

## **VI. Conclusions and Areas for Further Study**

### **A. Research Goals**

This document is one of several prepared as part of a survey and focus group research effort to explore factors that lead to successful and cost-effective employer-sponsored TDM programs. The original intent of the research was to provide input for the development of a guidance document that would assist employers to develop more cost-effective programs.

The research examined many characteristics of employer-sponsored TDM programs. Some, such as the TDM measures implemented, the location of the employer, type of industry, and other employer and site characteristics, had been examined in previous research. Their impacts on program effectiveness were thought to be reasonably well understood. It was expected that this research could heighten the understanding of their relationship to cost-effective programs.

Other characteristics, such as employers' reasons for beginning the program, the tools and processes they used to make TDM decisions, their timing of measure implementation, and the level and impact of public agency interaction in their programs, were new research topics. This research was intended to explore the relationship of these variables on employer program effectiveness and cost-effectiveness.

During the course of the research, it became clear that it would not be possible to draw firm conclusions about the impact of these factors on TDM cost-effectiveness. The data suggested that some program characteristics, such as existence of a comprehensive packages of TDM strategies, the presence of financial incentives for HOV use (or disincentives for SOV use), and employer site location in a downtown area, were associated with effective and cost-effective programs, but these relationships could not be clearly established due to difficulties in measuring both TDM program effectiveness and costs.

In light of such fundamental questions, the reviewers directed the researchers not to proceed with guidance on how employers could improve the cost-effectiveness of their programs, but rather to report on related recommendations raised during the research and to focus on the role of public agencies in the implementation of employer-based TDM programs. These recommendations primarily covered roles public agencies could play in fostering effective employer-sponsored TDM programs and recommendations for further study of effectiveness and cost-effectiveness research. These results and recommendations are summarized below in the following three sections:

- Public agency support roles
- Measurement of program impacts
- Measurement of program costs

## **B. Public Agency Support Roles**

The focus group research identified enhanced public agency support as an untapped opportunity for development and implementation of successful employer-based TDM programs. Employers in the survey sample tended to have a medium-to-high level of involvement with public agencies in their areas. While this does not necessarily suggest public agency involvement is mandatory for successful employer programs, focus group participants cited public agency support as a valuable resource and complement to their efforts.

Employers in regulated environments suggested that enhanced public support could contribute to a better understanding by employers of the reasons for the regulation and to a cooperative spirit of shared responsibility for trip reduction. They suggested this could lead to a greater willingness of employers to strive for greater program effectiveness. Employers in non-regulated areas felt that supportive public involvement could play a positive role in encouraging employers to undertake voluntary TDM programs.

The existence of a "corporate culture" that supports employees' use of commute alternatives has long been mentioned as contributing to TDM success. Employers in both regulated and non-regulated areas suggested that a parallel "regional culture", created by comprehensive public support, would be valuable in encouraging employers' implementation of TDM programs.

Employers cited the following public agency support roles as likely to contribute to their development and implementation of successful TDM programs:

- *Information and training:* Above all, employers cited TDM staff information and training programs as public support functions. Employers in regulated areas especially mentioned needing clearer definition of the objectives and performance targets of the regulation, guidance on how to meet regulation requirements, and guidance on program start-up, especially during the early stages of the program. Most employers in the focus groups preferred locally-produced guidance targeted to their areas rather than general guidance. They also cited use of "case studies" and local program examples as useful information.

- ***Basic support functions:*** Employers indicated that a basic level of public support was an essential adjunct to employers' in-house efforts. Services mentioned included regional rideshare matching, TDM formation assistance, and guaranteed ride home programs. These functions not only support a consistent regional base for TDM, but also promote a more efficient and effective allocation of public and private TDM resources. Employers avoid costly duplication of TDM services that are most efficiently implemented at a regional level. This enables them to instead focus their resources on other vital functions, such as personalized carpool and vanpool formation, which are typically most effective at the work-site or other site-specific level.
- ***Clarity of public responsibility for TDM:*** Employers desired clearer definition of administrative responsibility for the various agencies that engaged in TDM activities. Their preference was for a single agency that administered all TDM activities within a geographic area, or for effective internal coordination by various agencies to offer seamless support to employers.
- ***Coordination of TDM with related government policies:*** Employers in the focus groups cited lack of coordination between TDM activities and other regional, state, and federal policies influencing transportation demand as one impediment to their TDM efforts. Local parking codes that require abundant or even excess parking, tax codes that treat commute alternatives inequitably, land use policies that discourage transit accessible development, and many other transportation, development, and air quality policies conflict with TDM goals. Employers identified a need for public agencies to develop a comprehensive view of TDM and its role in future policies.
- ***Infrastructure improvements:*** A secondary public agency support need identified by focus group employers was for physical improvements that enhanced employees' ability to commute by HOV. These strategies included improved transit service, HOV lane construction, park & ride lots, and bike/pedestrian lane networks. Employers ranked this as less critical for their needs, but recognized it as an indication of an overall interest of the public sector to devote resources to TDM.
- ***Financial inducements:*** Employers also noted tax credits for employers that implement TDM programs, transit discount programs, and other cost-sharing mechanisms as ways in which public agencies could assist employers' TDM programs. Cost sharing stretches the employers' resources further, and as with infrastructure improvements, is a highly visible demonstration of public support for employers' activities.

## **C. Measurement of Program Impacts**

Program impacts are discussed here under two headings: measuring performance, and measuring costs.

### **Measuring Performance**

Several difficult issues raised in the research were related to how program impacts should be measured. These issues confounded attempts to produce conclusive research findings and suggest several implications for future TDM research and also for how public agencies encourage employers to implement TDM programs.

Two issues surfaced with respect to measuring performance: what performance indicator should be used and to what should it be compared? The researchers chose vehicle trip reduction as the measure of program performance. This has been commonly used by transportation researchers for many years, and was generally accepted by the public agency reviewers, but employers that participated in the focus groups felt this did not address their perception of program success. They were not opposed to trip reduction, average vehicle ridership (AVR), or average passenger occupancy (APO) as one measure, but questioned its use as the sole success indicator. Many had implemented programs for reasons unrelated to trip reduction and they felt AVR/trip reduction failed to count benefits, such as productivity increases and employer image, they would include in assessing success.

As mentioned in Section III, identifying a universally-accepted performance baseline proved difficult. After much debate, the researchers originally opted to use jurisdiction-based CTPP data. This decision on the part of the researchers met with some criticism, as some reviewers noted that the CTPP data use, which was an aggregate of employer types and sites within a single jurisdiction, was too coarse a measure to use for individual site comparisons. The researchers agree that it was not the preferred comparison. Employers' own before and after data would have been more desirable, but most did not collect such data. Only in regulated areas, where employers were required to document a baseline condition, did employers routinely measure AVR, mode split, or other trip related indicators, but some had implemented some TDM strategies before the regulation was adopted, so even the "baseline" was not a true "before" condition. Further, most employers that implemented TDM with non-regulatory motivations collected little or no transportation data, because they generally did not view trip reduction as their program goal.

These two research problems suggest three key recommendations for future research:

- Encourage employers to collect trip reduction data

- Explore use of alternative or supplementary effectiveness measures to trip reduction
- Conduct limited research studies with control group methodologies

***Encourage Data Collection*** - Given the general acceptance of both public agencies and employers of trip reduction as one TDM goal, it seems reasonable to continue to use trip reduction as one common measure of effectiveness and to encourage employers to collect data that allow assessment of trip reduction impacts to be measured. In areas where regulations exist, public agencies typically require mode split data to be collected in a specified format and over time, data will accumulate to measure gross and combined program impacts.

Experience suggests, however, that non-regulated employers are unlikely to collect trip reduction data (or perhaps any data) unless they are supported in data collection activities. Public agencies could encourage additional data collection through methodological and survey processing support to employers either directly or through funding of local transportation assistance groups, such as regional ridesharing agencies and transportation management associations (TMAs). Some of these groups provide these services on a limited or fee basis now. Sample survey forms, published marketing research guidance, and other support also might be useful to employers, but the resources needed to conduct a survey generally present the most significant problem to employers' data collection.

***Explore Alternative or Supplementary Measures*** - Perhaps the most important result of the focus group research is the idea that TDM effectiveness should be assessed by measures other than trip reduction. Many employers, and perhaps the majority of employers who implement TDM voluntarily, do not consider trip reduction the overriding goal of TDM. For this reason, public programs that promote TDM for trip reduction or that measure success solely by this measure may miss a great opportunity to foster more and more substantial TDM programs.

