Southwestern Connecticut Commuter Transportation Study: An Analysis of Commuter Attitudes and Practices on Connecticut's Gold Coast

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Southwestern Connecticut commuters expend more than a minimum of time and effort to get to work each day. Increasing traffic congestion along the state's "Gold Coast" (so termed because of its cluster of high-income towns and corporate headquarters) and its accompanying strain on air quality and lifestyle have mobilized the public and private sectors to begin to seek effective solutions to the problem. The Southwestern Connecticut Commuter Transportation Study was conducted to better understand the Connecticut commuter and to develop effective programs to move commuters out of their single-occupant vehicles and into alternative forms of commuting. At the time of this survey, Connecticut had no trip reduction ordinances or other catalyst in place to move employers toward implementing comprehensive transportation demand management programs at the worksite. With the 1990 Clean Air Act Amendments, Southwestern Connecticut, as a severe nonattainment area for ozone, will require employers to implement trip reduction programs and to increase the average passenger occupancy of vehicles arriving at their worksite by 1996. Basic information on commuter attitudes and practices is necessary to develop programs that will attain this significant shift in commuter behavior.

Over the past decade, southwestern Connecticut has earned a position as a key employment center of the New York metropolitan area. Termed the state's "Gold Coast" because of its cluster of high-income towns and corporate headquarters, the region provides over 200,000 jobs for workers who live both within and outside its borders. The area grew quite rapidly through the 1980s; between 1980 and 1987, total employment in the region increased more than 20 percent.

The result of this rapid growth was traffic congestion on the area's roadways. This traffic congestion is expected to worsen. Despite current and future highway construction, traffic volume will continue to outpace highway capacity. By the year 2010, traffic volume in southwestern Connecticut is expected to increase more than 35 percent over 1989 levels.

For many employees, the commute to work on the region's congested highways can be troublesome. High housing costs have contributed to congestion by requiring longer distance—and more tedious—commutes. There is a demonstrated need for organizations to explore possibilities for promoting alternatives to single-passenger automobile travel.

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There is a unique challenge in convincing southwestern Connecticut commuters to switch from driving alone to an alternative mode of commuting. Despite a relative wealth of other options, including train, bus, express bus, carpool, and vanpool programs, commuters to and within southwestern Connecticut have developed an attachment to their automobiles that transcends convenient transportation and has become almost an obsession. This prevailing attitude, plus land use practices that have placed many new corporate centers far beyond the limits of the region's rich transit resources, makes an accurate portrayal of commuter attitudes and practices an essential first step to managing demand on the region's highways.

The Southwestern Area Commerce and Industry Association (SACIA), and MetroPool, Inc., the regional commuter mobility company serving southwestern Connecticut and the lower Hudson Valley region of New York, joined in partnership to sponsor this study.

Both planning and promotional goals were considered in formulating this study. By providing statistically valid descriptive information about commuting behavior as well as marketing-oriented information relevant to commuting alternatives, the study would help SACIA and MetroPool to plan transportation management programs and would provide guidance for positioning and developing campaigns that would promote alternatives to driving alone.

The procedures used in carrying out the research and the findings that emerged are documented. Three other studies (one east of the survey area in the next employment center, one statewide, and one in southern California) and the manner in which these findings compare with selected findings of the SACIA/MetroPool study are reviewed.

STUDY METHODOLOGY

The data collection instrument for the study was a highly structured questionnaire designed for easy self-completion. Respondents were asked about the characteristics of their commute to and from work (e.g., mode of travel and duration); their feelings about their commute; their willingness to switch to alternative travel modes; their reactions to possible incentives for switching travel modes; the reasons they prefer driving alone; and various demographic data.

The respondents were employees of companies chosen from a list of companies within the southwestern Connecticut region. Out of a possible 150 major firms, 135 firms were contacted to participate. A cover letter explaining the purpose of the study and asking for company participation was developed and mailed by SACIA to each company's chief executive. The high response rate was a direct result of a business organization asking for company participation—businesses networking to look at their region's transportation problems.

Cooperating companies were asked to distribute the questionnaire to all employees, regardless of mode of travel and region of residence. The questionnaires were distributed in May, June, and July 1989. By July, a total of 40 companies had cooperated with the study, distributing questionnaires to their employees and securing their return. This process yielded a return of 4,769 questionnaires completed by individual employees of these companies.

