

Comparison of Transportation Demand Management Market Research Study Results and Transportation Management Association Development in Three Suburban Activity Centers

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A focus of transportation demand management (TDM) planning and implementation efforts in suburban Orange County, California, has been at the activity center level. The efforts have entailed organizing activity center employers to participate in TDM planning through transportation management associations (TMAs) or other related groups and then establishing and implementing TDM programs at the centers. Market research studies are conducted to assist in planning and implementation at each center. A comparison of TDM planning, TMA development, and program implementation efforts in three activity centers is presented in this paper. The activity centers represent each section of the county: Newport Center in the south, South Coast Metro in the center, and Brea in the north. A brief description of each area is provided, followed by the study methodology, survey results, and, finally, the status of TMA and program implementation efforts. The activity centers not only represent different regions, employment compositions, and levels of involvement and commitment from the cities and business communities, but also different stages in program development. Therefore, comparisons between the centers are provided throughout the paper and similarities and differences are reviewed in the conclusion.

Typical of other suburban areas throughout the country, Orange County, California, has experienced unprecedented growth in jobs and population. In fact, during the 1970 to 1980 decade, Orange County was the third fastest growing county in the nation. The urbanization trend in Orange County has resulted in the emergence of at least 11 major activity centers. These centers cumulatively accounted for over 300,000 jobs in 1985 and are expected to contain more than 425,000 jobs (a 42 percent increase) by the year 2000.

The county's current transportation infrastructure has already been overburdened by existing travel demand associated with these centers. Even with planned and programmed improvements to the transportation network, commute times will continue to lengthen and commuter stress will become more pervasive during peak hours. Public agencies are attacking the problem with a complexity of programs and actions aimed at enlarging the local transportation system, but the initiation

of transportation demand management (TDM) actions within the activity centers is the additional ingredient needed to enhance commuter mobility in Orange County.

TDM entails a variety of techniques that lower the demand placed on the transportation system, thereby maximizing its ability to carry traffic. Examples of TDM strategies include carpooling, vanpooling, transit, alternative work hour programs, telecommuting, on-site services, and parking management. Experiences such as the 1984 Olympics have demonstrated that these techniques can be useful in reducing congestion and that they can be effectively implemented through localized transportation planning. This paper describes the efforts of the Orange County Transit District (OCTD) in conducting such localized demand management planning in three suburban activity centers in Orange County.

OVERVIEW

The OCTD has worked extensively with a number of different activity centers in Orange County that have been identified for localized demand management planning and program implementation. The goals of these efforts are to

- Organize activity center employers to participate in TDM planning through transportation management associations (TMAs) or other related groups;
- Plan, develop, and implement TDM strategies at each activity center;
- Work with city and county planning agencies to include them in the TDM planning effort and to implement municipal TDM measures; and
- Coordinate TDM plans with transportation strategies planned by city, county, and state agencies along major transportation corridors in Orange County.

DESCRIPTION OF THREE ACTIVITY CENTERS

The three activity centers discussed in this paper represent different geographic regions in the county, different employ-

ment compositions, different levels of involvement from the local cities and business communities, and different stages of program development. The location of the three activity centers, Newport Center, South Coast Metro, and Brea, relative to each other, is depicted in Figure 1. A brief background description of each of these areas follows.

South Coast Metro

South Coast Metro lies within the cities of Costa Mesa and Santa Ana covering an area of 3.5 sq mi (see Figure 2). South Coast Plaza, one of Orange County's largest retail shopping centers, is a core area offering a variety of retail shops and restaurants. In addition to the Plaza, South Coast Metro contains over 5.2 million sq ft of office space, over 5,000 residential units, and a performing arts center.

Almost three-fourths of the firms in the Metro represent the retail trade and service industries (42 percent and 32 percent of the firms, respectively). The area contains approximately 1,114 employers with a total of about 25,545 employees. The employment composition by employer size is shown in Table 1.