This is particularly important in light of the growing trend away from command and control trip reduction regulations to a more "flexible" approach that promotes TDM for pro-business reasons, such as productivity increases, easier recruitment/retention of employees, site access and parking management, corporate image, and other employer-generated motivations. These benefits have long been cited by TDM professionals operating in non-regulated areas, but increasingly are being raised in regulated areas as well to build positive support for regulatory programs.

A recommendation for use of non-transportation success indicators demands that measurement tools, methods, and standards be developed. As shown from the research results, employers do not routinely collect data to measure success in these non-transportation

areas either. If such tools were available, however, they might be more willing to do so than to collect trip reduction data, because the results could document persuasive business and/or bottom line benefits

Data needs will necessarily vary by the non-transportation measure used, but they have been alluded to in some form in "Table IV-1: Potential Alternative Goals and Performance Indicators." The following table makes the potential data needs for each indicator more explicit.

**Table VI-1: Potential Alternative Indicators and Data Needs**

Indicator	Potential Data Needs
Improve Corporate Image	Difficult to assess. Improved image may be gauged through a survey of local residents, customers or government officials. The involved firm may also want to track newspaper and magazine articles for favorable coverage.
Employee Benefit	This is self-evident. By offering a TDM program to its employees, an employer is automatically supplying an additional benefit. The employer may want to survey employees on their satisfaction with the program in order to guide future decision making.
Parking/Space Management	The employer should have all the data required in hand. Space costs (both parking and office) should already be accounted for, and the estimation of space utilization should have been made prior to implementation of the program.
Respond to Local Congestion/Construction Projects	The employer should begin to gather data prior to implementation of the program to estimate the current level of lateness and lost productivity, and continue to update data on the incidence of tardiness as the program is implemented.

Good Neighbor	Good neighbor employers may want to survey local residents and government officials to estimate the amount of increased awareness resulting from their program. If emissions (i.e., environmental awareness) is the key, the employer may want to tie an emissions calculation to a vehicle trip reduction estimate (see data needs above).
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Overall, this research recommends that more research be conducted to examine the benefits most likely to motivate employers to participate in TDM programs and to develop uniform measurement techniques for these benefits that are easy to use, consistent across employer settings, and credible in their results.

*Conduct Limited Control Group Studies* - Large scale control group studies for TDM may be impractical due to the great difficulty in identifying employers that are similar enough to eliminate the many non-TDM measure related factors that typically muddy TDM control group research. It might be possible to conduct studies that limit exploration to one or two well-defined TDM measures that more general research suggest hold substantial promise for TDM benefits. For example, studies of impact of parking management, financial incentives, transportation services, and other strategies, might be conducted on a limited basis. Although these studies might provide only limited information individually, collectively they could provide a new base of valuable results for certain strategies.

### **Measurement of Program Costs**

The researchers also found it difficult to establish clearly acceptable figures for employers' TDM program costs. Many employers did not collect comprehensive data on program cost or could not isolate program costs. Most of the employers in the survey sample and focus groups indicated cost was one factor in their TDM decisions, but focus group participants noted that they did not feel confident that they accurately estimated the costs of their programs.

The focus groups indicated a strong desire by employers for a methodology and/or tool with which to determine costs. Significantly, employers were considerably more vocal about the need for reliable cost guidance than they were for specific TDM effectiveness guidance. Many cited availability of national and locally-produced research results of TDM program effectiveness and felt these resources were adequate for most purposes.

They were not unanimous on the form the guidance should take; some mentioned spreadsheets, others paper worksheets, in which employers were walked through a cost "build-up" process that identified potential program costs and methodologies for calculating each cost item.

Employers desired a consistent, uniform, and concise framework that could be used by a variety of employers, but one that could be tailored to different industry and location settings and to employers of different sizes. Employers stressed that guidance with "rules of thumb", or nationalized "average" costs of TDM was not useful to them. For example, employers felt that guidance that included avoided costs, primarily from reduction in employee parking facilities, in an "average" cost per trip reduced calculation resulted in an unrealistically low cost per trip reduced for most employers, because only a small number of employers would be able to realize this cost offset.

In summary, the research and findings presented here are both interesting and provocative. It is clear that further research in several areas is needed to fill in those gaps that still remain. The next task of this research project, oriented toward the development of a public agency guidance document, will delve further into the relationship between employer-based TDM programs and public agencies. Its goal will be to use both the results of this part of the research as well as the public agency survey data to create appropriate guidelines for public agency officials charged with administering local and regional TDM efforts.



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**Company Name:** Aetna Life Insurance (#101)  
**Place:** Hartford, CT  
**Location Category:** Several sites located throughout Hartford, classified as CBD  
**Type of Business:** Insurance  
**Total Employees:** 12,000 (2,450 at downtown site)

**Program Environment/Impetus:** No legal requirement for program, originally a response to oil embargo in early 1970s. More recently, since 1984, a way to deal with construction on I-91, main north-south interstate into and out of Hartford.

**Public Agency Interaction:** Aetna's program has had minimal public agency interaction over its life. It does offer on-site pass sales for the local transit provider, and takes advantage of the state income tax code to provide vanpool and transit credits (\$16 per month for vanpoolers, and \$21 per month to transit users).

**Program Elements**

Originally, in early 1970s, consisted primarily of:

- subsidized vanpool program,
- some rideshare matching, and
- guaranteed ride home.

Aetna turned its company-owned van fleet over to Hartford's regional rideshare company in 1984, but continued to subsidize the use of those vans by its employees.

In 1992, Aetna augmented its program, but for its downtown site only. These changes included:

- transit information, promotions and on-site pass sales,
- expanded carpool and vanpool matching and promotions,
- hiring of a new employee transportation coordinator (ETC),
- preferential carpool/vanpool parking,
- flexible work hours, and
- transit user credit of \$21 per month.

**Program Costs (For downtown site only)**

**Total Annual Program Cost:** \$70,700  
**Annual Cost per Employee:** \$28.87 (based on 2,450 employees at downtown site)

**Employer-defined Benefits:** Aetna is generally satisfied with its program, and cites the following benefits:

- increased level of benefits to employees (seen as something comparable with day care or other benefits)
- reduced need for parking at the downtown Hartford headquarters site through increased transit use, and
- improved flexibility and ability of the corporation to draw from as wide a pool of potential employees as possible.

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**Company:** Hartford Steam Boiler (#102)  
**Place:** Hartford, CT  
**Location Category:** CBD  
**Type of Business:** Insurance  
**Total Employees:** 400

**Program Environment/Impetus:** No legal requirement for program, primarily a response to construction on I-91, major north-south interstate in Hartford area.

**Public Agency Interaction:** Hartford Steam Boiler received assistance in the creation of its program from the Greater Hartford Rideshare Company (GHRC), a regional rideshare company funded by a combination of private and federal sources.

**Program Elements**

Begun in 1983. Includes:

- sliding scale for parking subsidies (SOV gets 30% subsidy on cost of space, increases with occupancy to top out at 60% for 4 person carpools), and
- transit user subsidies, in which 50% of total cost of commuting is absorbed by Hartford Steam Boiler.

**Program Costs**

**Total Annual Program Cost:** \$46,300  
**Annual Cost per Employee:** \$115.75

**Employer-defined Benefits:** The primary benefit identified by the firm was the savings on expensive downtown parking spaces achieved through the trip reduction program.

**Company:** Rockbestos (#103)  
**Place:** East Granby, CT  
**Location Category:** Isolated Suburban  
**Type of Business:** Manufacturing (special wire products for automotive, mining, aerospace industries)  
**Total Employees:** 300

**Program Environment/Impetus:** No legal requirement for program, primarily a response to employee concerns and consolidation of 2 plants into a single location, necessitating longer commute by some employees.

**Public Agency Interaction:** As noted below, Rockbestos received a substantial level of assistance from the state to help finance the start-up of its vanpool program. It was aided in this effort by expert advice from the Greater Hartford Rideshare Company (GHRC), the local rideshare non-profit.

*Program Elements*

Begun in 1991. Includes:

- subsidized vanpool program for all employees, company provides for rental of vans (modified 6 months into program to include payment by employees of 60% of program cost), and
- use of 1 van as a vehicle for guaranteed ride home program.