For data processing purposes, it was decided to include all respondents in the final sample. Although the sample size was large, it was felt that the sample would permit a breakdown by individual company for separate analysis and presentation, and would also allow examination of small subgroups of individuals who use alternative modes of commuting.

A tabulation plan was developed by the study team. Cross tabulations were designed to allow examination of the data by such variables as current mode of travel and willingness to switch to alternative modes.

THE REGIONAL PICTURE

Demographics

Commuters to major work sites in southwestern Connecticut who responded to the survey are moderately young, with most (59 percent) falling in the 25 to 45 year old age bracket. Only 12 percent are below age 25, and 12 percent are above age 55. Reflecting the concentration of corporate headquarters and related service businesses in southwestern Connecticut, there are heavy concentrations of managerial or administrative, professional or technical, and clerical workers (see Figure 1).

The majority (95 percent) of respondents have an automobile available for their commute. Most come from households in which two or more people are employed, and have lived at their current residences for 8 to 9 years, on average.

Modes of Transportation

In a statewide telephone survey sponsored by the Connecticut Department of Transportation at about the same time as the SACIA/MetroPool survey, 83 percent of commuters reported driving alone to work. However, among the SACIA/MetroPool survey respondents, 92 percent drive alone to work (Figure 2). Use of carpools by survey respondents is slight; use of vanpools, trains, and buses even less.

Survey respondents not only do not use alternative modes now; they have little previous experience with commuting other than alone. Fewer than one in five (18 percent) have ever carpooled, on either a full- or part-time basis. Past train usage is slightly lower (14 percent). A small number of survey respondents have had experience with vanpools or buses (5 percent).

Hours and Duration of Travel

Survey respondents compete with plenty of other drivers for road space during their daily commutes, because of peak travel patterns and their relatively lengthy trips to work. In the morning, as many as half of them are beginning their commute within the 1-hr time period between 7:00 and 8:00 a.m.

During the evening rush period, most travel is initiated within a 1- to 1½-hr time frame between 4:30 and 6:00 p.m., with the 4:30- to 5:30-p.m. period representing the heaviest travel.

For most respondents, the trips to and from work represent a significant block of time (see Figure 3). Most have a trip of 21 min or more. The average lengths of the commute to work and the return home are 33 and 34 min, respectively. The proportion of respondents with a lengthy commute of more than 1 hr is fairly limited, but these dedicated commuters do exist.

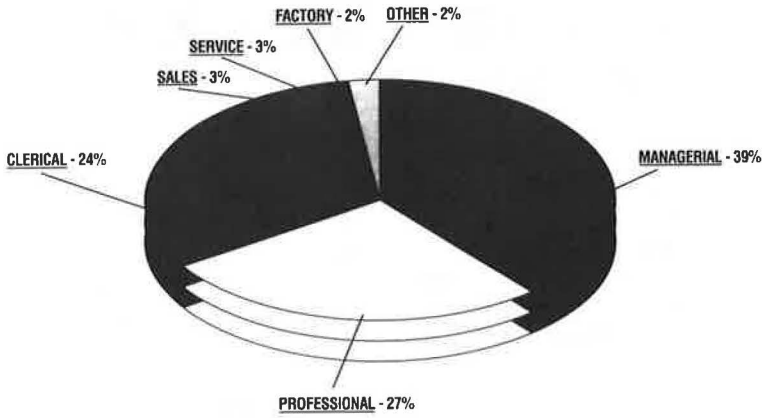

FIGURE 1 Survey respondents by occupation.

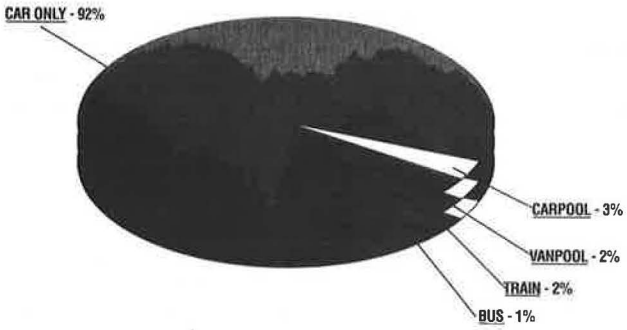

FIGURE 2 Principal commuting modes.

Changes in the Commuting Situation

With the rapid growth of employment in southwestern Connecticut, commuting to work is unlikely to be any easier now than it was several years ago. The survey respondents agreed. Although about half of the respondents report that the duration of their commute now compared to 1 or 2 years ago has remained the same, nearly one-third feel that their commutes have lengthened during this period.

