations

1. This Request for Proposal does not commit San Diego Transit Corporation to award a contract or to pay any cost incurred in the preparation of a proposal.

2. The corporation reserves the right to accept or reject any or all proposals received as a result of this project.

3. San Diego Transit Corporation reserves the right to cancel in part, or in its entirety, this Request for Proposal, if it is in the best interest of the corporation to do so.

4. The proposal coordinator may require the proposers selected to participate in negotiations and to submit such prices, technical or other revisions of their proposals as may result from negotiations.

These terms and other conditions of the final contract will be derived on the basis of negotiation between the selected contractor and San Diego Transit Corporation. Terms and conditions negotiated with the selected contractor are subject to final approval by San Diego Transit Corporation's Board of Directors. An award shall be made only after the contract is mutually satisfactory and both San Diego Transit Corporation and the selected contractor have executed the final version of the contract.

SECTION VI - CONTRACT PROVISIONS

(A) The contract will be in effect for eighteen (18) months from the date of commencement of the service. The date of service commencement will be mutually agreed upon by the parties, but shall be no later than June 30, 1982. The contract may be extended for an additional period if mutually agreeable to the parties.

(B) There will be a minimum of three (3) pre-established dates at five (5) month intervals for negotiation of the cost and type of service.

(C) A penalty will be imposed for failure to provide the contracted services. Because actual damages are difficult or impossible to determine a liquidated damages penalty of fifty dollars ($50.00) will be assessed as compensation to San Diego Transit Corporation.

(D) Upon determination by San Diego Transit Corporation that the contractor has not complied with the terms of this contract, the corporation reserves the right to notify the contractor of such non-compliance and terminate the contract with seven (7) days notice, or with lesser notice if public health and safety is at risk. The contractor may request a seven (7) day delay in such termination in order to present an appeal to the Board of Directors for San Diego Transit Corporation.

(E) San Diego Transit Corporation reserves the right to order an increase or decrease in the level of service provided, with thirty (30) days notice to the contractor. All additional personnel and/or vehicles requested by San Diego Transit Corporation will be provided at a negotiated fee, not to exceed the contract rate. Any increased costs resulting from a change in the type of vehicle to be provided will be absorbed by San Diego Transit Corporation at a negotiated rate.

SECTION VI, (Contd.)

(F) The San Diego Transit Corporation reserves the right to cancel the contracted service and related payments to the contractor. Reasons for such an order may include, but shall not be limited to, the low productivity of the service or reduction of project funding. The contractor will be given seven (7) days notice of such cancellation unless a shorter time period is mutually agreeable to both parties.

(G) The total sum available for the eighteen (18) month contract term is not to exceed one hundred thousand dollars ($100,000). San Diego Transit and the contractor will negotiate a schedule of payment which is agreeable to both parties.

(H) In drawing the agreement, Sections I through VI, all Exhibits of the Request for Proposal as well as all sections of Attachment II, The Standard Subcontract Clauses, are to be incorporated into the contract.

(I) The contractor covenants and agrees to indemnify and hold harmless and defend San Diego Transit Corporation, and the City of San Diego and its officers and employees from and against any and all suits or claims for damages, or injuries or death to persons or property, whether real or asserted, arising out of any act, error, or omission on the part of the Contractor or the Contractor's officers, agents, servants, employees, or subcontractors.

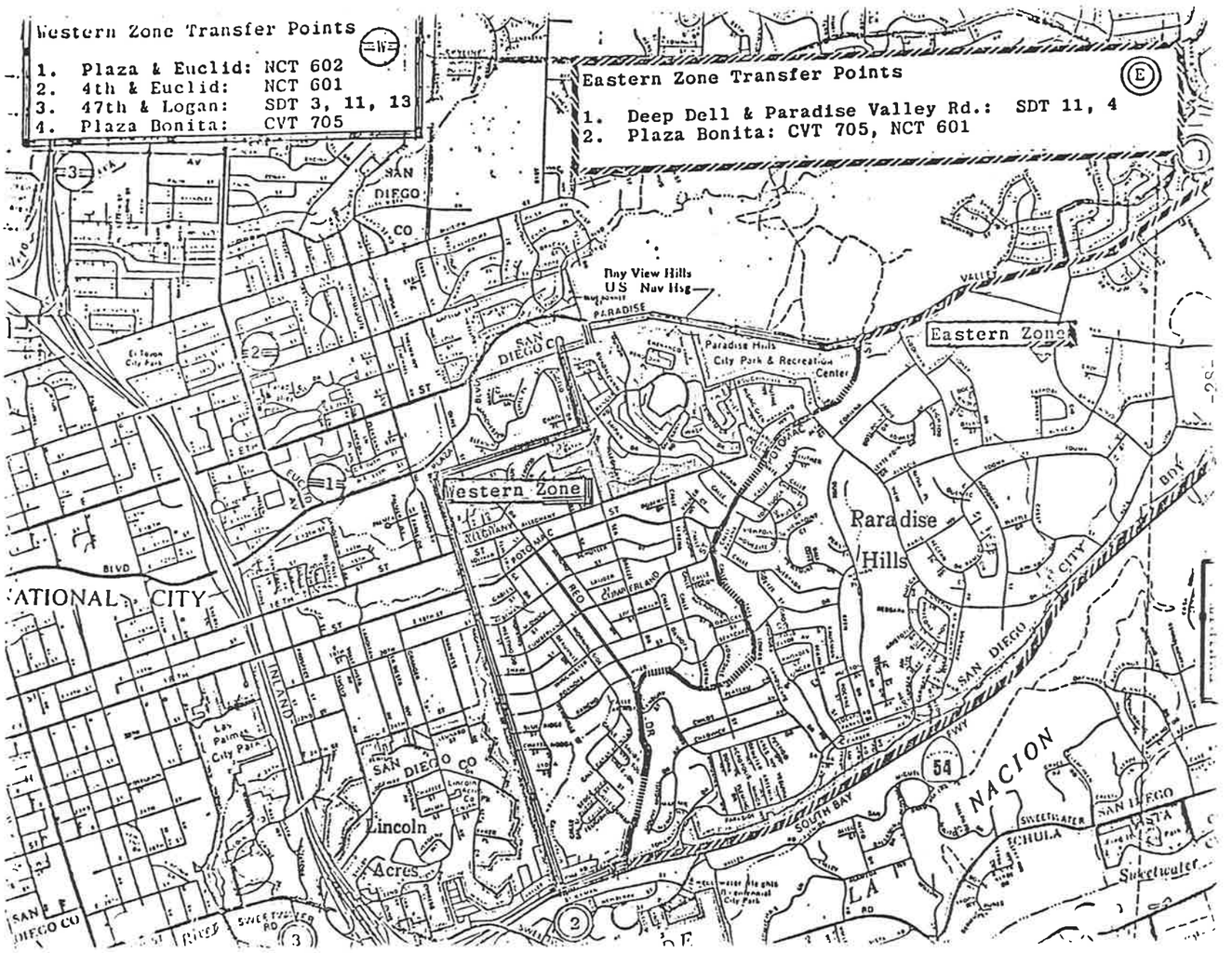
Western Zone Transfer Points
1. Plaza & Euclid: NCT 602
2. 4th & Euclid: NCT 601
3. 47th & Logan: SDT 3, 11, 13
4. Plaza Bonita: CVT 705
Eastern Zone Transfer Points
1. Deep Dell & Paradise Valley Rd.: SDT 11, 4
2. Plaza Bonita: CVT 705, NCT 601
Bay View Hills US Nav Hsg
Eastern Zone
Western Zone
Paradise Hills
Lincoln Acres
NATIONAL CITY
SAN DIEGO CO
PARADISE
54

EXHIBIT "B"

INSTRUCTIONS: PROPOSAL FORMS I & II

NOTE: All information requested on Proposal Forms I & II must be provided according to the following instructions to be considered a responsive bid.

(A) All cost information and proposals must be based on the type of service to be provided and the associated operating requirements as specified in Section III and IV of this Request for Proposal.

(B) All proposals must be accompanied by the statement of an individual authorized to bind the offer, to the effect that all work will be performed for the quoted prices, which will become the fixed price upon completion of contract negotiations. This statement must be attached to Exhibit "B", Form I.