Vanpool program was provided with a boost by the State of Connecticut through a one-time transportation assistance grant of \$40,000. This allowed the company to fully subsidize the vanpool program throughout its first few months.

*Program Costs*

*Total Annual Program Cost:* \$67,200

*Annual Cost per Employee:* \$224.00

*Employer-defined Benefits:* Although the Rockbestos program reported a significant reduction in vehicle trips, the program appears to have been far more important as a way to retain employees commuting great distances, and as a symbol of the company's concern and protection of its employees.

*Company:* Chubb Insurance (#201)  
*Place:* Warren, NJ  
*Location Category:* Suburban Business Park  
*Type of Business:* Insurance  
*Total Employees:* 1,300

*Program Environment/Impetus:* No legal requirement for program, primarily a response to employee concerns over move to more . note location in 1982.

*Public Agency Interaction:* No direct public interaction. The only non-internal interaction for Chubb came during the formation of its program when it received advice on how to structure and implement its vanpool effort from the local TMA, which was apparently privately-funded.

*Program Elements*

Begun in 1982 with move to current site. Includes:

- full-time employee transportation coordinator (ETC) with rideshare matching and alternative mode promotions,
- guaranteed ride home (GRH),
- vanpool program assistance,
- range of flexible hours, telecommuting and compressed work week options, and
- bike racks and on-site showers.

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*Program Costs*

*Total Annual Program Cost:* \$30,500  
*Annual Cost per Employee:* \$23.46

*Employer-defined Benefits:* Chubb's primary benefits from the existence of its vanpool program stem from a desire to meet potential Clean Air Act requirements (and the program provides that compliance level desired by the firm), and from the improved reliability of employee arrival times.

*Company:* Nuclear Regulatory Commission (NRC) (#301)  
*Place:* N Bethesda, MD  
*Location Category:* Suburban Strip  
*Type of Business:* Federal Government – Regulatory Agency  
*Total Employees:* 1,400

*Program Environment/Impetus:* County-based legal requirement for program provided initial and subsequent basis for program. Enforced on NRC when it moved to its current site within the county.

*Public Agency Interaction:* The county supported the NRC's program primarily through the funding of a sizable transit subsidy program, which it later dropped. When county funding dried up, however, the local transit operators continued to provide a level of subsidy (albeit lower than previously) for area employees.

*Program Elements*

Begun in 1988. Original program included:

- full-time employee transportation coordinator (ETC) with rideshare matching and alternative mode promotions,
- preferred carpool and vanpool parking,
- range of flexible hours and compressed work week options, and
- a variable parking pricing scheme, in which SOV paid \$6.00 per day, and the remainder paid \$60.00 per month.

In late 1991, Montgomery County, which had directly provided transit subsidies to employees within the county, discontinued that program, known as "Fare Share." As a result, the NRC took over and assumed the cost of the subsidy, which amounted to 25% of each employee's monthly transit bill. In November of 1993, the transit subsidy was shifted to a flat \$21.00 per month subsidy rather than a percentage of each employee's monthly total.

*Program Costs*

*Total Annual Program Cost:* \$85,000  
*Annual Cost per Employee:* \$60.71

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**Employer-defined Benefits:** No specific benefits of the program were cited, although the respondent for the NRC did note that only a small handful of employees were unhappy, and that at least 95% are "happy" with the program.

**Company:** Washington Adventist Hospital (#302)  
**Place:** Takoma Park, MD  
**Location Category:** Suburban Campus  
**Type of Business:** Privately-run hospital  
**Total Employees:** 1,800

**Program Environment/Impetus:** Concerns over rising need for visitor parking, and the impact on employee parking at the hospital's increasingly crowded site prompted the county and the hospital to jointly agree on a trip reduction program.

**Public Agency Interaction:** The requirement of the trip reduction plan was backed up by the county with assistance on which measures to use to help managed travel demand to the site. In addition, the county, along with the regional transit provider, cooperated with the hospital on the operation of a shuttle from the site to a nearby metrorail station.

**Program Elements**

Begun in: 1988. Original program included:

- part-time employee transportation coordinator (ETC),
- preferred carpool parking,
- compressed work week option, and
- transit subsidies under which the hospital sells passes on-site for 1/2 of their face value (i.e. \$11 charge for \$22 fare card).

**Program Costs**

**Total Annual Program Cost:** \$15,800  
**Annual Cost per Employee:** \$8.80

**Employer-defined Benefits:** Improving employee access to the site was a key concern, and the hospital seems to feel that it has achieved this goal. The program also allows the hospital to remain in compliance with its agreement with the county.

**Company:** G Street Fabrics (#303)  
**Place:** Rockville, MD  
**Location Category:** Suburban Strip  
**Type of Business:** Retail sales outlet  
**Total Employees:** 200



*Program Environment/Impetus:* Concerns over rising traffic levels in area, employee comments on support needed. No direct legal requirement cited.

*Public Agency Interaction:* Assistance from the county appears to have been a major component in getting G Street's program off the ground. The county-funded transit subsidy program known as "Fair Share" provided the company with the money it needed to improve employee access to its site.

*Program Elements*

Begun in 1988. Original program designed to supplement Montgomery County's "Fare Share" program with:

- part-time employee transportation coordinator (ETC),
- transit subsidies under which the County originally paid for 25% of the user fare.

With discontinuation of the program in late 1991, G Street decided to continue the subsidy at its own cost.

*Program Costs*

*Total Annual Program Cost:* \$4,250

*Annual Cost per Employee:* \$21.25

*Employer-defined Benefits:* G Street sees the primary benefit of the program as being the maintenance of employee morale and productivity even as the area around its site becomes more difficult to access.

*Company:* AT&T (#304)  
*Place:* Silver Spring, MD  
*Location Category:* Suburban CBD  
*Type of Business:* Regional Sales Office for Telecommunications Firm  
*Total Employees:* 950

*Program Environment/Impetus:* County requirement provided first push, but there were also concerns over traffic levels in area and the need to make a smooth transition in office relocation.

*Public Agency Involvement:* The county assisted AT&T in the selection of its measures during relocation from downtown Washington to Silver Spring in 1990. In addition, due to its location, AT&T's facility is part of the Silver Spring Parking Lot District. All employers within the district pay a fee to the District in exchange for employee parking in District-owned and -operated lots in Silver Spring.

*Program Elements*

Begun in early 1990. Original program included:

- part-time employee transportation coordinator (ETC), with access to rideshare matching as member of the Silver Spring Transportation Management District (TMD),
- transit subsidies for an unspecified amount (apparently somewhere in the area of 25% per month), and
- parking pricing of \$65 per month per space, regardless of vehicle occupancy.

*Program Costs*

Total Annual Program Cost: \$65,700  
Annual Cost per Employee: \$69.15

*Employer-defined Benefits:* AT&T's main concern in the implementation of its program appears to be compliance with its plan requirement, which it fulfills.

*Company:* NOAA (#305)  
*Place:* Silver Spring, MD  
*Location Category:* Suburban CBD  
*Type of Business:* Federal Government -- Regulatory Agency  
*Total Employees:* 5,000

*Program Environment/Impetus:* County requirement provided motivation when organization relocated to Silver Spring.

*Public Agency Interaction:* NOAA's trip reduction plan came as part of its relocation agreement with the county in the late 1980s. In addition, it relied on the county for recommendations on which measures to select for its program. Finally, it pays a regular fee to the Silver Spring Parking Lot District in exchange for employee parking in District-owned and -operated lots.

*Program Elements*

Begun in 1990, TDM program included:

- full-time employee transportation coordinator (ETC), with on-site pass sales,
- guaranteed ride home (GRH),
- preferred carpool and vanpool parking,
- a range of flexible work hours and compressed work week options,
- transit subsidies for an unspecified amount, and
- parking pricing of \$65 per month per space for SOV and 2-person carpools, falls to \$30 per month for 3-person carpools.

*Program Costs*

*Total Annual Program Cost:* \$426,900  
*Annual Cost per Employee:* \$85.38

*Employer-defined Benefits:* NOAA feels that its program is beneficial in that it fulfills its county requirement for a trip reduction plan.

*Company:* City Place Mall (#306)  
*Place:* Silver Spring, MD  
*Location Category:* Suburban CBD  
*Type of Business:* Retail mall management office  
*Total Employees:* 320

*Program Environment/Impetus:* County requirement prior to construction provided motivation, but local traffic congestion levels were also of concern.