Newport Center

Newport Center consists of a shopping center surrounded by a series of professional office buildings, a library, and an art museum. The geographic boundaries are shown in Figure 3.

Services and retail trade are the major industries in Newport Center (44 percent and 27 percent of the firms, respectively). There are about 745 employers with approximately 10,500 employees in the center (see Table 2).

Brea

The Brea activity center is centered around the Brea Mall and the business development along the Orange Freeway (Freeway 57). The financial center and Brea's civic and cultural center are also located within the activity center. The geographic boundaries are shown in Figure 4.

Manufacturing and retail trade are the two most common industries, accounting for almost two-thirds of all firms (29 percent each). There are an estimated 57 employers within the activity center with 50 or more employees, and these firms employ an estimated 15,150 people. The employment composition is shown in Table 3.

TDM MARKET RESEARCH STUDY

The TDM Market Research Study consisted of a separate study in each of the activity centers. These market research studies were conducted to assist in planning and implementing TDM programs. The studies were valuable for a number of reasons. First, before TDM actions could be planned and implemented at an activity center, it was necessary to obtain information about the appropriateness of strategies for that area. In addition, potential members of the TMA or other

planning organization were identified in the course of the studies. Finally, the results of the studies demonstrated area-wide support within the business community for TDM planning and implementation efforts, which facilitates employer involvement in programs.

Objectives

All three TDM market research studies had the following objectives:

- Provide reliable estimates of current employee commuting behavior at the center;
- Provide information on current employer initiatives and support concerning employee transportation; and
- Assess the employee and employer market potential for various TDM techniques, including carpooling, vanpooling, alternative work hours, telecommuting, and parking management.

Sampling Methods

The sample selection varied slightly from one area to another. In South Coast Metro, a representative sample was obtained from a listing of all employers with six or more employees derived from a countywide data base. Data collection was conducted during October and November 1986. Data were collected from 2,600 employees, which represented an overall response rate of 56 percent. One hundred and forty-four employer surveys were completed, which represented a 49 percent response rate; the response rate for large organizations (more than 100 employees) was substantially higher (80 percent). Interviews were completed with members of senior management of 24 of the 37 largest firms in the area, for a 65 percent response rate.

In Newport Center, the sample was derived from a listing, by size, of all firms in the area. The listing, which was updated 1 month before survey administration, was obtained from Newport Center's transportation coordinator. Of the 341 companies approached, a total of 134 participated in the study, for a 56 percent response rate; the response rate for large companies (more than 100 employees) was high (93 percent). Data were collected from 2,333 employees, which represented a 30 percent response rate.

In Brea, a representative sample was derived from a list of all firms in the area with 50 or more employees. Of the 51 firms approached, a total of 39 participated in the study, for a 76 percent response rate. Data were collected from 2,164 employees, which represented a 34 percent response rate.

Instruments

In the South Coast Metro and Brea studies, three survey instruments were developed: an employee questionnaire, an employer questionnaire, and a survey designed to be administered in a face-to-face interview with company executives.

In Newport Center, a senior management survey was not used, but employee and employer questionnaires similar to



FIGURE 1 South Coast Metro, Newport Center, and Brea activity centers.