1. Peak Period Service must be bid on an hourly rate with daily operating costs based on the provision of six (6) hours of peak period service daily.

   a. Peak Period Service is described on pages 7 and 8 of the R.F.P.
   b. Operating requirements for all Personnel and Equipment necessary for peak period services are specified on pages 13-15 of the R.F.P.

2. Base Day Service must be bid at a per capita rate with the operating costs to be distributed over an average hourly ridership not to exceed ten (10) passengers per hour, with Base Day Services operating six (6) hours daily.

   a. This ridership estimate is provided to standardize the computation of operating costs. The exact level of demand may vary and should increase as the project develops; this fluctuation in demand

will be addressed during pre-established negotiations as specified on page 26, Contract Provisions (B).

b. The type of service to be provided during the Base Day is described on pages 8 and 9, Section III.

c. All personnel and equipment necessary to the operation of Base Day Service is specified on pages 13 through 15, Section IV.

(C) The cost components of both service types must be identified according to the specifications as provided in Form II of this proposal. The methods used to compute the proposed operating costs for both Peak period and Base Day services must be attached to Exhibit "B", Form II.

EXHIBIT "B"

FORM I

PROPOSAL

(A) GENERAL INFORMATION

1. Name of the Organization: _____

2. Organization is a: Corporation/Partnership/Association or sole proprietorship (Circle One)

3. Organization's Address and Telephone Number: _____

_____

_____

4. Name, Title and Telephone Number of the Organization's Authorized Representative:

_____

_____

5. Organization's Credit References are:
(Attach names, addresses and telephone numbers to at least two, including the organization's bank)

a. _____

b. _____

(B) BID

1. Total Daily Operating Costs: $_____

a. Peak period rate per vehicle service hour:

$_____

b. Base day per capita rate: $_____

The undersigned being cognizant of the pages, documents, and attachments contained herein agrees to provide San Diego Transit Corporation with the services described in the bid specifications and contract documents.

_____ _____

DATE AUTHORIZED SIGNATURE/TITLE

EXHIBIT "B"

FORM II

COST COMPONENTS

NOTE: This form identifies the key cost components for the operation of this service. This cost information will not be used in the evaluation of proposals; it will be used at a later date as additional data, to document the costs of this type of transportation service.

(A) LABOR

1. Drivers
   Hourly Wage $_____

2. Dispatcher
   Hourly Wage $_____

(B) EQUIPMENT

1. Vehicle Type:

   a. Peak Period _____

   b. Base Day _____

2. Monthly Lease and/or Depreciation:

   a. Peak Period Vehicle Type:_____

   b. Base Day Vehicle Type: _____

3. Maintenance Cost Per Mile:

   a. Peak Period $_____

   b. Base Day $_____

4. Fuel Cost Per Gallon $_____

   a. Peak Period Vehicle Miles per Gallon:_____

   b. Base Day Vehicle Miles Per Gallon:_____

(C) ADMINISTRATIVE, OVERHEAD COSTS

1. Project Manager Monthly Salary $_____

EXHIBIT "B"

Cost Components, Contd.

a. % of Time Attributed to Peak Period Services _____

b. % of Time Attributed to Base Day Services _____

2. Monthly Insurance Cost _____

3. Monthly Overhead Cost _____

ATTACHMENT II

STANDARD SUBCONTRACT CLAUSES

ATTACHMENT II - STANDARD SUBCONTRACT CLAUSES

The attached standard UMTA or SDTC required clauses for subcontracts are incorporated as applicable into this document and contract. In all sections of this attachment the reference to consultant shall be interpretered as the contractor.

A. Equal Employment Opportunity

The Consultant shall not discriminate in any manner in connection with the Project against any employee or applicant for employment because of race, color, age, creed, sex, or national origin. The Consultant shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, age, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Consultant agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The Consultant shall insert the foregoing provision (modified only to show the particular contractual relationship) in all of its subcontracts in connection with the development or operation of the Project, except subcontracts for standard commercial supplies or raw materials.

The Consultant shall submit employment reports to SDTC as may be reasonably requested by SDTC. Such reports shall include information on the employment practices, policies, programs, and statistics of the Consultant. The Consultant shall also require that each of its subconsultants prepare employment reports containing the above-specified information about itself. These reports shall be submitted along with the Consultant's employment reports.

B. Minority Business Enterprise

In connection with the performance of this Agreement, the Consultant will cooperate with SDTC in meeting its commitments and goals with regard to the maximum utilization of minority business enterprises. The Consultant's efforts shall include, but not be limited to, the following:

B. Minority Business Enterprise (continued)

1. Arranging solicitations, time for the preparation of bids and offers, quantities, specifications, and delivery and payment schedules to facilitate the participation of minority group enterprises in construction and operation of the project.

2. Affording minority group enterprises realistic notice of each subcontract of the Scope of Services, opportunity to propose for it, and encouragement to do so.

3. Where no conflict of interest exists, providing technical guidance and counseling to any minority group enterprise which seeks or needs assistance in competing for subcontracts of the Scope of Services, and making known to the minority group community in the area of solicitation that these services are available.

In connection with the performance of this agreement, the Consultant shall cooperate with SDTC in meeting its commitments and goals with regard to the utilization of minority business enterprises. The Consultant shall comply with all of the requirements set forth in the requests to ensure the participation of minority business enterprises.

C. Title VI, Civil Rights Act of 1964

The Consultant will comply with and will ensure compliance by subconsultants under this Project with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (49 U.S.C., §2000d), the Regulations of the U.S. Department of Transportation issued thereunder (49 C.F.R., Part 21), and the Assurance by the Consultant pursuant thereto.

D. Compliance with Regulations;

The Consultant shall comply with the regulation relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter called DOT) as they may be amended from time to time. These regulations are set forth in Title 49, Code of Federal Regulations, Part 21 (hereinafter called the Regulations) and are herein incorporated by reference and made a part of this Agreement.

2. NONDISCRIMINATION;

The Consultant, with regard to the work performed under this Agreement, including procurement of materials and lease of equipment, shall not discriminate on the grounds of race, color, sex, or national origin. The Consultant shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the Agreement covers a program set forth in Appendix B of the Regulations.

3. SOLICTATIONS FOR SUBCONTRACTS, INCLUDING PROCUREMENT OF MATERIALS & EQUIPMENT

In all solicitations, either by competitive bidding or negotiation, made by the Consultant for work to be performed under a subcontract, including procurement of materials or lease of equipment, each potential subcontractor or supplier shall be notified by the Consultant of the Consultant's obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, sex, or national origin.

4. INFORMATION AND REPORTS

The Consultant shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and facilities as may be required by SDTC or the Urban Mass Transportation Administration (UMTA) to ascertain compliance with such Regulations, orders, and instructions. If any information required of the Consultant is in the exclusive possession of another who fails or refuses to furnish this information, the Consultant shall so certify to SDTC or UMTA, as appropriate, and shall describe the efforts it has made to obtain the information.

5. SANCTIONS FOR NONCOMPLIANCE

In the event of the Consultant's noncompliance with the nondiscrimination provisions of this Agreement, SDTC shall impose such contract sanctions as

it or UMTA may determine to be appropriate, including, but not limited to:

a. Withholding of payments to the Consultant under the Agreement until the Consultant complies; and/or

b. Cancellation, termination, or suspension of the Agreement, in whole or in part.

6. Incorporation of Provisions;

The Contractor shall include the provisions of Section C, paragraph 1 through 6 in eve subcontract, including procurement of materials and leases of equipment, unless exempted by the Regulations or directives issued pursuant thereto. The Consultant shall take such action with respect to any subcontract or procurement as SDTC or UMTA may direct as a means of enforcing such provisions, including sanctions for noncompliance, provided, however, that in the event the Consultant becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, the Consultant may request that SDTC enter into such litigation to protect the interests of SDTC which participation by SDTC shall, however, be optional. In addition, the Consultant may request that the United States enter into such litigation to protect the interests of the United States.

D. Copyright

No reports, maps, or other documents produced in whole or in part under this Agreement shall be the subject of an application for copyright by or on behalf of the Contractor.