*Public Agency Interaction:* Aside from its original county requirement, the mall also relied on the county to help it in the selection of measures for the TDM program. Additionally, the mall must pay a fee to the Silver Spring Parking Lot District for employee parking in District-owned and -operated lots.

*Program Elements*

Begun in 1992, TDM program included:

- full-time employee transportation coordinator (ETC), with on-site pass sales,
- guaranteed ride home (GRH),
- preferred carpool and vanpool parking,
- a range of flexible and staggered work hours,
- transit subsidies for an unspecified amount, and
- parking pricing of \$65 per month per space, regardless of vehicle occupancy.

*Program Costs:*

*Total Annual Program Cost:* \$9,550  
*Annual Cost per Employee:* \$29.85

*Employer-defined Benefits:* The mall itself cites the alleviation of congestion directly surrounding its site and meeting the county requirement as the most important benefits of the program.

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**Company:** GTE Government Services (#307)  
**Place:** Chantilly, VA  
**Location Category:** Suburban Business Park (Type 6)  
**Type of Business:** Telecommunications consulting firm  
**Total Employees:** 1,350

**Program Environment/Impetus:** Range of concerns: high traffic levels, employee needs and morale/productivity, and relocation needs.

**Public Agency Interaction:** GTE's decision-making process was informed by the county acting as consultants in the formation of its TDM program. In addition, the county undertook a peer company study in which GTE took part, and through which it was able to gain more information of what companies in similar situations and with similar characteristics had done.

**Program Elements**

Begun in mid-1989, TDM program included:

- full-time employee transportation coordinator (ETC),
- preferred parking for carpools and vanpools,
- inclusion of bus stop, with construction of on-site bus shelter,
- flexible hours and compressed work week,
- transit subsidies for an unspecified amount, and
- bike racks and shower facilities.

**Program Costs**

**Total Annual Program Cost:** \$39,500

**Annual Cost per Employee:** \$29.25

**Employer-defined Benefits:** GTE has rated its program a success because of its positive effects on employee morale and because it has helped to sustain its corporate image as an employer that supports its employees in whatever way possible.

**Company:** Geico Insurance (#308)  
**Place:** Chevy Chase, MD  
**Location Category:** Suburban CBD  
**Type of Business:** Auto insurance company  
**Total Employees:** 2,100

**Program Environment/Impetus:** Primarily concerned about congestion and access to its site by employees. Extremely constrained parking was also a concern.

**Public Agency Interaction:** Geico appears to have had a very low level of public agency interaction,

with most of its measures and policies being developed in-house.

*Program Elements*

Begun in 1984, Geico's program originally included:

- full-time employee transportation coordinator (ETC),
- a company-sponsored shuttle bus from the regional fringe directly to the worksite,
- on-site parking management,
- preferred carpool and vanpool parking,
- a \$30 per month subsidy to all non-SOV commuters, with an additional 5.1 cents per mile bonus for carpoolers, and
- a company-supported vanpool program.

In the early 1990s, all of its measures were kept, except the shuttle bus was discontinued.

*Program Costs*

*Total Annual Program Cost:* \$20,000

*Annual Cost per Employee:* \$9.52

*Employer-defined Benefits:* Geico cited improved employee satisfaction and productivity, as well as the alleviation of its parking problem, as the most important benefits of its program.

*Company:* Hillsborough County, Florida (#401)  
*Place:* Tampa, FL  
*Location Category:* CBD  
*Type of Business:* County government.  
*Total Employees:* 2,050

*Program Environment/Impetus:* Two primary concerns: legal requirement through state concurrency law and traffic in downtown Tampa.

*Public Agency Interaction:* The county is coordinating its efforts for employees with efforts aimed at private employers as well.

*Program Elements*

Begun in 1985-86, TDM program included:

- full-time employee transportation coordinator (ETC) and rideshare matching, and
- transit subsidy for bus passes (10% of fare).

In 1991, some support services were added:

- County became member of transportation management organization (TMO),
- new vanpool promotion, and
- bicycle/pedestrian enhancements.

The next year, 1992, the County took a somewhat different direction by:

- offering guaranteed ride home (GRH),
- adding bicycle coordination services, and
- increasing the transit subsidy to 50% of the cost of commuting by bus.

*Program Costs*

*Total Annual Program Cost:* \$142,700

*Annual Cost per Employee:* \$69.60

*Employer-defined Benefits:* The county is generally encouraged by the results of its program, but is even more concerned that it set an example for private employers by implementing as progressive a program as possible.

*Company:* University of Central Florida, Orlando (#402)  
*Place:* Orlando, FL  
*Location Category:* Isolated Suburban  
*Type of Business:* Higher educational institution  
*Total Employees:* 5,000

*Program Environment/Impetus:* Primarily concerns about employee morale and access to the university site and congestion on surrounding roadways.

*Public Agency Interaction:* The university is itself a public institution, but it also worked closely with the area TMA, known as the University/Alafaya Corridor Transportation Association (UACTA), to create and develop its program.

*Program Elements*

Begun in 1989, TDM program included:

- rideshare matching,
- bike paths and better lit walking paths,
- subsidized vanpool program (company-provided vehicles),
- flexible hours, compressed work week (CWW) and telecommuting promotion.

In 1991, the following steps were taken:

- University became member of areawide transportation cooperative, and
- partial subsidy for areawide van shuttle (LASER).

For 1993, the University added 2 new services:

- Pegabus, a local campus circulator, and
- LYNX, an inner campus shuttle.

*Program Costs*

*Total Annual Program Cost:* \$107,000

*Annual Cost per Employee:* \$21.40

*Employer-defined Benefits:* The university is satisfied that its program has helped reduce the level of congestion surrounding the campus site, and has improved its relations with the wider community.

*Company:* Prudential (#403)  
*Place:* Jacksonville, FL  
*Location Category:* CBD Fringe  
*Type of Business:* Life insurance  
*Total Employees:* 3,420

*Program Environment/Impetus:* Originally begun in response to oil shortages in early 1970s; in Jacksonville, the company cited concerns over parking availability and the need to expand the current in-house facility.

*Public Agency Interaction:* There has been very little public agency interaction with Prudential's program.

*Program Elements*

Begun in 1975, and continuing until now, the TDM program has essentially been the following:

- a vanpool program with company-provided vans supplied to employees living more than 10 miles away from the work site.

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*Program Costs*

*Total Annual Program Cost:* \$120,000  
*Annual Cost per Employee:* \$35.08

*Employer-identified Benefits:* Prudential has rated its program a consistent success, even though it has since moved from the original facility where parking was severely constrained. It keeps its program going as a benefit to employees, and as a way of being a good corporate citizen.

*Company:* Georgia Power (#501)  
*Place:* Atlanta, GA  
*Location Category:* CBD  
*Type of Business:* Electric utility  
*Total Employees:* 1,800

*Program Environment/Impetus:* Trip reduction requirement from 1990 Clean Air Act Amendments provided primary impetus, also interested in being a good corporate citizen.

*Public Agency Interaction:* Georgia Power has witnessed very little public agency interaction with its TDM program.

*Program Elements*

Started in spring of 1992 with:

- Smart Ride -- commuter transit and on-site pass sales program,
- transit user subsidies,
- preferred/free parking for carpools/vanpools with more than 3 passengers,
- parking pricing at \$10 per month for all vehicles, with exceptions,
- point and prize program based on alternative mode use, and
- limited flex-time/telecommuting with managerial approval.

*Program Costs*

*Total Annual Program Cost:* \$24,000  
*Annual Cost per Employee:* \$13.33

*Employer-defined Benefits:* Georgia Power rates its program a success because it is helping the environment, has helped employee morale and productivity, and because it constitutes a symbol of corporate dedication to the greater community.



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**Company:** Shure Brothers (#601)  
**Place:** Evanston, IL  
**Location Category:** Isolated Suburban  
**Type of Business:** Electronics manufacturer  
**Total Employees:** 500

**Program Environment/Impetus:** Part of MPO trial effort for ECO programs in Chicago metropolitan area.

**Public Agency Interaction:** The Chicago Area Transportation Study, or CATS, played a crucial role in the development of Shure's program, including recommending particular measures and even providing some of the support services itself, e.g. guaranteed ride home.