Few respondents (9 percent) feel that they have a shorter commute. In fact, the commute has become more, rather than less, challenging over the past 1 to 2 years (see Figure 4). Although some respondents feel that the ease of their commute has remained the same, as many as one-third rate it "somewhat more difficult." Some are even suffering through "much more difficult" commutes. Those respondents commuting into the concentrated corporate areas of Stamford and Greenwich are especially likely to face greater difficulty in driving to work.

THE COMMUTER PROFILE ACCORDING TO MODE OF TRANSPORTATION

Demographic Profile

There are subtle demographic differences between those respondents who commute alone by car and the relatively small groups who are using alternative modes of travel. Because the percentage of drive-alone commuters is so large, it represents the demographic norm for all commuters.

The carpooling and vanpooling respondents are older than the survey average. The proportion of those under age 43 is 42 percent for carpoolers and 49 percent for vanpoolers. The number of professional or technical workers in these alternative commuter groups is mostly female and heavily concentrated in the 25- to 32-year-old age bracket. These train riders are also less likely than other respondents to have a car available for their use.

The small group of bus riders is virtually confined to women. This group consists mostly of clerical and factory workers, individuals under age 25, and those without automobiles at their disposal. This suggests that the bus may be their only means of transportation to work.

Commuting Positives

Although solitude and relaxation ranked high as commuting positives, the respondents' perception of the advantages offered by their commuting modes differs widely according to mode of travel (see Figure 5). For those who drive alone, time to be alone is the single most pleasant feature of their commute. A few solo drivers see their commute as a time to relax.

Carpoolers enjoy the cost saving and socializing opportunities afforded by their choice of commute mode. Vanpoolers see relaxation and saving money as strong advantages. The most relaxed commuters are those who take the train to and from work. Other advantages unique to the train commute are getting work done and sleeping.

Bus riders enjoy relaxation benefits (though less so than train riders and vanpoolers) and, occasionally, see their commute as a time to get work done and to socialize.

Automobile Commuting Advantages

Drive-alone commuters value flexibility. The main reason cited by nearly half of those using a car to commute alone to work is, "I can't be tied to a schedule." The unwillingness to commit to a schedule is stronger among managerial and professional

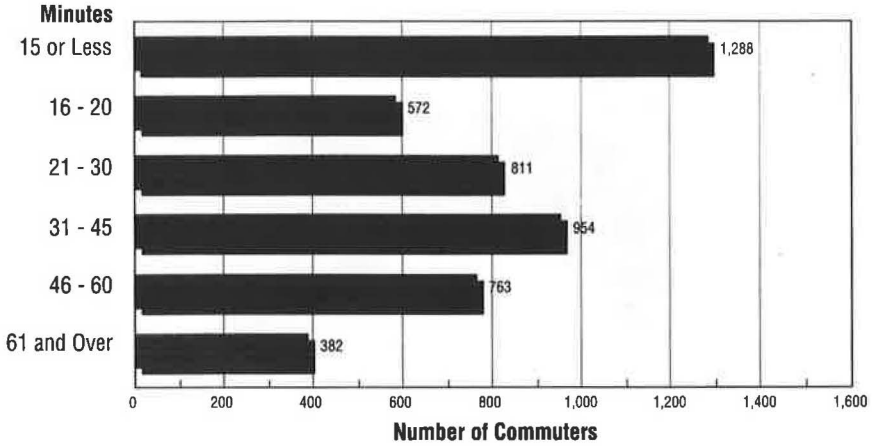

FIGURE 3 Lengths of commutes to work.

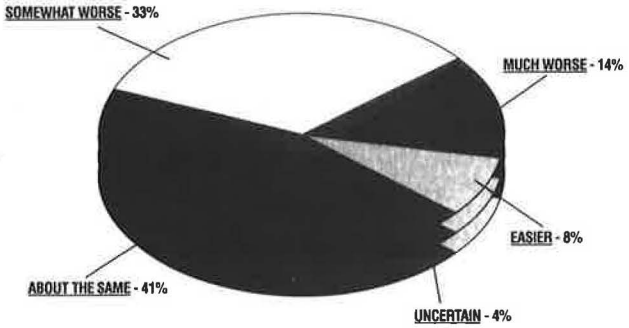

FIGURE 4 Perceived commuting difficulties today versus 2 years ago.

or technical workers (59 percent) than among clerical workers (37 percent).