If any contract or subcontract involves the development of patents, a Patent Rights Clause must be obtained from UMTA and included in the contract.

E. Compliance with Environmental Standards

The Contractor shall comply with the provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et sez.), the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.), and implementing regulations, with respect to the facilities involved in the agreement for which Federal assistance is given.

F. Prohibited Interests

No member, officer, or employee of SDTC during his tenure or one year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

G. Interest of Members of or Delegates to Congress

No member of or delegate to the Congress of the United States shall be admitted to any share or part of this Agreement or to any benefit arising therefrom.

Ineligible Contractors

The Contractor hereby certifies that it is/is not (underscore one) included on the U.S. Comptroller General's Consolidated List of Persons or Firms currently debarred for violations of various public contracts incorporating labor standards provisions.

I. Interest of Contractor

The Contractor covenants that he presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. The Contractor further covenants that in the performance of this Agreement, no person having such interest shall be employed.

APPENDIX D

ORIGINAL CONTRACT FOR DART SERVICE IN PARADISE HILLS

AGREEMENT BETWEEN
SAN DIEGO TRANSIT CORPORATION
AND
SAN DIEGO CAB OWNERS CO-OPERATIVE ASSOCIATION INC.
FOR THE PURPOSE OF PROVIDING THOSE TRANSPORTATION SERVICES
NECESSARY TO THE OPERATION OF THE PARADISE HILLS
PARATRANSIT SYSTEM

This agreement is entered into as of this 15 day of July, 1982, between SAN DIEGO TRANSIT CORPORATION (hereinafter referred to as "SDTC") and SAN DIEGO CAB OWNERS CO-OPERATIVE ASSOCIATION INC. (hereinafter referred to as "Contractor").

R E C I T A L S

Whereas, SDTC desires to engage the Contractor to render certain services hereinafter described in connection with an undertaking which is to be financed by the Urban Mass Transportation Administration (UMTA); and

Whereas, the Contractor is desirous and able to participate in the Paradise Hills Paratransit Project,

NOW THEREFORE, the parties hereto do agree as follows:

Section I. Employment of the Contractor

SDTC hereby engages the Contractor and the Contractor agrees to perform the services hereinafter described in connection with the operation of the Paradise Hills Paratransit System.

Section II. Description of the Services to be Provided by Contractor

The Contractor will provide two types of service to accommodate the differing demand levels of peak period and base day ridership.

Each type is designed to provide an adequate level of service operated by the most cost efficient procedures for a projected ridership range.

(A) Peak Period Service

To serve the level of demand generated by work and educational trips, peak period service will be operated as a fixed route with predetermined scheduling. Peak period services will operate six hours per day, from 6:00 - 9:00 A.M. and from 4:00 - 7:00 P.M., Monday through Friday. To insure the reliability of service during these hours, the Contractor shall provide dedicated vehicles and regularly assigned drivers.

(B) Base Day Service

Base day services are to be operated by an advance reservation system which will respond to telephone requests for service, accessing only those transfer locations as determined by the trip destination. This service will also operate six hours per day, from 9:30 A.M. - 3:30 P.M., Monday through Friday. The provision of regularly assigned drivers and the use of dedicated vehicles is not a requirement of base day service. Service may be provided by the use of drivers who are operating their vehicles as taxis in areas of the city which are within a maximum response time of thirty-five (35) minutes to the service area.

It is recognized by both parties that the geographic location of Paradise Hills may prevent utilization of the nearest available driver. The deadhead mileage to the service area, as well as the per trip mileage, the number of passengers carried, and the fare to be charged will determine the responsiveness of operators to base day service requests.

To maximize the potential cost efficiencies of base day service methods, both SDTC and the Contractor shall review base day operational procedures to examine the feasibility of providing an adequate level of service without dedicating vehicles or drivers.

(C) RFP Section III Project Description

The Contractor shall be responsible for providing the level and type of services as further described in the Request For Proposal heretofore submitted by SDTC.

Section III. Division of Labor

SDTC will assume all administrative responsibilities associated with the Connector project. These include but are not limited to: project development, implementation and promotion. Any use of program information and/or material by the Contractor to promote or recommend any transportation service not associated with this project must be approved by SDTC. The Corporation will purchase the necessary operational services at a contracted fixed fee based on vehicle service hours provided during the peak and at a per capita rate during the Base day. The Contractor will provide all equipment, personnel and management necessary to the daily operation of paratransit service.

Section IV. Scope of Contractor's Responsibilities

(A) Operating Requirements

All of the requirements set forth in Section IV of the RFP are incorporated herein.

(B) Project Manager

Ultimate responsibility for project management shall rest with the Co-op General Manager, Robert P. Delikat. The various levels of management responsibilities may be distributed to personnel deemed qualified by the Co-op Manager, with individuals dedicated to the project for the following areas of responsibility:

Dispatcher Duties:

Scheduling of regular and backup personnel
Ride share routing
On line supervision:
responsibility for any operational problems, and/or passenger complaints in the event of the General Manager's absence.

Cashier/Clerk Duties:

Distribution and collection of daily operational reports
Daily collection of all fares and transfer slips.

Bookkeeper Duties:

Prepare weekly summaries of daily operational data
Maintenance of project accounts
Prepare weekly invoice which will document all charges minus total amount of fares collected.

(C) Time of Performance

The services of the Contractor shall commence within twenty-one (21) days after the signing of this Agreement.

Section V. Costs

The maximum total cost to SDTC for the performance of work pursuant to this Agreement shall not exceed $103,000. The Contractor specifically agrees to perform all obligations under this Agreement within such agreed cost, providing peak period service at the fixed

rate of $14.32 per vehicle service hour and providing base day service at a fixed per capita rate of $1.61 per passenger carried, with a guaranteed minimum of ten (10) passengers hourly.

Should the weekly base day ridership exceed an hourly average of twelve (12) passengers, the per passenger rate will be discounted at a negotiated amount based on the number of passengers carried. Should the monthly base day ridership be less than an eight (8) passenger per hour average, the method of payment as well as the guaranteed minimum reimbursement will be subject to evaluation and renegotiation.

Section VI. Payment

For the performance of this Agreement, SDTC shall pay the Contractor upon submission of approved weekly requests for payment. A weekly progress report shall accompany each request for payment, indicating the hours of service provided and the number of passengers carried, as set forth in the Scope of Contractor's Responsibilities under the provisions of this contract, as well as all information required by UMTA. SDTC will review and approve the requests for payment and issue a check within seven (7) days of receipt.

Section VII. Contract Provisions

(A) Term

The contract will be in effect for eighteen (18) months from the date of commencement of the service. The date of service will be mutually agreed upon by the parties, but shall be no later than July 15, 1982. The contract may be extended for an additional period if mutually agreeable to the parties.

(B) Negotiation

There will be a minimum of three (3) pre-established dates at five (5) month intervals for negotiation of the cost and type of service. These negotiations are scheduled to take place during November, 1982; April, 1983 and September, 1983. Negotiation of the cost and type of service to be provided is not limited to the scheduled five month intervals; negotiations may be scheduled at any time, contingent upon the mutual agreement of both parties. In the event of irreconcilable negotiations pertaining to terms of cost and type of service provisions, ultimate authority for reconciliation rests with UMTA.

(C) Penalty for Non-Performance

A penalty will be imposed for failure to provide the contracted services. Because actual damages are difficult or impossible to determine, a liquidated damages penalty of fifty dollars ($50.00) will be assessed as compensation to SDTC.

(D) Termination for Non-Performance

Upon determination by SDTC that the Contractor has not complied with the terms of this contract, the Corporation reserves the right to notify the Contractor of such non-compliance and terminate the contract with seven (7) days notice, or with lesser notice if public health and safety is at risk. The Contractor may request a seven (7) day delay in such termination in order to present an appeal to the Board of Directors of San Diego Transit Corporation.

(E) Service Level

SDTC reserves the right to order an increase or decrease in the level of service provided, with thirty (30) days notice to

the Contractor. All additional personnel and/or vehicles requested by SDTC will be provided at a negotiated fee, not to exceed the contract rate. Any increased costs resulting from a change in the type of vehicle to be provided will be absorbed by SDTC at a negotiated rate.