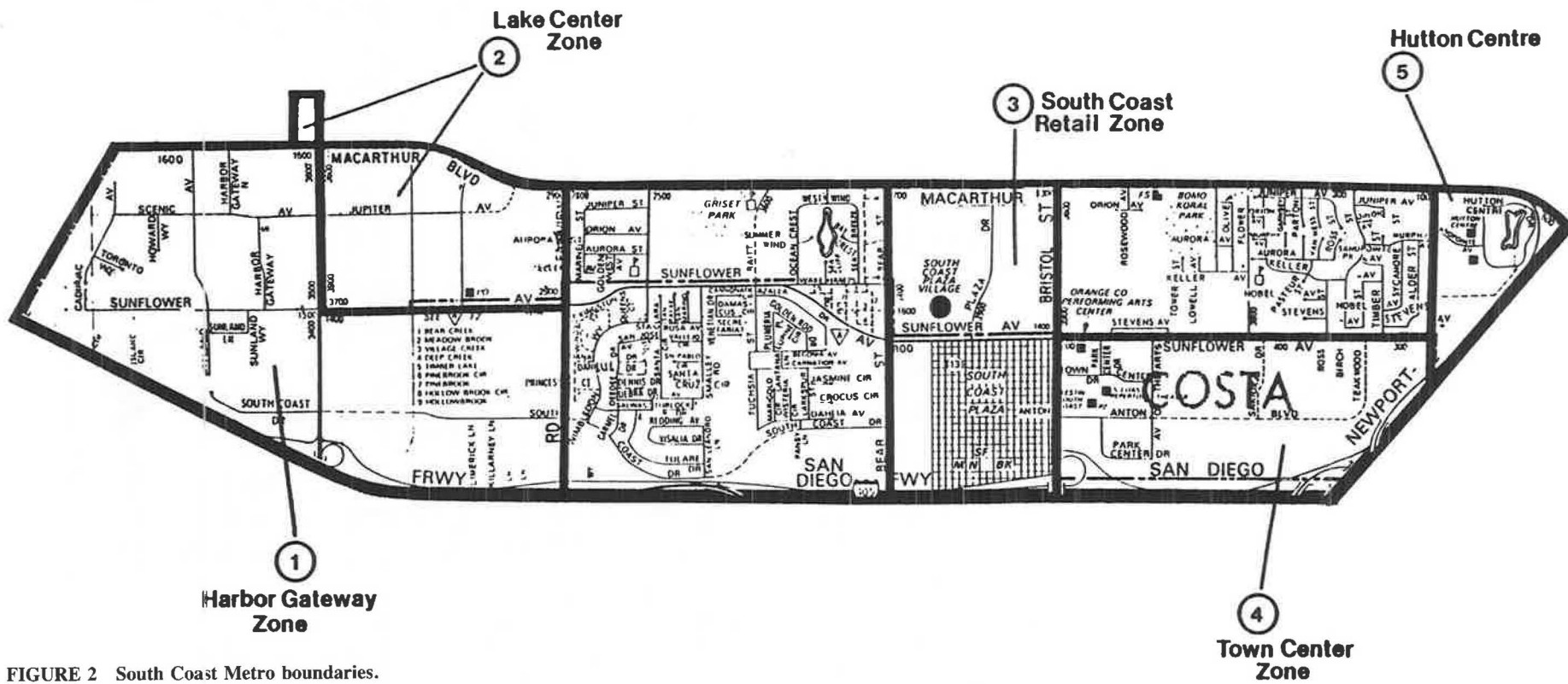


FIGURE 2 South Coast Metro boundaries.

TABLE 1 SOUTH COAST METRO EMPLOYMENT COMPOSITION BY EMPLOYER SIZE

Size (Employees)	No. of Employers	Percentage of Employers	No. of Employees	Percentage of Employees
1-5	617	55	1,851	7
6-25	376	33	4,498	17
26-50	53	5	2,014	8
51-100	29	3	2,204	9
100+	39	4	14,978	59
	1,114	100	25,545	100

TABLE 2 NEWPORT CENTER EMPLOYMENT COMPOSITION BY EMPLOYER SIZE

Size (Employees)	No. of Employers	Percentage of Employers	No. of Employees	Percentage of Employees
1-4	300	40	799	8
5-19	345	46	2,793	27
20-99	86	12	2,575	24
100+	14	2	4,333	41
	745	100	10,500	100

those used in the other two areas were developed. The objectives of the employee survey were to assess

- Commuter travel characteristics including current mode and willingness to consider alternatives, trip distance, travel time, and origin and destination of work trip;
- Employee work schedule characteristics; and
- Employee need for a car before, during, and after work.