Two additional strong reasons for commitment to driving alone also emerged: the belief that the commute is sufficiently short to prohibit other methods (36 percent), and the need for a car at work for personal reasons (33 percent). Some respondents dislike driving alone, but find other modes of commuting even less appealing.

Interest in Commuting Alternatives

The survey respondents are just moderately interested in commuting alternatives. Carpooling was the most likely choice of 24 percent of current drive-alone commuters if they were to change their method of commuting. Fourteen percent would choose the train, followed by express bus (8 percent), vanpool (8 percent), and local bus (4 percent). However, 48 percent would not consider any of these alternatives to driving to work alone in their cars.

Thirty-two percent of the drive-alone commuters surveyed would consider carpooling to work part time; 14 percent might take the train or express bus; 10 percent would consider vanpooling part time, and 7 percent the local bus. Another 32 percent would not consider any alternative to their current mode.

The two major categories of employees (professional, technical, or managerial and clerical or service) shared similar levels of interest in the various commuting alternatives. However, professional, technical, or managerial employees were slightly more likely to consider using the train full time (16 percent) or part time (17 percent) than clerical or service employees (12 percent full-time, 10 percent part-time train usage considered).

Willingness to Switch

Although the respondents, as indicated earlier, were able to indicate a preference when forced, there was little realistic consideration given to leaving their cars and actually making the change. Fewer than one in five (16 percent) said they considered switching their means of commuting in the past year. Among the small group of prospects (those who considered switching), the carpool and train, followed by vanpools, are the most appealing alternatives (see Figure 6).

Potential Advantages of Alternatives

Of those respondents who considered switching to alternative commuting modes over the past year, the benefit most sought (more than one benefit could be chosen) was avoiding the stress of driving (65 percent). Reducing expenses (54 percent), traffic congestion (47 percent), and accidents (35 percent) were also considered to be advantages of switching. Time to relax while they commuted appealed to 40 percent of the drive-alone respondents.

If they considered carpooling, they were seeking to cut down expenses (79 percent), reduce traffic congestion (60 percent), and relax (42 percent). Would-be vanpoolers were seeking reduced stress (82 percent) and expenses (69 percent), and more time to relax while commuting (52 percent). Potential train riders saw an advantage of avoiding the strain of driving (86 percent) and reducing the risk of accidents (51

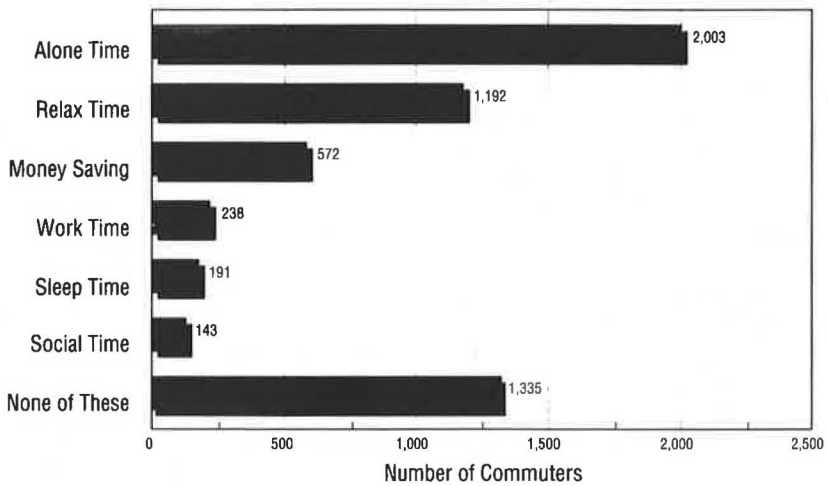

FIGURE 5 Most pleasant features of commutes.

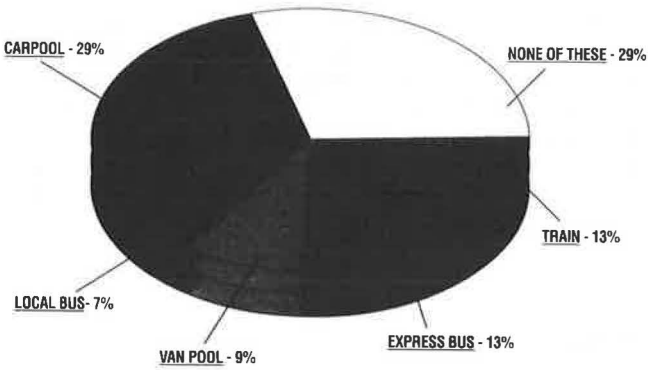

FIGURE 6 Modes that commuters would consider part time.

percent), and also valued the opportunity to relax while commuting (59 percent).