(F) Cancellation

SDTC reserves the right to cancel the contracted service and related payments to the contractor. Reasons for such an order may include, but shall not be limited to, the low productivity of the service or reduction of project funding. The contractor will be given seven (7) days notice of such cancellation unless a shorter time period is mutually agreeable to both parties.

(G) Maximum Cost Allowable

The total sum available for the eighteen (18) month contract term is not to exceed one hundred and three thousand dollars ($103,000). SDTC and the Contractor will negotiate a schedule of payment which is agreeable to both parties.

(H) Incorporation of the RFP

In drawing the Agreement, Sections I through IV of the Request For Proposal are to be incorporated into the contract.

(I) Hold Harmless

The Contractor covenants and agrees to indemnify and hold harmless and defend SDTC and the City of San Diego and its officers and employees from and against any and all suits or claims for damages, or injuries or death to persons or property, whether real or asserted, arising out of any act, error, or omission on the part of the Contractor or the Contractor's officers, agents, servants, employees, or subcontractors.

Section VIII. Standard Subcontract Clauses

(A) Equal Employment Opportunity

The Contractor shall not discriminate in any manner in connection with the Project against any employee or applicant for employment because of race, color, age, creed, sex or national origin. The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, age or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. The Contractor shall insert the foregoing provision (modified only to show the particular contractual relationship) in all of its subcontracts in connection with the development or operation of the Project, except subcontracts for standard commercial supplies or raw materials.

The Contractor shall submit employment reports to SDTC as may be reasonably requested by SDTC. Such reports shall include information on the employment practices, policies, programs and statistics of the Contractor. The Contractor shall also require that each of its subconsultants prepare employment reports containing the above-specified information about itself. These reports shall be submitted along with the Contractor employment reports.

(B) Minority Business Enterprise

In connection with the performance of this Agreement, the Contractor will cooperate with SDTC in meeting its commitments and goals with regard to the maximum utilization of minority business enterprises. The Contractor's efforts shall include, but not be limited to, the following:

1. Arranging solicitations, time for the preparation of bids and offers, quantities, specifications, and delivery and payment schedules to facilitate the participation of minority group enterprises in construction and operation of the project.

2. Affording minority group enterprises realistic notice of each subcontract of the Scope of Services, opportunity to propose for it, and encouragement to do so.

3. Where no conflict of interest exists, providing technical guidance and counseling to any minority group enterprise which seeks or needs assistance in competing for subcontracts of the Scope of Services, and making known to the minority group community in the area of solicitation that these services are available.

The Contractor shall comply with all of the requirements set forth in the requests to ensure the participation of minority business enterprises.

(C) Title VI, Civil Rights Act of 1964

The Contractor will comply with and will ensure compliance by subconsultants under this Project with all the requirements imposed by Title VI of the Civil Rights Act of 1964 (49 U.S.C.,

2000d), the Regulations of the U.S. Department of Transportation issued thereunder (49 C.F.R., Part 21), and the Assurance by the Contractor pursuant thereto.

1. Compliance with Regulations:

The Contractor shall comply with the regulation relative to nondiscrimination in federally-assisted programs of the Department of Transportation (hereinafter called DOT) as they may be amended from time to time. These regulations are set forth in Title 49, Code of Federal Regulations, Part 21 (hereinafter called the Regulations) and are herein incorporated by reference and made a part of this Agreement.

2. Nondiscrimination:

The Contractor with regard to the work performed under this Agreement, including procurement of materials and lease of equipment, shall not discriminate on the grounds of race, color, sex, or national origin. The Contractor shall not participate either directly or indirectly in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices, when the Agreement covers a program set forth in Appendix B of the Regulations.

3. Solicitations for Subcontracts, Including Procurement of Materials & Equipment:

In all solicitations, either by competitive bidding or negotiation, made by the Contractor for work to be performed under a subcontract, including procurement of materials or lease of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this Agreement and the Regulations relative to nondiscrimination on the grounds of race, color, sex, or national origin.

4. Information and Reports:

The Contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and facilities as may be required by SDTC or the Urban Mass Transportation Administration (UMTA) to ascertain compliance with such Regulations, orders and instructions. If any information required of the Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to SDTC or UMTA, as appropriate, and shall describe the efforts it has made to obtain the information.

5. Sanctions for Noncompliance:

In the event of the Contractor's noncompliance with the nondiscrimination provisions of this Agreement, SDTC shall impose such contract sanctions as it or UMTA may determine to be appropriate, including, but not limited to:

a. Withholding of payments to the Contractor under the Agreement until the Contractor complies; and/or

b. Cancellation, termination, or suspension of the Agreement, in whole or in part.

6. Incorporation of Provisions:

The Contractor shall include the provisions of Section C, paragraph 1 through 6 in every subcontract, including procurement of materials and leases of equipment, unless exempted by the Regulations or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as SDTC or UMTA may direct as a means of enforcing such provisions, including sanctions for noncompliance, provided,

however, that in the event the Contractor becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, the Contractor may request that SDTC enter into such litigation to protect the interests of SDTC, which participation by SDTC shall, however, be optional. In addition, the Contractor may request that the United States enter into such litigation to protect the interests of the United States.

(D) Copyright

No reports, maps or other documents produced in whole or in part under this Agreement shall be the subject of an application for copyright by or on behalf of the Contractor.

If any contract or subcontract involves the development of patents, a Patent Rights Clause must be obtained from UMTA and included in the contract.

(E) Compliance with Environmental Standards

The Contractor shall comply with the provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.), and implementing regulations, with respect to the facilities involved in the agreement for which Federal assistance is given.

(F) Prohibited Interests

No member, officer, or employee of SDTC during his tenure or one year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

(G) Interest of Members of or Delegates to Congress

No member of or delegate to the Congress of the United States shall be admitted to any share or part of this Agreement or to any benefit arising therefrom.

(H) Ineligible Contractors

The Contractor hereby certifies that it is/is not (underscore one) included on the U.S. Comptroller General's Consolidated List of Persons or Firms currently debarred for violations of various public contracts incorporating labor standards provisions.

(I) Interest of Contractor

The Contractor covenants that he presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. The Contractor further covenants that in the performance of this Agreement, no person having such interest shall be employed.

Section IX. Subcontractors

The Contractor shall not enter into any agreement to perform work in connection with this contract without first obtaining written approval of SDTC as to the scope of the work and the subcontractor.

Section X. Notice

Any notice required or permitted under this contract may be personally served on the other party, by the party giving notice, or may be served by certified mail, return receipt requested, to the following addresses:

SDTC:

Roger Snoble, General Manager
San Diego Transit Corporation
P.O. Box 2511
San Diego, CA 92112

Contractor:

Robert P. Delikat, General Manager
San Diego Cab Owners Cooperative
Association, Inc.
4069 30th Street, Suite #1
San Diego, CA 92104

Section XI. Construction

All provisions of the contract shall be construed by the laws of the State of California.

IN WITNESS THEREOF, the authorized parties have below signed:

San Diego Cab Owners Cooperative Association, Inc.
General Manager

San Diego Transit Corporation
General Manager

San Diego Cab Owners Cooperative Association, Inc.
Legal Counsel

San Diego Transit Corporation
Legal Counsel

APPENDIX E

SECOND CONTRACT FOR DART SERVICE IN PARADISE HILLS

AGREEMENT BETWEEN
SAN DIEGO TRANSIT CORPORATION
AND
SAN DIEGO CAB OWNERS CO-OPERATIVE ASSOCIATION INC.
FOR THE PURPOSE OF PROVIDING THOSE TRANSPORTATION SERVICES
NECESSARY TO THE OPERATION OF THE PARADISE HILLS
PARATRANSIT SYSTEM

This agreement is entered into as of this 25th day of January, 1984, between SAN DIEGO TRANSIT CORPORATION (hereinafter referred to as "SDTC") and SAN DIEGO CAB OWNERS CO-OPERATIVE ASSOCIATION INC. (hereinafter referred to as "Contractor").

R E C I T A L S

Whereas, SDTC desires to engage the Contractor to render certain services hereinafter described in connection with DART, the Paradise Hills Paratransit Feeder System; and

Whereas, the Contractor is desirous and able to provide the Paradise Hills DART Service,

NOW THEREFORE, the parties hereto do agree as follows:

Section I. Employment of the Contractor

SDTC hereby engages the Contractor and the Contractor agrees to perform the services hereinafter described in connection with the operation of the Paradise Hills Paratransit Feeder System.