**Program Elements**

Started in 1992 with basic support services program, including:

- participation in the regional rideshare database,
- bicycle racks and showers on-site,
- single-day transit promotions,
- preferred parking for carpools, and
- guaranteed ride home (GRH).

**Program Costs**

**Total Annual Program Cost:** \$17,280  
**Annual Cost per Employee:** \$34.56

**Employer-defined Benefits:** Shure was happy with its program because it fulfilled its desire to be a good corporate citizen, involved with progressive actions within the community, and because employees have generally been accepting of it.

**Company:** Village of Arlington Heights (#602)  
**Place:** Arlington Heights, IL  
**Location Category:** Suburban CBD  
**Type of Business:** Local government  
**Total Employees:** 250

**Program Environment/Impetus:** Part of MPO trial effort for ECO programs in Chicago metropolitan area. The Town also wanted to continue to project a progressive image.

**Public Agency Interaction:** The Chicago Area Transportation Study, or CATS, provided consulting advice to the village as part of its trial program.

*Program Elements*

Started in 1993 with a raft of incentives, including:

- bicycle racks and showers on-site,
- free breakfast on special day for bike/walk commuters,
- telecommuting and flex-time to agree with transit schedules,
- direct financial incentives for non-SOV commuters, with a sliding scale of compensation, and the option to turn accrued funds into vacation time,
- single-day transit promotions,
- preferred parking for carpools, and
- guaranteed ride home (GRH).

*Program Costs*

*Total Annual Program Costs:* \$59,400

*Annual Cost per Employee:* \$237.60

*Employer-defined Benefits:* Arlington Heights views its TDM program as a way to help it free up additional parking capacity downtown, and also as a way of boosting the image of the village, as well as an educational effort for all residents.

*Company:* **Baxter Healthcare (#603)**  
*Place:* Deerfield, IL  
*Location Category:* Exurban/Isolated Suburban  
*Type of Business:* Healthcare Supply and Service  
*Total Employees:* 1,000

*Program Environment/Impetus:* Part of MPO trial effort for ECO programs in Chicago metropolitan area in order to prepare for upcoming legal requirement, involvement with community, and employee morale/productivity.

*Public Agency Interaction:* The Chicago Area Transportation Study, or CATS, played a pivotal role in initiating and formulating Baxter's TDM program.

*Program Elements*

Started in 1992 with:

- guaranteed ride home (GRH), and
- telecommuting.

Expanded throughout 1993, with the following measures in place by the end of the year:

- compressed work week (4/40),
- rideshare matching through regional database, and
- alternative mode (transit, carpool and vanpool) subsidies up to \$60 per month.

*Program Costs*

Total Annual Program Costs: \$74,200  
Annual Cost per Employee: \$74.20

*Employer-defined Benefits:* Baxter's experience with its program was mixed: most employees were happy with the program and the firm itself was satisfied that it was being a good corporate citizen, but some employees considered the program an annoyance and were less than happy with it.

*Company:* Sears (#604)  
*Location:* Hoffman Estates, IL  
*Location Category:* Suburban Business Park  
*Type of Business:* Service/Retail Headquarters  
*Total Employees:* 5,350

*Program Environment/Impetus:* Sears' primary objective was to smooth large-scale relocation of headquarters from downtown Chicago location to outer suburbs. In addition, the imposition of a statewide ECO requirement with a substantial penalty for noncompliance was also a significant incentive to create the program.

*Public Agency Interaction:* Despite the requirement, Sears did not engage in much cooperative activity with public agencies. The company did help to subsidize transit service to its isolated suburban location through the local transit operator.

*Program Elements*

Expanded earlier efforts (not subject of this survey) in 1992 with a range of measures:

- guaranteed ride home (GRH),
- rideshare matching,
- on-site bike racks and showers,
- on-site services (bank, restaurant, cafe, day care),
- preferred carpool/vanpool parking,
- company-subsidized bus feeder service from/to nearest commuter rail station,
- continuation of flexible work hours and telecommuting, and
- direct subsidies to transit users.

In late 1993, Sears decided to decrease the direct transit subsidies paid to the local feeder service company and instead provided alternative mode users with a flat \$80 per month subsidy. All other measures remained intact.

*Program Costs*

*Total Annual Program Cost:* \$109,000  
*Annual Cost per Employee:* \$20.37

*Employer-defined Benefits:* Sears was satisfied that its program was meeting the statewide rule and that it was also a great marketing tool for its business park. The company was also pleased that its employees were able to gain a significant benefit from the program.

*Company:* Dean Witter (#605)  
*Place:* Riverwoods, IL  
*Location Category:* Suburban Business Park  
*Type of Business:* Financial Services  
*Total Employees:* 1,700

*Program Environment/Impetus:* Dean Witter was anticipating regulation with regard to employer-based TDM programs and wanted to both provide its employees with an added benefit, and prepare to meet that regulation when it did come.

*Public Agency Interaction:* The primary public sector interaction came through Dean Witter's contact with the Lake County TMA, which assisted in the selection and development of the measures eventually used in the program.

*Program Elements*

Begun in late 1993, program includes these measures:

- employee transportation coordinator,
- rideshare matching and membership in the local transportation management association (TMA),
- transit information and alternative mode raffles,
- on-site transit pass sales and shower facilities,
- guaranteed ride home (GRH),
- preferred carpool/vanpool parking,
- flexible work hours, and
- alternative mode subsidies (transit, carpool, vanpool).

*Program Costs*

*Total Annual Program Cost:* \$38,580  
*Annual Cost per Employee:* \$22.56

*Employer-defined Benefits:* Given its twin motivations for having a plan -- preparing for compliance and providing an employee benefit -- Dean Witter judges its program to be a success, particularly

with regard to improved employee morale and lower stress.

**Company:** City and County of Denver (#701)  
**Place:** Denver, CO  
**Location Category:** Regional CBD  
**Type of Business:** City and County Offices  
**Total Employees:** 12,000

**Program Environment/Impetus:** The City and County moved to provide the program in anticipation of the implementation of Clean Air Act requirements on employer programs, and also out of its own concern over regional air quality and traffic congestion.

**Public Agency Interaction:** The city and county government is essentially providing a range of services to itself as an employer with regard to TDM. At the outset of the program, there was a particular stress on non-SOV, particularly transit, subsidies, which require a significant level of cooperation among all city agencies (especially the transit operator).

#### *Program Elements*

Begun in spring of 1991, the original program included:

- rideshare matching,
- on-site bicycle racks and lockers,
- guaranteed ride home (GRH),
- compressed work weeks (CWW), both 4/40 and 9/80,
- telecommuting, and
- alternative mode subsidies (transit, carpool, vanpool).

In early 1994, the program applied greater emphasis in 2 areas:

- compressed work weeks, where the benefits of making the best use of existing office space were stressed, and
- the telecommuting program, which was expanded to include a high-profile campaign for greater use of teleconferencing among government employees.

Later in 1994, the City and County added:

- a bicycle repair and maintenance program, and
- a telecommuting training course.

#### *Program Costs*

**Total Annual Program Cost:** \$166,300  
**Annual Cost per Employee:** \$13.85

**Employer-defined Benefits:** Denver's primary concern -- that it be ahead of the curve and ready to show compliance with employer-based program requirements in advance -- has, by definition, been met with its TDM program. This is the only benefit that was cited.

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**Company:** Payroll One (#702)  
**Place:** Denver, CO  
**Location Category:** CBD Fringe  
**Type of Business:** Payroll Services and Processing  
**Total Employees:** 21

**Program Environment/Impetus:** Office general manager was involved with local TMA, P.A.C.T., and was interested in getting the company going with TDM as a way of improving employee access and morale.

**Public Agency Interaction:** The advice of P.A.C.T. was pivotal in initiating and crafting Payroll One's program.

**Program Elements**

Begun in spring of 1991, the original program included:

- installation of bicycle racks and showers,
- guaranteed ride home (GRH),
- carpool network information,
- on-site bus pass sales, and
- alternative mode user raffles.

**Program Costs**

**Total Annual Program Cost:** \$860  
**Annual Cost per Employee:** \$49.05

**Employer-defined Benefits:** By the general manager's estimation, the program was successful in raising awareness and improving the morale of Payroll One's employees.