Potential bus riders emphasized reduced stress (81 percent), expenses (54 percent), congestion (56 percent), and accidents (56 percent), as well as relaxation (51 percent).

For prospective switchers in all occupational categories, reduced stress and expenses emerged as key benefits. Professional, technical, or managerial employees placed above average emphasis on the added benefits of relaxation time (53 percent) and time to work while commuting (23 percent). Clerical workers particularly valued the opportunity to reduce their risk of accidents (48 percent).

None of the commuter groups within the survey saw socialization opportunities, avoidance of parking problems, or freeing up cars for others in their households as significant benefits of alternative modes of travel.

Incentives for Switching

The variety of possible incentives available had only limited power in swaying respondents away from their personal automobile. In general, they appeared more likely to respond to the penalties of continuing their current commute behavior than to the possible rewards that could be associated with the alternative mode.

Incentives were ranked according to strong incentive to switch, would consider switching, and would still use my car.

The highest ranked motivation to switch, with the ability to strongly motivate 26 percent and to possibly motivate 23 percent of the respondents, is a $30- to $40-per-month parking charge at the work site. Other negative motivators included increased highway congestion (19 percent, strong motivator; 26 percent, possible motivator); loss of parking at the worksite (18 percent, strong motivator; 28 percent, possible motivator); and gasoline shortages or price increases (18 percent, strong motivator; 29 percent, possible motivator).

Of positive incentives to switch methods of commuting, flexible work hours appealed to 20 percent of respondents as a strong incentive to switch, and 18 percent as a possible motivator. Other positive incentives that had at least some power to motivate a switch in respondents included management commitment to alternatives (42 percent), an express bus to the work site (48 percent), and emergency transportation during the workday (40 percent).

The motivating power of certain incentives was especially apparent among those who would consider specific alternatives (this refers to subgroups who considered switching in the past year). Potential vanpoolers, in particular, would be more inclined to respond favorably to an express bus to the worksite (44 percent), emergency transportation home during the day (46 percent), and preferential parking for vans (35 percent). Potential train riders could be attracted by more frequent train service (53 percent), subsidized train fare (50 percent), and shuttles between the train station and work site (47 percent).

Would-be bus riders were likely to respond to an express bus to the work site (68 percent), subsidized fares (42 percent), and emergency transportation home during the day (43 percent). Most incentives carried equal weight across the various occupational categories.

Demographic Profile of Prospects

The demographic profile of drive-alone commuters who considered switching to an alternative mode differed somewhat from that of the total market, as well as from the profiles of those currently using the alternative.

The group of potential switchers to carpools, vanpools, and trains carried an above-average concentration of 25 to 34 year olds (47, 44, and 47 percent, respectively). Because the profiles of current carpoolers and vanpoolers were much older, this prospect profile revealed some opportunity to expand the market for alternatives.

Professional or technical and managerial or administrative employees made up the bulk of the prospect group for each alternative mode. The potential vanpool and express bus groups were mostly women (59 and 60 percent, respectively); the potential train riders group was 55 percent men.

IMPLICATIONS OF THE STUDY

The large number of respondents who currently drove alone to work by car were unlikely to automatically or easily switch to an alternative mode of travel. In fact, a significant subgroup (perhaps 30 to 45 percent of the total population) was virtually out of the market for alternatives, given the ease of their current commute.

However, there did appear to be opportunities to incrementally increase the proportion of commuters able and willing to make use of various alternatives. This was evidenced both by the number of drive-alone commuters able to consider the alternatives and the profile of potential switchers.

Because conversion is unlikely to be simple, it is apparent that active efforts by MetroPool, SACIA, and employers would be necessary to capture and actually move a significant proportion of this currently latent market.

The SACIA-MetroPool study uncovered several communication challenges. Marketing to potential ridesharers should relieve concerns about the regimentation that is associated with the alternatives—especially among the managerial or administrative sector. Awareness of the personal negatives associated with driving alone, like stress, should be reinforced.

The benefits that can be gained by switching to certain alternatives should also be highlighted. In all cases, this includes greater relaxation than is afforded by driving alone. There were specific advantages for each alternative, such as flexible scheduling, cost savings, and socialization (for carpools); maximum cost savings and greater ease of travel for the long-distance commuter (for vanpools); safety and a chance to get work done (for trains); and faster travel, cost savings, and safety (for buses).