Section II. Description of the Services to be Provided by Contractor

The Contractor will provide three types of service to accommodate the differing demand levels of peak period and base day ridership.

Each type is designed to provide an adequate level of service operated by the most cost efficient procedures for a projected ridership range.

(A) Peak Period Fixed Route Service

To serve the level of demand generated by work and educational trips, peak period service will operate a fixed route with predetermined scheduling from 5:43 to 9:05 AM and 3:45 to 7:16 PM, Monday through Friday. The fixed route will serve the bus line transfer site located at Highland and 16th Streets in National City. Within the Paradise Hills service area minor route deviation will occur to allow for interface with DART taxis operating in Eastern Paradise Hills.

(B) Peak Period Demand Responsive Service

An advance reservation system will operate between the hours of 5:30 to 9:30 AM and 3:30 to 7:00 PM, Monday through Friday. The objective in providing this type of demand responsive service is to insure adequate peak period coverage throughout the Paradise Hills area without incurring the costs of additional fixed routing. This service will access two bus line transfer sites and interface with the DART peak period fixed route service. The bus line transfer sites are located at the Plaza Bonita Shopping Center and at the intersection of Paradise Valley Road and Deep Dell St. Service will also be provided to or from any origin or destination within the Paradise Hills service area for non-transfer passengers.

(C) Base Day Demand Responsive Service

Base day services are to be operated by an advance reservation system which will respond to telephone requests for service,

accessing trip specific bus line transfer sites. This demand responsive service will operate from 9:30 AM to 3:30 PM, Monday through Friday. The bus line transfer locations for Base day service are as follows: Highland and 16th Streets, the Plaza Bonita Shopping Center, Paradise Valley Rd. & Deep Dell St. Service will also be provided to or from any origin or destination within the Paradise Hills service area for non-transfer passengers.

(D) RFP Section III Project Description

The Contractor shall be responsible for providing the level and type of services as further described in the Request For Proposal heretofore submitted by SDTC.

Section III. Division of Labor

SDTC will assume all administrative responsibilities associated with the P.H. DART project. These include but are not limited to: project development, implementation and promotion. Any use of program information and/or material by the Contractor to promote or recommend any transportation service not associated with this project must be approved by SDTC. The Corporation will purchase the necessary operational services at a contracted fixed fee, specific to the method of service provided, and based on vehicle hours and miles of service. The Contractor will provide all equipment, personnel and management necessary to the daily operation of paratransit service.

Section IV. Scope of Contractor's Responsibilities

(A) Operating Requirements

DART service is to be provided according to the

following operating requirements:

- The Contractor must provide a minimum of four regularly assigned and two available back up drivers for the operation of fixed route and demand responsive services.
- The Contractor must provide personnel to answer telephone requests for service sixteen hours daily from 6:00 AM to 10:00 PM. These employees may also be assigned other duties by the Contractor. Dispatch personnel must be adequately trained to handle all incoming telephone calls and to dispatch the necessary vehicles. These employees must be knowledgeable in all aspects of DART service operations. Public timetables must be readily available to provide information on the bus line scheduling for those routes accessed by the DART service.
- The Contractor must provide telephone lines adequate to the volume of incoming calls for DART service, with one telephone line, 280-2556, dedicated exclusively to the Paradise Hills DART service. Upon termination of this contract agreement, SDTC reserves the right to purchase the dedicated DART telephone line, 280-2556, at a reasonable cost.
- DART bus line transfer passengers must be given scheduling priority over non-transfer or shared ride taxi passengers.

1. Peak Period DART service is to be provided according to the following operating requirements:
   - Fixed route deviation must not impair on time performance which is to be maintained within two minutes accuracy of the scheduled service.

° Fixed route PM service operates with a provision for dwell time at the transfer location for late bus arrivals. This provides the one exception to the two minute operating requirement for the maintenance of on-time service.

° Demand responsive service will be operated in response to telephone requests for service placed a minimum of one hour in advance of the desired arrival time at the transfer site. Telephone requests may also be placed one day in advance or on a subscription basis.

° Demand responsive service must operate according to specified on time performance standards and accommodate the greatest number of passengers over the shortest feasible route. On time performance is defined by the following operating procedures:

  * Vehicle operators shall not wait for the user more than two minutes after sounding the horn at the curbside pick-up point.
  * Accurate passenger pick-up times according to a six (6) minute window based on the Dispatchers' ETA.
  * Passengers must be delivered to the bus line transfer location no more than ten (10) minutes prior to their requested arrival time and never later than the requested bus line transfer connection.
  * Passenger transfers between DART fixed route and reservation services must be co-ordinated by DART personnel, providing intraDART transfer connections with less than a five (5) minute waiting period.

2. All of the further requirements set forth in Section IV of the Request for Proposal are incorporated herein.

(B) Project Manager

Ultimate responsibility for project management shall rest with the Co-op Project Manager, Robert P. Delikat. The various levels of management responsibilities may be distributed to personnel deemed qualified by the Co-op Manager, with individuals dedicated to the project for the following areas of responsibility:

Dispatcher Duties:

Scheduling of regular and backup personnel

Ride share routing

On line supervision:

responsibility for any operational problems, and/ or passenger complaints in the event of the Project Manager's absence.

Cashier/Clerk Duties:

Distribution and collection of daily operational reports

Daily collection of all fares and transfer slips.

Bookkeeper Duties:

Prepare weekly summaries of daily operational data

Maintenance of project accounts

Prepare weekly invoice which will document all charges minus total amount of fares collected.

(C) Time of Performance

The services of the Contractor shall commence within seven (7) days after the signing of this Agreement.

Section V. Costs

The maximum total cost to SDTC for the performance of work pursuant to this Agreement shall not exceed $34,000. The Contractor specifically agrees to perform all obligations under this Agreement within such agreed cost.

(A) Peak Period Fixed Route Costs

Fixed route peak period service shall be provided at the rate of $14.32 per vehicle service hour. As payment is calculated to the nearest ¼ hour, the provision of service on the last evening trip from the service area, leaving at 7:05 PM, shall be operated only when there is a demand for service to 16th & Highland. Thirty-two and one half (32.5) hours of fixed route service will be reimbursed weekly, additional service hours may be reported for reimbursement up to a maximum of thirty-three and three quarter (33.75) hours.

(B) Peak Period Demand Responsive Costs

Payment for this service will be based on a fixed rate of ten dollars ($10.00) per vehicle service hour plus a mileage charge of eleven cents (11c) per mile. The fixed hourly rate of $10.00 shall be calculated from the time the vehicle enters the service area to respond to the first AM and PM requests for service; if no additional reservations have been made by the last hour of AM and PM service, reimbursement will be calculated with the vehicle service hours ending at 8:30 AM and 6:00 PM. In summary, the starting and ending times for both AM and PM service are flexible, based on actual demand, with reimbursement at a fixed rate determined by vehicle service hours worked rather than the scheduled times when service is available. The maximum number of vehicle service hours allowable shall be thirty-seven and one half (37.5) hours per week. The maximum number of miles allowable shall be determined by the number of passengers carried. Operating statistics shall be computed to a weekly average to provide the number of miles traveled per passenger; no more than 2.5 miles per passenger shall be subject to reimbursement.

(C) Base Day Demand Responsive Costs

Base Day service shall be provided at the rate of thirteen dollars and ninety cents ($13.90) per vehicle service hour. The maximum number of vehicle service hours subject to reimbursement at this hourly rate shall be thirty (30) hours per week. Additional vehicle service hours up to a maximum of ten (10) hours per week may be reported for reimbursement at the rate of twelve dollars and fifty cents ($12.50) per hour. All base day mileage shall be reimbursed at the rate of eleven cents (.11) per mile. An operating efficiency of 3.0 miles traveled per passenger carried will be applied to determine the maximum mileage subject to reimbursement. Additional base day service hours will not be reimbursed should the level of cost recovery fall below 20%; cost recovery shall be computed by dividing the amount of revenue collected by the gross operating cost for base day service only.