**Company:** Master Magnetics (#703)  
**Place:** Castle Rock, CO  
**Location Category:** Exurban/Isolated Suburban  
**Type of Business:** Magnetics and Magnetic Devices Distributor  
**Total Employees:** 50

**Program Environment/Impetus:** Contacted by P.A.C.T., the area TMA, to take part in a TDM program survey.

**Public Agency Interaction:** P.A.C.T.'s involvement was crucial to initiating and developing Master Magnetics' program.

*Program Elements*

Begun in spring of 1991, the original program included:

- installation of bicycle racks and showers,
- guaranteed ride home (GRH),
- carpool network information,
- on-site bus pass sales, and
- alternative mode user raffles.

*Program Costs*

*Total Annual Program Cost:* No cost data provided.

*Annual Cost per Employee:* No cost data provided.

*Employer-defined Benefits:* No opinion is cited either way regarding Master Magnetics' prospective benefits or drawbacks from its TDM program.

*Company:* **Boulder Community Hospital (#704)**  
*Place:* Boulder, CO  
*Location Category:* CBD Fringe  
*Type of Business:* Hospital/Health Care  
*Total Employees:* 1,000

*Program Environment/Impetus:* A local ordinance required trip reduction plans, and there was pressure on the growth of traffic to and from the Hospital from neighbors.

*Public Agency Interaction:* Although Boulder Community Hospital's TDM program came into existence through a local legal requirement, there appears to have been scant public agency involvement in how its TDM program was initiated or what went into it.

*Program Elements*

Begun in late 1990, the original program included:

- rideshare matching,
- guaranteed ride home (GRH), and
- transit subsidies (free bus passes).

In July of 1991, the Hospital followed up by holding a series of promotions for alternative modes, including:

- increased bus transit information,
- bike repair and maintenance clinics, and
- alternative mode user raffles.

In March 1992, a new plan "Cool Your Wheels" plan was inaugurated, with

- \$4.00 per day subsidies for all alternative mode users, and
- a special shuttle service from fringe parking lots.

These measures were brought about by concern over construction and the associated lack of on-site parking. Throughout the course of the Hospital's TDM program, each successive phase's measures have replaced the previous phase's.

As such, the most recent phase, which began in early 1993, replaced the subsidy and shuttle plan with a return to the alternative mode raffle scheme.

*Program Costs*

*Total Annual Program Cost:* \$24,000  
*Annual Cost per Employee:* \$24.00

*Employer-defined Benefits:* Even though it is obligated by law to have a trip reduction plan, Boulder Community Hospital cites improved employee productivity and morale as the key benefits of its program.

*Company:* National Optical Astronomy Observatory (#801)  
*Place:* Tucson, AZ  
*Location Category:* Isolated Suburban  
*Type of Business:* Astronomical Research Facility  
*Total Employees:* 250

*Program Environment/Impetus:* Regional legal requirement, also in response to employee stress, increased awareness, and parking constraint concerns.

*Public Agency Interaction:* The NOAO indicates that it had significant public agency input in the form of guidelines and survey results when composing its trip reduction program. In addition, the ETC for the Observatory has encouraged employees to become part of the process that helps determine where bus routes will be added or rerouted, as a way of improving access to the site and being aware of how regional initiatives can impact their access at the local level.



*Program Elements*

Begun in 1991, the program includes:

- rideshare matching,
- alternative mode information and on-site pass sales,
- flexible work hours, and compressed work weeks (10 days on, 10 days off)m
- bus transit subsidies (50% of cost of commuting) with some .

*Program Costs*

*Total Annual Program Cost:* \$5,930

*Annual Cost per Employee:* \$23.72

*Employer-defined Benefits:* The Observatory benefits on all fronts: it has improved employee morale, increased awareness, and helped to reduce the impact of the site's constrained parking.

*Company:* **KMart-Valencia (#802)**  
*Place:* Tucson, AZ  
*Location Category:* Suburban Strip  
*Type of Business:* Chain Retail Outlet  
*Total Employees:* 112

*Program Environment/Impetus:* Legal requirement for employers with over 100 employees was primary impetus. Education/raised awareness of employees and public was a secondary goal of the program.

*Public Agency Interaction:* Aside from the requirement, KMart has largely not been involved with public agencies in its area.

*Program Elements*

Begun in 1989, the program originally provided a set of services:

- rideshare information,
- alternative mode information workshops,
- on-site bicycle racks and showers,
- guaranteed ride home (GRH),
- changes in work schedules to meet bus schedule.

In 1993, the store launched a series of alternative mode raffles, and continued its GRH program.

*Program Costs*

Total Annual Program Cost: \$2,050  
Annual Cost per Employee: \$18.30

*Employer-defined Benefits:* Although KMart seemed most interested in meeting the requirement, it did also cite increased awareness and being a good neighbor as other benefits of the program.

*Company:* Hughes Aircraft (#803)  
*Place:* Tucson, AZ  
*Location Category:* Isolated Suburban  
*Type of Business:* Aerospace Manufacturing  
*Total Employees:* 5,000

*Program Environment/Impetus:* Legal requirement for employers with over 100 employees was primary impetus.

*Public Agency Interaction:* Beyond its legal requirement, Hughes seems to have had very limited public agency interaction with regard to its TDM program.

*Program Elements*

Begun in 1990, the program provided the following:

- rideshare matching,
- employee transportation coordinator (ETC),
- on-site bicycle racks and showers,
- guaranteed ride home (GRH),
- on-site transit pass sales,
- flexible work hours,
- preferred carpool/vanpool parking,
- subsidized local bus service,
- county-subsidized vanpool program for employees.

At the end of 1993, the county withdrew its support for the company's vanpool program, but Hughes maintained the program on its own.

*Program Costs*

Total Annual Program Cost: \$83,300  
Annual Cost per Employee: \$16.66

*Employer-defined Benefits:* Hughes' trip reduction plan meets the regional ECO requirement, and that seems to be enough of a benefit for them, although improved employee access and retainage is also cited.

**Company:** City of Bellevue (#901)  
**Place:** Bellevue, WA  
**Location Category:** Suburban Business Park/Campus  
**Type of Business:** City Government (Administrative Offices)  
**Total Employees:** 650

**Program Environment/Impetus:** The City's program grew out of the energy crisis of the late 1970s, but over time it has focused more on setting an example for the community at large. Also, construction and parking pressures have kept interest high.

**Public Agency Interaction:** Bellevue's actions both as an employer and as a city interested in managing transportation demand in its downtown stand as models for the rest of the US. Of particular interest here is the cooperation among city agencies in bringing TDM services to City employees and to the private sector.

**Program Elements**

Begun in 1979, the program originally consisted of the use of city vehicles for commuting if 3 or more persons were to use it.

In early 1988, the City expanded into a full-blown support and incentive program, consisting of:

- preferred carpool/vanpool parking,
- on-site transit information and pass sales,
- alternative mode promotions,
- 2 employee transportation coordinators (ETCs),
- guaranteed ride home (GRH),
- a range of alternative mode incentives.

By mid-1989, the City had decided to provide a disincentive to SOV commuting by:

- instituting a parking charge of \$30 per month,
- making SOV users pay the full cost, and
- allowing ridesharers up to almost a 50% discount on the cost of the space, depending on amount of rideshare use.

In early 1994, the City made 2 changes to its program:

- an increase in the parking charge for SOV users to \$35 per month, and
- the creation of a "FlexPass" program which provided transit and vanpool users with a \$39.50 per month subsidy.

**Program Costs**

**Total Annual Program Cost:** \$97,900  
**Annual Cost per Employee:** \$150.15

**Employer-defined Benefits:** The City has kept itself fairly measure-oriented when judging the success or failure of its program and individual measures within it. Especially over the last five years, they have focused on increasing vehicle occupancy, and using that as a yardstick for progress. In that

context, the City judges its program to be beneficial.

**Company:** University of Washington (#902)  
**Place:** Seattle, WA  
**Location Category:** CBD Fringe  
**Type of Business:** Higher Education Institution  
**Total Employees:** 17,400 plus 35,000 students

**Program Environment/Impetus:** Special requirement came from the City of Seattle to control growth in vehicle travel to the campus. Community concerns over encroachment of the University an issue.

**Public Agency Interaction:** The University has maintained a close working relationship with Seattle Metro, the regional transportation provider. Over the course of the University's program, Metro has assisted with the selection and implementation of a range of transit-related measures.