The individual employer is likely to play a vital role in supporting change. Respondents feel that management commitment to alternatives is one of the key motivators to consider alternative modes of commuting. Flexible work hour schedules, financial incentives to decrease the cost of using alternatives, and rides home in case of emergencies (guaranteed ride home programs) are employer incentives that are likely to have a positive impact on employee willingness to switch commuting modes.

Certain new service offerings that would make train and bus travel easier may require the support of public officials as well as employers. Transportation directly to the worksite from the train station or bus stop, and improved parking at train and bus home site stations are examples of these potential new service improvements.

A core of commuters are responsive only to the penalties of driving alone by car to work. Imposing a daily dollar penalty for parking at the work site is the action most likely to sway such individuals.

Prime targets for potential switchers to alternative modes include those who travel more than 40 min to and from work—i.e., those who have the longest, most troublesome commute.

A COMPARATIVE LOOK AT OTHER COMMUTER STUDIES

Southern California Study by Commuter Transportation Services, Inc.

In 1989, Commuter Transportation Services Inc. (CTS) of Los Angeles conducted a telephone survey of over 1,200 commuters residing in Los Angeles, Riverside, San Bernardino, Ventura, and Imperial Counties.

These southern California commuters, like their counterparts in southwestern Connecticut, found that traffic was worse at the time of the survey than it was 1 year ago. The average length of the commute in the CTS survey was about 30 min to work, and 40 min home. This trip, as well as the trip of commuters in southwestern Connecticut, is greater than the national average of 20 min.

The fact that the commute is perceived as worsening on both coasts reinforces the industry-wide belief that traffic congestion, particularly during commuting hours, does indeed have a place on the national agenda of problems facing the country today.

Statewide Survey by the Connecticut Department of Transportation, 1989

In a telephone survey by the Connecticut Department of Transportation done at about the same time as the SACIA-MetroPool survey, almost one-third of the drive-alone respondents cited saving money as the primary benefit of sharing the ride to work. Southwestern Connecticut commuters believed that reduction of stress was the most desirable benefit to switching to an alternative mode.

In fact, those surveyed statewide placed less stress near the bottom of the list of benefits sought. Heavy traffic congestion in the southwestern area may cause more traffic-related stress in this part of the state than in others.

In the statewide survey, as in the SACIA-MetroPool survey, commuters responded more readily to the possible penalties imposed on their current behavior than to any rewards that might be sought. Heavy parking charges were a strong motivator to move into a ridesharing arrangement—up to 96 percent of those surveyed statewide indicated that they would be persuaded to rideshare if parking charges ranging from $50 to $150 per month were imposed.

Among other factors that might affect the commuters' willingness to switch their method of commuting, southwestern Connecticut commuters reacted more positively toward employer-based incentives such as management commitment to alternative modes, preferential parking, and flexible work schedules than did the respondents of the statewide survey, who essentially discounted the ability of any incentive (beside direct monetary compensation) to convince them to switch their commuting mode.

Survey of the Greater Bridgeport Area

MetroPool, along with business, planning, and transportation organizations serving the greater Bridgeport area of the state, conducted a survey similar to the original SACIA-MetroPool survey in the spring of 1990. This area lies about 30 mi east of the original survey area.

The two employment centers surveyed pulled employees from many of the same surrounding cities and towns. Commuters' attitudes about alternative modes were, as might be expected, similar among the respondents of both surveys. However, commuters in the eastern employment center were slightly more receptive to consideration of alternatives than those who worked further west—even though the commuters of the original study had longer, more stressful commutes. This result suggests that other factors, such as the demographic composition of the work force (particularly occupational titles and economic status) and exposure to alternative mode choices that are available in the area, affect commuter attitudes and their willingness to get out of their current commuting pattern.

The ability to gain information about the attitudes of commuters about various modes of commuting available to them has proven valuable in tailoring programs that promote the use of these alternatives. Similarly, the research gathered about specific commuting practices, both throughout an overall employment area and within specific companies, is essential in planning effective employer-based transportation demand management programs that meet the specific needs of the commuters and take advantage of the special mode choices available at the particular home and work site. By bringing together the public and private sector in the SACIA-MetroPool

survey, the attention of both the business community and the local and state governments could be focused on the increasing severity of the commuting situation in southwestern Connecticut—and a foundation of knowledge on which to build solid solutions to the problem could be provided.

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