(D) Revenue Sharing

The level of cost recovery will be computed on a weekly basis, dividing the total amount of revenue collected by the total amount of gross operating costs. Revenue sharing will occur whenever the level of cost recovery is greater than 25%, with 50% of all revenues collected beyond the required cost recovery being retained by the contractor.

Section VI. Payment

For the performance of this agreement, SDTC shall pay the contractor upon submission of approved weekly requests for payment. A weekly progress report shall accompany each request for payment, indicating hours and miles of service, passengers carried, and revenue collected, as set forth in the Scope of Contractor's Responsibilities

under the provisions of this contract. All revenue which is collected while providing a SDTC subsidized service must be reported to SDTC and deducted from the gross operating cost for reimbursement. The Contractor must submit the weekly progress report by 4:00 PM every Tuesday to receive payment for the prior week's services. SDTC will review and approve the requests for payment and issue a check within seven (7) days of receipt.

Section VII. Contract Provisions

(A) Term

The contract will be in effect from the date of commencement of the service through June 30, 1984. The date of service will be mutaully agreed upon by the parties, but shall be no later than January 31, 1984. The contract may be extended for an additional period if mutually agreeable to the parties.

(B) Negotiation

Negotiation of the cost and type of service to be provided may be scheduled at any time, contingent upon the mutual agreement of both parties.

(C) Penalty for Non-Performance

A penalty will be imposed for failure to provide the contracted services. Because actual damages are difficult or impossible to determine, a liquidated damages penalty of two hundred & fifty dollars ($250.00) will be assessed as compensation to SDTC.

(D) Termination for Non-Performance

Upon determination by SDTC that the Contractor has not complied with the terms of this contract, the Corporation reserves the right to notify the Contractor of such non-compliance and terminate the contract with seven (7) days notice, or with lesser notice if public health and safety is at risk. The Contractor may request a seven (7)

day delay in such termination in order to present an appeal to the Board of Directors of San Diego Transit Corporation.

(E) Service Level

SDTC reserves the right to order an increase or decrease in the level of service provided, with thirty (30) days notice to the Contractor. All additional personnel and/or vehicles requested by SDTC will be provided at a negotiated fee, not to exceed the contract rate. Any increased costs resulting from a change in the type of vehicle to be provided will be absorbed by SDTC at a negotiated rate.

(F) Cancellation

SDTC reserves the right to cancel the contracted service and related payments to the contractor. Reasons for such an order may include, but shall not be limited to, the low productivity of the service or reduction of SDT operating funds. The contractor will be given seven (7) days notice of such cancellation unless a shorter time period is mutually agreeable to both parties.

(G) Maximum Cost Allowable

The total sum available for the contract term is not to exceed thirty-four thousand dollars ($34,000).

(H) Incorporation of the RFP

In drawing the Agreement, Sections I through IV of the Request For Proposal are to be incorporated into the contract.

(I) Hold Harmless

The Contractor covenants and agrees to indemnify and hold harmless and defend SDTC and the City of San Diego and its officers and employees from and against any and all suits or claims for damages, or injuries or death to persons or property, whether real or asserted, arising out of any act, error, or omission on the

part of the Contractor or the Contractor's officers, agents, servants employees, or subcontractors.

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1. Arranging solicitations, time for the preparation of bids and offers, quantities, specifications, and delivery and payment schedules to facilitate the participation of minority group enterprises in construction and operation of the project.

2. Affording minority group enterprises realistic notice of each subcontract of the Scope of Services, opportunity to propose for it, and encouragement to do so.

3. Where no conflict of interest exists, providing technical guidance and counseling to any minority group enterprise which seeks or needs assistance in competing for subcontracts of the Scope of Services, and making known to the minority group community in the area of solicitation that these services are available.

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In the event of the Contractor's noncompliance with the non-discrimination provisions of this Agreement, SDTC shall impose such contract sanctions as it or UMTA may determine to be appropriate, including, but not limited to:

a. Withholding of payments to the Contractor under the Agreement until the Contractor complies; and/or

b. Cancellation, termination, or suspension of the Agreement, in whole or in part.

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The Contractor shall include the provisions of Section C, paragraph 1 through 6 in every subcontract, including procurement of materials and leases of equipment, unless exempted by the Regulations or directives issued pursuant thereto. The Contractor shall take such action with respect to any subcontract or procurement as SDTC or UMTA may direct as a means of enforcing such provisions, including sanctions for noncompliance, provided,

however, that in the event the Contractor becomes involved in, or is threatened with litigation with a subcontractor or supplier as a result of such direction, the Contractor may request that SDTC enter into such litigation to protect the interests of SDTC, which participation by SDTC shall, however, be optional. In addition, the Contractor may request that the United States enter into such litigation to protect the interests of the United States.

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The Contractor shall comply with the provisions of the Clean Air Act, as amended (42 U.S.C. 7401 et seq.), the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.), and implementing regulations, with respect to the facilities involved in the agreement for which Federal assistance is given.

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No member, officer, or employee of SDTC during his tenure or one year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

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No member of or delegate to the Congress of the United States shall be admitted to any share or part of this Agreement or to any benefit arising therefrom.

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The Contractor shall not enter into any agreement to perform work in connection with this contract without first obtaining written approval of SDTC as to the scope of the work and the subcontractor.

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San Diego Transit Corporation
P.O. Box 2511
San Diego, CA 92112

Contractor:

Robert P. Delikat, Director
San Diego Cab Owners Cooperative Association, Inc.
4069 30th Street, Suite #1
San Diego, CA 92104

Section XI. Construction

All provisions of the contract shall be construed by the laws of the State of California.

IN WITNESS THEREOF, the authorized parties have below signed:

San Diego Cab Owners Cooperative Association, Inc.
Director

San Diego Transit Corporation
General Manager

San Diego Cab Owners Cooperative Association, Inc.
Legal Counsel

San Diego Transit Corporation
Legal Counsel

APPENDIX F

ON-BOARD SURVEY QUESTIONNAIRE

San Diego Transit

DART

№ 1782

PARADISE HILLS PASSENGER SURVEY

OFFICE USE ONLY

[1] 5

6 – 8

9

10 – 13

14

15 – 18

19

20

21

22

Thank you for making DART a success in Paradise Hills! San Diego Transit is conducting this survey of DART riders to insure that DART is providing the most effective service possible. Your participation in this survey will help us determine how we can better serve the Paradise Hills community. Please fill out this survey card and return it to the DART driver *even if you have filled out a survey card earlier this week.*

DART PASSENGER — PLEASE COMPLETE THIS SIDE

1. WHERE ARE YOU COMING FROM?

☐ 1. Paradise Hills

_____
(PLEASE SPECIFY ADDRESS OR NEAREST INTERSECTION)

☐ 2. Downtown San Diego
☐ 3. Chula Vista
☐ 4. National City
☐ 5. Lemon Grove
☐ 6. Spring Valley
☐ 7. Southeast San Diego

☐ 8. Military base: _____
(PLEASE SPECIFY WHICH ONE)

☐ 9. Other:

_____
(PLEASE SPECIFY ADDRESS OR NEAREST INTERSECTION)

2. WHERE ARE YOU GOING TO?

☐ 1. Paradise Hills:

_____
(PLEASE SPECIFY ADDRESS OR NEAREST INTERSECTION)

☐ 2. Downtown San Diego
☐ 3. Chula Vista
☐ 4. National City
☐ 5. Lemon Grove
☐ 6. Spring Valley
☐ 7. Southeast San Diego

☐ 8. Military base: _____
(PLEASE SPECIFY WHICH ONE)

☐ 9. Other:

_____
(PLEASE SPECIFY ADDRESS OR NEAREST INTERSECTION)

3. WHAT IS THE PURPOSE OF THIS TRIP?

☐ 1. Work
☐ 2. School
☐ 3. Shopping
☐ 4. Recreational/Social Activity
☐ 5. Medical
☐ 6. Personal Business
☐ 7. Other (specify) _____

4. How would you make this trip today if DART did not yet serve Paradise Hills?
(Please check only one.)

☐ 1. I would not make this trip
☐ 2. I would drive
☐ 3. I would get a ride from family or friends
☐ 4. I would walk to the bus
☐ 5. Other _____ (PLEASE SPECIFY)

5. To further assist us in improving the DART service, we will conduct a brief telephone survey in September. Please give us the opportunity to find out how well DART is serving you by providing the following information. *All information will be kept confidential.*

NAME: _____

PHONE NUMBER: _____

WHAT TIME WOULD BE MOST CONVENIENT FOR OUR SURVEYORS TO CALL YOU?