*Program Elements*

Begun in 1983, the program originally consisted of:

- a full-time employee transportation coordinator (ETC),
- rideshare matching,
- on-site pass sales,
- vanpool subsidy program, and
- a transit subsidy of 30% for all users, coupled with a parking fee strategy for faculty and staff of \$24 per month, with a student parking fee of \$0.75 per day. Carpool parking discounted at \$10 per month for two-person, and \$5 per month for three-person carpools.

In 1991, the University added several new twists to their basic program (elements outlined above were retained, with changes, if any, noted below), primarily as a result of concerns over the impacts of construction on campus and a growing student, faculty and staff population:

- greater emphasis on alternative mode information and education,
- installation of bicycle racks and showers on campus,
- new guaranteed ride home (GRH) program,
- implementation of U-Pass, a broad-based transit improvement program, including the expansion of Community Transit, a university-run transit service, and the purchase of extra Metro (regional) transit service on campus, and
- increase in the parking fee to \$36 per month for faculty and staff (the daily student parking fee was increased to \$4.00 per day, with less expensive fringe parking at \$1.25 per day), with a corresponding change in the transit pass subsidy program, in which students paid a flat fee of \$20 per quarter for a transit pass, and faculty paid \$27, carpool and vanpool use tied to U-Pass through waiver of parking fees for pass holders.

As a result of concerns over the cost and structure of the U-Pass program, the University significantly changed the way in which it tried to provide improved transit service. In 1993, it made the following changes:

- a per person transit subsidy was fixed for Metro service, at \$40 per rider per month, rather than providing blanket service, and
- the vanpool subsidy program was softpedaled while carpool and transit subsidies were increased.

*Program Costs*

*Total Annual Program Cost:* \$6.195 million  
*Annual Cost per Employee:* \$118.22

**Employer-defined Benefits:** The University is satisfied that it is doing what it has been required to do – reduce vehicle traffic in and around its campus – and that the reduction in vehicle traffic is helping to improve productivity, reduce stress, and provide a role model for private businesses in the Seattle region.

**Company:** Boeing (#903)  
**Place:** Seattle, WA  
**Location Category:** Mixed -- most sites in industrial/business parks  
**Type of Business:** Aircraft manufacturing  
**Total Employees:** 84,000

**Program Environment/Impetus:** Increased production at its manufacturing plants raised concerns about congestion and pollution from additional vehicle trips in early 1970s. Since then, the program has grown in response to increased attention on air quality and state requirement for trip reduction programs.

**Public Agency Interaction:** Like the University of Washington, Boeing has developed a close relationship with Seattle Metro, particularly in the development of transit-related TDM measures like vanpool and transit subsidy programs.

#### *Program Elements*

Boeing has a long history of TDM involvement stretching back to World War II, when it introduced vanpools to get its work force to scattered sites while operating under fuel rationing. The "modern era" of TDM began some 30 years later, when, in response to both the oil embargo of 1972-73, and to a growing labor force, Boeing instituted a number of TDM measures in 1974:

- on-site transit pass sales,
- alternative transportation education and promotions,
- a full-time employee transportation coordinator (ETC), and
- an improved vanpool program, with Boeing assuming the cost of purchasing and maintaining the vans, while drivers and passengers kicked in \$25 per month to defray some of the cost.

In 1985, Boeing decided to shift its program away from a strictly vanpool-oriented effort by:

- turning its van fleet over to Seattle Metro, the regional transit agency, and allowing them to continue maintaining the vanpool program for their employees directly,
- encouraging a higher level of carpool use by setting aside special non-monetary carpool promos and increasing the emphasis on rideshare matching, and
- negotiating with Metro to provide a higher level of transit service to all of its sites in the Seattle area.

By 1988, Boeing had decided to add another provisional measure on top of its ongoing efforts:

- a \$15 per month transit subsidy for employees at one site in the Seattle area; the \$15 amounted to roughly a 50% subsidy for monthly passes.

In 1990, the company decided to extend the pilot subsidy program to all sites, with the same absolute and relative level of subsidy (still \$15 and still 50% of cost for employees).

#### *Program Costs*

**Total Annual Program Cost:** \$1.252 million  
**Annual Cost per Employee:** \$14.90

*Employer-defined Benefits:* Beyond meeting the requirement for TDM programs at the state level, Boeing cites an improved corporate image and the reduction of friction with EPA over expansion at some sites as positive outcomes of its program.

*Company:* Swedish Hospital (#904)  
*Place:* Seattle, WA  
*Location Category:* Regional CBD fringe  
*Type of Business:* Full-service hospital  
*Total Employees:* 2,254

*Program Environment/Impetus:* The hospital reached an agreement with the City of Seattle to reduce daytime SOV trips to 50% in return for approval of its expansion plans in 1985. Since then they've pretty much kept with the program.

*Public Agency Interaction:* Aside from the negotiation of its agreement with the City, Swedish Hospital had little public agency interaction.

#### *Program Elements*

As per its agreement with the City, the hospital began its program in 1985 with these measures:

- a compressed work week plan, with two options: 4/40 or 3/36,
- a parking fee structure, with a \$22 per month charge for SOV commuters, and carpool fees of \$5 per month for drivers, and \$1 each per occupant, and
- an accompanying transit subsidy of \$15 per month per commuter.

In 1988, the hospital decided to make a few changes and additions to its program:

- parking fees for SOVs were raised to \$31 per month, and held steady for carpool commuters,
- a full transit subsidy (100% of monthly fare) was instituted,
- guaranteed ride home (GRH) was introduced, and
- a fringe park-and-ride lot was constructed, linked to the hospital by the "First Hill Express."

By 1991, the hospital had decided to:

- reintroduce a compressed work week program, coupled with a telecommuting pilot program,
- increase both the SOV (from \$31 to \$58 per month) and carpool (from \$5 per driver and \$1 per passenger, to \$6 per person) parking fees,
- keep the transit subsidy intact.

A small change occurred in 1992, as the hospital cut back the number of afternoon runs on its "First Hill Express," and replaced that service with increased GRH service.

#### *Program Costs*

*Total Annual Program Cost:* \$582,760  
*Annual Cost per Employee:* \$258.54

**Employer-defined Benefits:** Swedish Hospital's primary benefit from engaging in TDM is that it fulfills its agreement with the City.

**Company:** US West (#905)  
**Place:** Bellevue, WA  
**Location Category:** Suburban CBD  
**Type of Business:** Regional utility, privately-held  
**Total Employees:** 1,100

**Program Environment/Impetus:** The City of Bellevue's parking management limitations provided the immediate cause for the start of US West's program in 1986.

**Public Agency Interaction:** The downtown Bellevue TMA, supported by both the City and private employers, has been instrumental in providing advice, measures, and evaluation techniques for US West's program.

**Program Elements**

US West implemented its TDM program in 1986 by joining the downtown Bellevue TMA, and offering a full range of support and incentive measures:

- on-site transit pass sales,
- bicycle support facilities (racks and showers),
- a part-time employee transportation coordinator (in addition to the TMA support staff),
- a vanpool subsidy program, funded through Seattle Metro, and
- a sliding scale of parking charges: \$65 per month for SOVs, \$45 per month for a 2-person carpool, and no charge for 3-person plus carpools.

This program has remained pretty much the same since 1986.

**Program Costs**

**Total Annual Program Cost:** \$19,400  
**Annual Cost per Employee:** \$17.63

**Employer-defined Benefits:** US West's primary objective recently with regard to its program has been to meet the new Washington State trip reduction plan requirement.

**Company:** CH2M Hill (#906)  
**Place:** Bellevue, WA  
**Location Category:** Suburban CBD  
**Type of Business:** Engineering consulting firm  
**Total Employees:** 370



**Program Environment/Impetus:** Relocation to downtown Bellevue in 1986 created need to reduce SOV trips in light of City's parking management and policy.

**Public Agency Interaction:** In addition to using the downtown Bellevue TMA as a source and agent for TDM measures, CH2M Hill also sought direct City guidance in the creation of its program.

**Program Elements**

CH2M Hill's TDM program, begun in 1987, focused on the use of a "transportation allowance" and a sliding scale of parking fees which has remained basically the same (with some slight recent increases in the rates):

- Everyone gets a \$40 per month transportation allowance,
- SOV commuters pay \$60 per month for parking,
- Carpool commuters pay either \$10 per month (for a 3-person carpool) or \$40 per month (for a 2-person carpool).