The objectives of the employer survey were to obtain a descriptive profile of employers including

- Parking costs and availability;
- Availability of on-site services;
- Ridesharing incentives offered; and
- Work schedule policy.

The objectives of the senior management survey were to

- Obtain senior management's perception of traffic conditions;
- Obtain the perception of the effects of traffic on the organization; and
- Assess the willingness to participate in a cooperative effort to help solve traffic problems.

STUDY RESULTS

Perception of Congestion and Stress

As shown in Figure 5, employees perceived significant and similar levels of congestion in all three areas. In Brea, 16 percent felt that commuting to work was more stressful than

their other daily activities; whereas in South Coast Metro, about a fourth (28 percent) reported this level of stress.

Given a list of social issues, senior management executives in both Brea and South Coast Metro indicated that traffic congestion affected their company more than any other issue (see Table 4). The table also shows that traffic congestion is perceived as a problem by more executives in South Coast Metro than in Brea.

In both South Coast Metro and Brea, about one-fourth (21 percent) of the executives would consider relocating if traffic conditions got worse. Executives in both areas believed that employers not only have a responsibility to help reduce traffic problems, but that it is in the long-term self-interest of business to get directly involved in reducing traffic congestion (see Table 5).

Executives in both Brea and South Coast Metro noted that traffic conditions affected company operations in many ways. The questions were presented in different ways (i.e., open-ended in South Coast Metro, but with effects listed in Brea), so responses cannot be compared. In Brea where respondents were asked about each effect, more executives indicated that traffic had an effect on employee tardiness (53 percent), client/customer access (39 percent), and productivity (36 percent) than on other areas. In the South Coast Metro study where the question was open-ended, the executives cited delivery of products (29 percent), as well as employee tardiness (29 percent) and client/customer access (21 percent), as the major effects of traffic conditions on company operations.

Commute Mode

As shown in Figure 6, driving alone was the predominate commute mode in all three areas.