_____ A.M. _____ P.M. (PLEASE FILL IN TIME AND CIRCLE **A.M.** or **P.M.**)

THANK YOU FOR YOUR COOPERATION!

THIS SIDE TO BE FILLED IN BY THE DRIVER

A. Service type:
1. ☐ DART-1 peak-hour
2. ☐ DART-2 peak-hour
3. ☐ DART base day
4. ☐ Shared-ride taxi

B. Date: _____

C. Time: _____ A.M. P.M. (CIRCLE)

D. Transfer point:
1. ☐ 16th and Highland
2. ☐ Deep Dell
3. ☐ Plaza Bonita
4. ☐ Intra-DART transfer
5. ☐ Within Paradise Hills (shared-ride taxi only)

E. Fare paid:
1. ☐ Full fare ($1.00)
2. ☐ E & H (40¢)
3. ☐ Transfer with upgrade (20¢)
4. ☐ Express Transfer
5. ☐ E & H transfer
6. ☐ Intra-DART transfer

F. Direction:
1. ☐ Outbound (FROM Paradise Hills)
2. ☐ Inbound (TO Paradise Hills)

G. Check If Non-Transfer ☐

OFFICE USE ONLY

☐ 23

☐☐☐☐ 24 – 27

☐☐☐☐ 28 – 31

☐ 32

☐ 33

☐ 34

☐ 35

APPENDIX G

TELEPHONE SURVEY QUESTIONNAIRE

SAN DIEGO TRANSIT DART USER SURVEY
PARADISE HILLS

__ __ __ __ (1-4)
Serial No.

_____ __ __ (5-6)
Name Interviewer

_____ __ __ / __ __ (7-10)
Preferred Day and Time of Contact Date

_____ (11)
Result

Contact History

No.	Date	Time	Result
1			
2			
3			
4			
5			
6			
7			
8			

Comments:

Control Sheet

Hello, my name is _____ from the San Diego Association of Governments. You recently volunteered to participate in a telephone survey of DART users. I'm calling on behalf of San Diego Transit to ask you a few questions about DART. Could you take a few minutes now to answer them?

IF THE PERSON CANNOT TALK NOW, ASK: When would be a convenient time to call you back? **Note time and put on front sheet:**

_____

1a. How did you hear about DART? **Leave open-ended. Check all that apply.**
Prompt: Are there any other ways you have heard DART?

A.	Mail-out pamphlet	___ (12)
B.	Community meeting	___ (13)
C.	Newspaper	___ (14)
D.	Penny Saver	___ (15)
E.	Radio	___ (16)
F.	Friend/neighbor	___ (17)
G.	Information brochure sent to military	___ (18)
H.	Saw DART vehicle	___ (19)
J.	Sign	___ (20)
K.	Other: _____ **Specify**	___ (21)
L.	Does not understand question	

1b. Which way did you hear about it first? ___ (22)

A. Mail-out pamphlet
B. Newspaper
D. Penny Saver
E. Radio
F. Friend/neighbor
G. Information brochure sent to military
H. Saw DART vehicle
J. Sign
K. Other: _____ **Specify** ___ (23)
L. Does not understand question

2. Have you used DART fixed-route rush-hour service? **(If the person does not understand, explain that this refers to DART-2, which operates during morning and afternoon rush hours along a specific route between Paradise Hills and 16th & Highland. Consult your DART brochure.)**

1. Yes -- **Continue with Question 2b, (below).**
2. No -- **Skip to Question 3, (next page).**

2b. How many blocks do you (or did you) live from the nearest DART stop?

_____ ___ (26-27)
(No. of blocks)

2c. How would you rate the following aspects of DART fixed-route rush-hour service? I will read you a list. For each item, please tell me if you think it is EXCELLENT, GOOD, FAIR, or POOR.

	EX. 1	GOOD 2	FAIR 3	POOR 4	
1. Hours of operation					___ (28)
2. Amount of fare					___ (29)
3. Convenience of paying fare					___ (30)
4. Distance from home to DART stop					___ (31)
5. DART gets you to the bus on time					___ (32)
6. DART picks you up on time					___ (33)
7. Bus arrives on time at the transfer point					___ (34)
8. DART waits for you if the bus is late					___ (35)
9. DART gets you to buses that go where you want to go					___ (36)
10. Courtesy of DART driver					___ (37)
11. DART drivers provide you with information about DART and buses					___ (38)
12. Comfort and cleanliness of DART vehicle					___ (39)
13. Courtesy of bus driver					___ (40)
14. Overall quality of service					___ (41)

3a. Have you used DART as a telephone reservation service? **(If person does not understand, explain that this is the service where you have to call for a reservation, then DART picks you up or drops you off at your door.)**

___ (42)

1. Yes -- **Continue with Question 3b, (below).**
2. No -- **Skip to Question 4, (next page).**

3b. How would you rate the following aspects of DART telephone reservation service? I will read a list. For each item, please tell me if you think it is EXCELLENT, GOOD, FAIR, or POOR.

	EX. 1	GOOD 2	FAIR 3	POOR 4	
1. Amount of fare					___ (43)
2. Convenience of paying fare					___ (44)
3. Ease of making a reservation					___ (45)
4. Amount of time you have to call in advance to make a reservation					___ (46)
5. DART picks you up at home at time you were promised					___ (47)
6. Amount of time you have to wait at the bus stop for the bus to pick you up					___ (48)
7. Bus arrives on time at the transfer point					___ (49)
8. On the return trip, amount of time you have to wait for DART to pick you up					___ (50)
9. Comfort and cleanliness of DART vehicles					___ (51)
10. Courtesy of DART drivers					___ (52)
11. DART drivers provide you with information about DART and buses					___ (53)
12. Courtesy of bus drivers					___ (54)

13. Helpfulness and courtesy of the person who takes your call _____ ___ (55)

14. Overall quality of service _____ ___ (56)

3c. When do you usually make a reservation on DART for the trip back home? **(Prompt if necessary)** ___ (57)

1. At the same time that I make a reservation to go from home to the bus
2. Before I board the bus to get to the transfer point. **(Skip to Question 3e, below)**
3. Call when I get to the transfer point. **(Skip to Question 3e, below)**
4. Just wait at the transfer point until DART comes along. **(Continue with Question 3d, below)** ___ (58)

3d. At what time do you usually begin to wait at the stop? ___ (59)

1. Before 4:00 PM
2. After 4:00 PM

3e. Have you always reserved your return trip this way? ___ (60)

1. Yes -- **Skip to Question 4, (next page).**
2. No -- **Continue with Question 3f, (below)**

3f. How did you usually reserve your return trip before you did it the way you do now? ___ (61)

1. At the same time I made a reservation to go from home to the bus
2. Before I boarded the bus to get to the transfer point
3. Called when I got to the transfer point
4. I didn't make a reservation. I just waited at the transfer point until DART came along.

4. Have you used DART-1, the telephone reservation service during rush hour?

1. Yes -- **Continue with Question 4a, (below).**
2. No -- **Skip to Question 5, (below).**

4a. Do you ever transfer between DART cabs during the rush hour? ___ (62)

1. Yes -- **Continue with Question 4b, (below).**
2. No -- **Skip to Question 5, (below).**

4b. How long do you usually have to wait to transfer between DART cabs? ___ (64)

1. Less than 1 minute
2. 1-5 minutes
3. 5-10 minutes
4. More than 10 minutes

5. When did you start using DART?

Month: _____ Mo: ___ ___ (65)

Year: _____ Yr: ___ ___ (66)

6. Think back to when you first started using DART. I'd like to ask you if any of the following things about DART service have gotten BETTER, WORSE or REMAINED ABOUT THE SAME.

(Note: Items 1, 2, and 9 will not apply to person who does not use DART as a telephone reservation service.)