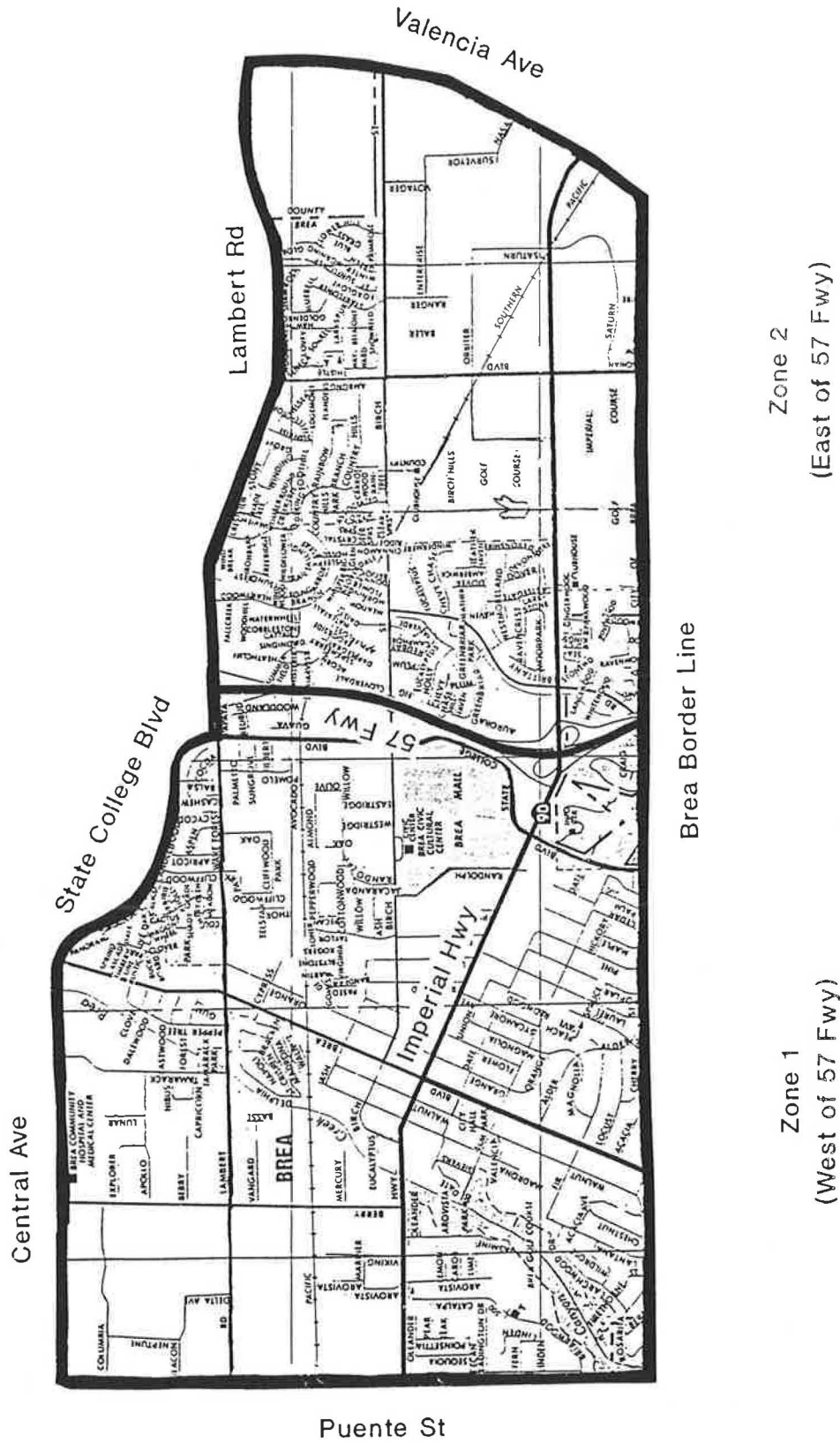


FIGURE 4 Brea boundaries.

TABLE 3 BREAA EMPLOYMENT COMPOSITION BY EMPLOYER SIZE (50+)

Size (Employees)	No. of Employers	Percentage of Employers	No. of Employees	Percentage of Employees
50–100	16	28	1,200	8
101–250	24	42	4,200	28
251–500	8	14	3,000	20
500+	9	16	6,750	44
	57	100	15,150	100

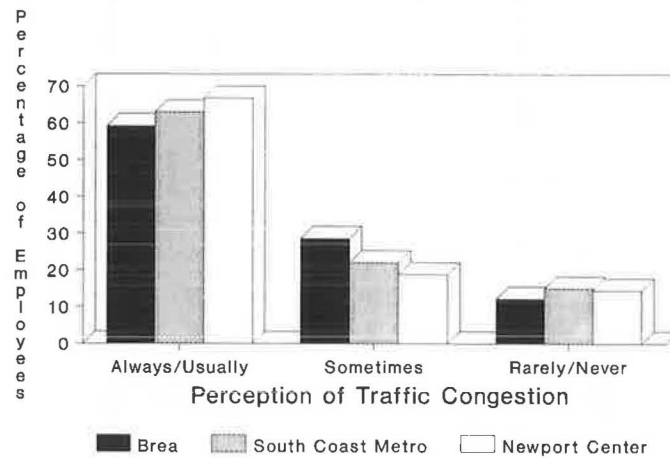


FIGURE 5 Comparison of employee perception of traffic congestion for the three activity centers.

TABLE 4 SENIOR MANAGERMENTS' PERCEPTIONS OF THE EFFECTS OF SOCIAL ISSUES ON THEIR ORGANIZATION

Social Issue	Percent Indicating Issue Affects Company ^a	
	South Coast Metro	Brea
Traffic congestion	88	55
Affordable housing	54	46
Parking	33	36
Quality of schools	25	31
Crime	17	32

^aDoes not total 100% due to multiple response.

Levels of Employer Support

In Brea and South Coast Metro, large employers (i.e., 100 or more employees) were more likely to provide support for ridesharing than small employers. In all three areas, employers were more likely to provide information than to offer any active assistance or operational support (see Table 6). As also shown in Table 6, Newport Center employers were more active in providing information to employees. This finding is probably the result of the efforts of "Centeride," a TDM program supported by OCTD and The Irvine Company, a major developer. Several advertising and promotional campaigns were conducted in Newport Center as part of the program in a 6-month period preceding the survey.

TMA DEVELOPMENT

As mentioned previously, each of the three activity centers represents a different stage in the development of areawide TDM programs. Part of areawide program planning and implementation includes the establishment of TMAs. The term TMA has been used to describe a wide range of different organizational arrangements that have in common a major goal to coordinate a private sector response to local traffic problems. A TMA can be a committee of a local chamber of commerce or a separate nonprofit organization. Generally, these organizations focus on TDM techniques to accomplish their goals. The status of each of the activity centers with regard to TMA and TDM program development will be described in the next sections.

Newport Center

On May 18, 1986, a major developer, The Irvine Company, contracted with OCTD to establish a field office and TDM program called "Centeride" in Newport Center. The agreement provided funding for a full-time staff member (OCTD) and for promotional materials. The first-year objectives of this program were to conduct a ridesharing campaign and to investigate the potential for other demand management strategies. The TDM Market Research Study presented in the previous sections fulfilled the second objective.

TABLE 5 SENIOR MANAGEMENT PERCEPTION OF THE RESPONSIBILITY OF EMPLOYERS

Statement	Percent in Agreement	
	South Coast Metro	Brea
Employers have a responsibility to help reduce traffic problems in area	83	82
Attempting to solve transportation problems does <i>not</i> interfere with main purpose of business	76	64
It is in long-run self-interest of business to get directly involved in reducing congestion	92	86

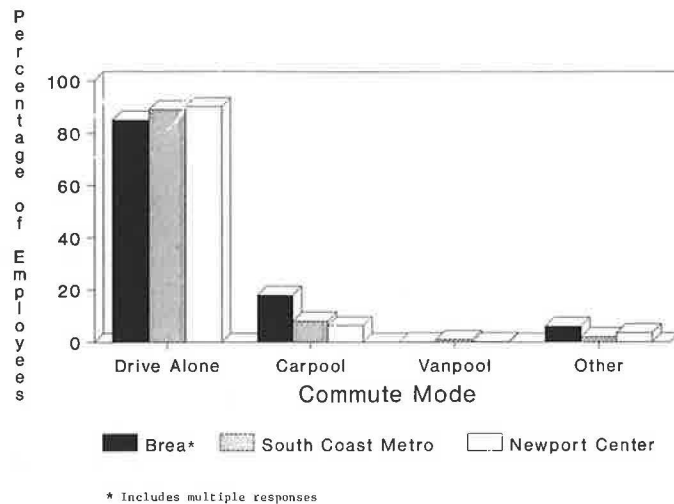


FIGURE 6 Comparison of commute modes for the three activity centers.

The results of the study were presented to the Newport Center Association (NCA) on June 25, 1987. The presentation was attended by area employers, NCA members, the Mayor, and members of the Newport Beach City Council, city staff, and planning commissioners.

At a second meeting, held on July 23, 1987, decisions were made to establish an executive task force (ETF) representing the city and large employers in Newport Center. The task force members volunteered their own organizations to be pilot companies in cooperation with the Centeride program staff to set an example for how other organizations might take part in the future.

The contract between OCTD and The Irvine Company for the Centeride program has been extended through January 2, 1989. Efforts are currently directed toward obtaining private-sector funding from Newport Center companies to continue the program because OCTD will discontinue funding participation at that time.

South Coast Metro

The South Coast Metro Alliance was founded in 1985 to market the area and also in response to a study sponsored by the

Orange County Transportation Commission (OCTC), which concluded that there was potential for a TMA to be effective in alleviating travel demand in the center. The focus of the first 2 years' activities were on advertising campaigns designed to promote South Coast Metro.