	BET. 1	WORSE 2	ABOUT THE SAME 3	DOES NOT APPLY 4	
1. Ease of making a reservation					___ (67)
2. DART picks you up at home at the time you were promised					___ (68)
3. Amount of time you have to wait at the bus stop for the bus to pick you up.					___ (69)
4. Bus arrives on time at the transfer point					___ (70)
5. On the return trip, amount of time you have to wait for DART to pick you up					___ (71)
6. Comfort and cleanliness of DART vehicles					___ (72)
7. Courtesy of DART drivers					___ (73)
8. Courtesy of bus drivers					___ (74)

9. Helpfulness and courtesy of the person who takes your call _____ ___ (75)

10. Overall quality of service _____ ___ (76)

7. About how many one-way trips per week do you make on DART? For example, going downtown and back on DART would be two trips. ___ (77)

1. Less than 1 or doesn't use DART often.
2. 1-2
3. 3-4
4. 5-6
5. 7-8
6. 9-10
7. More than 10

8. What means of travel besides DART do you usually use now? **(Check all that apply.)**

1. Drive myself ___ (78)
2. Get rides from family or friends ___ (79)
3. Walk ___ (80)
4. Bus or trolley -- **If checked, go to Question 8a,(below).** ___ (81)
5. Taxicab ___ (82)
6. Other _____ ___ (83)

SKIP TO QUESTION 9 (next page)

8a. How do you get to the bus (or trolley)? ___ (84)

A. Walk
B. Get a ride
C. DART
D. Other _____

9. Did you ever use San Diego Transit Route 12 when it served Paradise Hills? ___ (85)

1. Yes -- **Continue with Question 9a, (below).**
2. No -- **Skip to Question 10, (next page).**

9a. Did you use Route 12 when it ran directly into National City? ___ (86)

1. Yes
2. No

9b. How did you get to the bus stop when you rode Route 12? ___ (87)

1. Walk
2. Get a ride
3. Taxi
4. Other _____

9c. How would you compare the current DART service to Route 12? Would you say it is BETTER, WORSE, or ABOUT THE SAME ___ (88)

1. Better
2. Worse - - - - **Continue with Question 9d, (below).**
3. About the same - - - - **Skip to Question 10, (next page).**

9d. Why? **(Specify all reasons)** ___ (89)

_____

_____

_____

_____

_____

_____

10. What is your current address? **(Get nearest intersection if respondent refuses to give address.)** ___ (90)

_____

11. How long have you lived at this address? ___ (91)

1. Less than 6 months
2. 6 months to 11 months
3. 1 to 5 years
4. More than five years

12. How many vehicles in running condition do you have in your household? ___ (92)

0. None
1. One
2. Two
3. Three or more

13. How many persons are there in your household? ___ (93)

14. What is your age? ___ (94)

1. Under 16
2. 16-18 years
3. 19-24
4. 25-44
5. 45-64
6. 65 or over

15. **Code sex of respondent. Ask if not sure.** ___ (95)

1. Male
2. Female

16. What is your main occupation? ___ (96)

1. Employed -- Civilian
2. Employed -- Military

-- Continue with Question 16a, (below).

3. Student -- **Continue with Question 16b, (next page).**
4. Housewife
5. Retired -- **Continue with Question 17, (next page).**
6. Unemployed

16a. In what area of the San Diego region do you work? ___ (97)
(Prompt if necessary)

1. Paradise Hills
2. National City
3. Chula Vista
4. Downtown San Diego
5. Military Base **Specify:** _____ ___ (98)
6. Spring Valley
7. Lemon Grove
8. Other **Specify:** _____ ___ (99)

16a1 How do you usually get to work? ___ (98)

1. Drive alone
2. Carpool/vanpool
3. DART and bus
4. Bus or trolley only (that is, without DART)
5. Other **Specify:** _____ ___ (99)

SKIP TO QUESTION 17, (next page)

16c. Where do you go to school? **(Ask for specific site.)**

_____ ___ (100)

16b1 How do you usually get there? ___ (101)

1. Drive alone
2. Carpool/vanpool
3. DART and bus
4. Bus or trolley only (that is, without DART)
5. School bus
6. Other **Specify:** _____

17. How often do you shop at **(Read locations listed below)**? ___ **(102)**

After downtown San Diego ask:

Is there any other place where you shop regularly?

For each location where respondent shops, ask immediately:

17a. Do you ever use DART when you travel there? ___ (103)

Location	Once a Week or More (1)	Once a Month or More (2)	Less than Once a Month (3)	Never (4)	Use DART? Yes (1)	Use DART? No (2)	
Paradise Hills							__ __ (104-105)
National City							__ __ (106-107)
Plaza Bonita							__ __ (108-109)
Downtown San Diego							__ __ (110-111)
Other							__ __ (112-113)
Other							__ __ (114-115)

18. What is the approximate total yearly income of those persons living in your household? I will read you a list of ranges. Please stop me when I read the right one? ___ (116)

1. $5,000 or under
2. $5,001 - $10,000
3. $10,001 - $15,000
4. $15,001 - $25,000
5. $25,001 - $35,000
6. Over $35,000
7. Refused/Unknown

19. What improvements would you like to see made to DART or bus service?
(Check all that apply. Do not prompt.)

A. DART should run on weekends ___ (117)
B. DART should run later in evening ___ (118)
C. Should be able to use Saver Pass on DART ___ (119)
D. Should be able to use DART to travel to more places in Paradise Hills ___ (120)
E. Should not have to call so far in advance for DART service ___ (121)
F. DART should be more reliable ___ (122)
G. Buses should be more reliable ___ (123)
H. Other(Specify: _____ ___ (124)
I. _____ ___ (125)
J. _____ ___ (126)

20. Do you have any specific comments to make about DART?
(Code 1 if there are any comments.) ___ (127)

_____
_____
_____
_____
_____

APPENDIX H

DART DRIVER LOGS

DART

PASSENGER TRIP LOG
FIXED ROUTE FEEDER & BASE DAY SERVICE

DATE: _____ TIME: _____ (START) / _____ (FINISH) VEHICLE TRIPS: _____

DRIVER: _____

VEHICLE: _____ ODOMETER: _____ (START) / _____ (FINISH) PASSENGERS CARRIED: _____

NO. PASS	PICKUP			DROPOFF			NON-XFR V	FARE/XFR FF, T, T/U, E&H, E&H/T	MISC.
	TIME	LOCATION/ BUS ROUTE	ODOM.	TIME	LOCATION/ BUS ROUTE	ODOM.			

DAILY FARE COLLECTION

	NUMBER OF PASSENGERS	FARE PER PASSENGER	TOTAL FARE
OUTBOUND			
A. FULL FARE		$1.00	
B. E & H		$0.40	
C. INTRA-DART TRANSFER		0	
INBOUND			
D. NON-TRANSFER, FULL FARE		$1.00	
E. NON-TRANSFER, E & H		$0.40	
F. TRANSFER WITH UPGRADE		$0.20	
G. EXPRESS TRANSFER		0	
TOTALS			
H. TOTAL CASH FARE (A + B + D + F = H)			
I. TOTAL TRANSFERS (C + F + G = I)			

RUSH HOUR SERVICE

	5:43 3:51		6:13 4:21		6:43 4:51		7:13 5:21		7:43 5:51		8:13 6:21		8:43 6:51	
	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON
Morningside & Cumberland														
Winchester & Reo														
Rancho Hills & Reo														
Rancho Hills & Homedale														
Seascape & C. Tres Lomas														
Keen & Calle Quebrada														
Altaview & Doriana														
Homesite & Viewpoint														
Cumberland & Calle Quebrada														
Saipan & Potomac														
Saipan & Munda														
Oriskanay & Bairoko														
Ranger & Saipan														
Ridgewood & Altamont														
Flintridge & Potomac														
16th & Highland														
To/From SDT 29														
To/From NCT 601														

Arrival Times at 16th & Highland

DART							
SDT 29							

Date: ____ /____ /____ Vehicle # _____ Driver: _____

End Odometer: _____
Begin Odometer: _____
Total Miles: _____

Shift: AM / PM (circle)

"DRIVE SAFELY"

☆ U. S. GOVERNMENT PRINTING OFFICE: 1986--601-147--20,220

400 copies