In 1986, OCTD initiated the TDM Market Research Study described previously. A presentation was made to an ETF composed of business leaders in September 1986, which described the proposed study and introduced the TMA concept. The study was completed in April 1987, and the results were presented to the ETF, developers, and city and county officials in the area (27 in attendance). An action plan was subsequently developed and approved that addressed both transportation system and demand management strategies.

A joint privately (South Coast Metro Alliance and ETF) and publicly (OCTD) funded field office has been established in the center to implement the plan. The South Coast Metro Alliance is contributing 50 percent through a 1 cent per sq ft assessment of each of its members, and OCTD is providing matching funds. The ETF is presently filing for nonprofit status and will become an equal funding partner when that is accomplished.

In addition to providing information for development of the Action Plan, the study results have and will continue to

TABLE 6 COMPARISON OF LEVELS OF EMPLOYER SUPPORT FOR RIDESHARING

Support	Percent of Employers ^a		
	South Coast	Newport	Brea
Information			
Display bus schedules/maps	20	58	15
Distribute ridesharing information	23	59	26
Distribute lists of carpool partners	20	11	21
Prepare (AQMD) ^b Traffic Abatement Plan	17	—	24
Publish articles in newsletter	—	—	5
Active assistance			
Employee transportation coordinator	7	—	26
Conduct meetings—potential riders	0	—	10
Identify riders for car/vanpools	3	—	21
Onsite bus promotions	—	—	0
Operational support			
Operate vanpools	7	—	3
Subsidize car/vanpools	0	—	8
Preferential parking for carpools	10	3	10
Sell monthly bus passes	10	4	5

^aRepresents employers 100+ in Brea and SCM; all 134 in Newport.

^bSouth Coast Air Quality Management District.

be used in planning new programs and services. An OCTD express bus service serving South Coast Metro from two locations in the county has been established based on the employee trip origin information obtained in the study. Plans are also under way for several new projects including on-site services, parking management, a guaranteed return trip program, and intercompany vanpooling, based on study results.

Brea

In March 1988, the city of Brea through its Economic Development Committee (EDC) organized a Traffic Management Program (TMP) Steering Committee. The TMP Steering Committee was composed of representatives from the EDC, the city of Brea, the Brea Chamber of Commerce, OCTD, and several employers. Under the leadership of the steering committee, OCTD conducted the TDM Market Research Study described previously.

The results of the study will be presented to the TMP Steering Committee in September 1988, and a task force will be established to review the study in more detail and recommend an action plan by January 1989.

CONCLUSIONS

In spite of the fact that the three activity centers described in this paper represent different regions and employment composition, there were similarities in perception of congestion, role of business, and commute modes. In all three areas, a majority of employees reported that the freeways used during

their commutes were usually or always congested. In both areas where management was interviewed, executives felt that employers not only have a responsibility to help reduce traffic problems in their area but that it is in the long-term self-interest of business to get directly involved in such efforts. In all three areas, about the same level of solo commuting exists.

The major difference in the study results from the three centers illustrates the impact that an areawide TDM program can have. In Newport Center, employers—even those with fewer than 100 employees—were much more active in providing information to their employees than in the other two areas. Centeride, a TDM program for Newport Center, had been in operation for 6 months preceding the study and the focus of the efforts had been on dispersal of ridesharing information.

The three areas represented different levels of involvement from the cities and business community and different stages of TDM program and TMA development. One of the most salient observations is that in Brea, where there has been much support from all of the key parties—the city, developers, and the business community—for a cooperative private- and public-sector effort, progress toward TMA and TDM program development is moving more swiftly than in the other areas. It is possible that within 1 year of establishing a TMP Steering Committee, there will be a Traffic Management Action Plan and a mechanism established for program implementation. In contrast, in both South Coast Metro and Newport Center, the process was more lengthy.

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