Employees using transit get an additional \$20 per month in subsidies. In addition, CH2M Hill provides a range of support services in conjunction with Seattle Metro and the downtown TMA

- including transit information and promotion,
- on-site pass sales,
- bicycle support facilities, and
- carpool/vanpool matching.

In 1991, the firm decided to introduce a pilot compressed work week (CWW) program based on working 80 hours in 9 days, and taking an alternate Friday off.

**Program Costs**

**Total Annual Program Cost:** \$52,780  
**Annual Cost per Employee:** \$142.65

**Employer-defined Benefits:** Although the ostensible reason for engaging in TDM was the City requirement coupled with constrained parking, CH2M Hill cites improved employee satisfaction and productivity, as well as savings for employees from parking charges, as benefits of the program.

**Company:** Nike (#1001)  
**Place:** Beaverton, OR  
**Location Category:** Suburban business park  
**Type of Business:** Athleticwear manufacturer  
**Total Employees:** 2,190

**Program Environment/Impetus:** The pretext for the creation of the TDM program was the expansion of Nike's headquarters facility. Parking during construction would have been a serious concern without implementing some form of demand management. The company also wanted to promote environmentalism, be a good neighbor, etc.

*Public Agency Interaction:* Given the voluntary nature of Nike's program, and the measures it chose to implement, public agency interaction is understandably very low.

*Program Elements*

Nike began its TDM program in 1991 with two basic components:

- an alternative mode subsidy program, in which those using transit were given a 50% subsidy, and those using all other alternative modes -- carpool, bicycle, walk, or, this is Nike after all, skate (referred to as "BRS") -- were given a bonus of \$1 per day; and
- preferred parking for carpool users at Nike's on-site parking facilities.

These components have been kept more or less as is.

*Program Costs*

*Total Annual Program Cost:* \$114,500

*Annual Cost per Employee:* \$52.28

*Employer-defined Benefits:* Nike feels the program is a success because it increases environmental consciousness and improves Nike's corporate image.

*Company:* Lawrence Livermore (#1101)  
*Place:* Livermore, CA  
*Location Category:* Isolated suburban/exurban  
*Type of Business:* Research and Development Firm  
*Total Employees:* 9,344

*Program Environment/Impetus:* The impetus for creation of Lawrence Livermore's demand management program in 1991 was the passage of Regulation 1301 in northern California, which required all employers with over 100 employees to create and implement employee trip reduction (ETR) plans.

*Public Agency Interaction:* Lawrence Livermore cites input and support from a range of public agencies, including: the Bay Area AQMD, metro area transit providers, and the US Department of Energy, which is its parent organization.

*Program Elements*

Lawrence Livermore began its ETR program in 1991 by joining its area TMA and offering measures:

- rideshare matching,
- transit promotion and education,
- vanpool subsidies (gas purchases on-site), and
- a full time employee transportation coordinator (ETC).

In 1993, the firm kept all of its previous measures and decided to offer two more tangible measures:

- bicycle racks, and
- a \$20 per month for transit users.

*Program Costs*

*Total Annual Program Cost:* \$172,950  
*Annual Cost per Employee:* \$18.51

**Employer-defined Benefits:** The principal benefit Lawrence Livermore sees from its program is the avoidance of penalties from the AQMD in the absence of a trip reduction program. In addition, the program has encouraged higher productivity, elicited a positive response from employees, and burnished Lawrence Livermore's corporate image.

**Company:** City of Pleasanton (#1102)  
**Place:** Pleasanton, CA  
**Location Category:** Suburban business park  
**Type of Business:** Municipal government  
**Total Employees:** 363

**Program Environment/Impetus:** The City Council mandated that Pleasanton take a progressive stance as an employer and introduce demand management as an example for private employers and as a way to help alleviate traffic congestion.

**Public Agency Interaction:** Pleasanton's TDM program is characterized by a growing level of interagency cooperation. In the most recent phase, the City was able to get CalTrans funding for an increase in its alternative mode user subsidy.

*Program Elements*

The City started its demand management program in 1984 with:

- a full-time employee transportation coordinator (ETC),
- information and promotion days for alternative modes,
- rideshare matching,
- bicycle racks, and
- an alternative mode subsidy program, with raffles and a 25% subsidy for monthly commuting costs for carpool/vanpool and transit users.

In 1988, the City added two measures to its existing offerings:

- guaranteed ride home (GRH), and
- a flexible work hours program.

In 1990, Pleasanton introduced two additional program elements:

- a compressed work week effort, with 40 hours in 4 days per week, and
- preferred parking for carpool and vanpool commuters.

The most recent change to the program came in 1994 and consisted primarily of a new alternative mode subsidy on top of previous subsidies of a \$1.50 per day bonus to all alternative mode users (including carpool, vanpool, transit, and bicycle users). Funded by CalTrans, the state DOT.

*Program Costs*

*Total Annual Program Cost:* \$33,000

*Annual Cost per Employee:* \$90.90

**Employer-defined Benefits:** Congestion mitigation remains a significant objective and the City sees its program as contributing to that effort. In addition, the program fulfills the City's goal of providing an example to private employers and generally raising public awareness.

**Company:** McClellan Air Force Base (#1201)  
**Place:** Ranchos Cordova, CA  
**Location Category:** Suburban CBD  
**Type of Business:** Airport facility and maintenance  
**Total Employees:** 12,000

**Program Environment/Impetus:** The base apparently wanted to get ahead of the game and begin demand management before environmental legislation mandated it.

**Public Agency Interaction:** The base indicated that it developed plans, programs and evaluation measures essentially on its own, and as such did not have very much interaction with the surrounding community or state public agencies.

*Program Elements*

Prior to the "modern era" at McClellan AFB, i.e. before 1990, the base had preferred carpool parking (for 3-person or more carpools), and an on-site shuttle system. In 1990, the base offered the following additional measures:

- on-site bus pass sales,
- a new executive committee to address transportation-related issues, and
- rideshare matching.

In 1991, the executive committee provided for the following additions to the base's program:

- a full-time employee transportation coordinator (ETC),
- showers and bike racks for bicyclers, and
- a compressed work week program (80 hours in 9 days, with every other Monday or Friday off).

By 1993, the base had decided to expand its efforts by adding:

- vanpool and carpool matching,
- bicycle repair assistance, and
- increased alternative mode promotion/transportation fairs.

*Program Costs*

*Total Annual Program Cost:* \$103,000

*Annual Cost per Employee:* \$8.58

*Employer-defined Benefits:* Over the course of its program, the base has cited benefits of increased vehicle occupancy, higher productivity/less sick leave, and improved on-time arrival for employees.

*Company:* Hewlett-Packard (#1202)  
*Place:* Roseville, CA  
*Location Category:* Isolated suburban/exurban  
*Type of Business:* Computer manufacturer  
*Total Employees:* 3,300

*Program Environment/Impetus:* HP began its program mainly in response to concerns over employee morale and a desire to reduce stress.

*Public Agency Interaction:* Over time, HP has negotiated and renegotiated its compliance with local and state trip reduction ordinances. During these negotiations, the firm has interacted with its local TMA, the City of Roseville, and the local transit operator, to construct its various measures and tailor them to employee and community needs.

*Program Elements*

Prior to 1991, HP offered the following support measures:

- an on-site recreational health center,
- bicycle racks, lockers and showers on-site,
- preferential parking for carpoolers, and
- a flexible hours program.

In the spring of 1991, the company added these elements to its programs in response to a trip reduction ordinance passed by the City of Roseville:

- a full-time employee transportation coordinator (ETC),
- vanpool/carpool matching,
- guaranteed ride home (GRH), and
- TMA membership.

HP continued to add elements in spring 1993, with:

- promotions for bicycle use,
- construction of a bus shelter on-site,
- on-site pass sales,
- preferred parking for electric car users,
- a telecommuting pilot program,
- compressed work week, including all three: 40 hours in 4 days, 3/36 and 9/80,
- increased local bus transit service, and
- transit pass subsidies, at 7.2% of the value of bus fares.

At present, HP has maintained its demand management at the spring 1993 level.

*Program Costs*

*Total Annual Program Cost:*     \$37,200  
*Annual Cost per Employee:*     \$11.27

**Employer-defined Benefits:** HP's original goal of providing an employee benefit through TDM, as well the more recent imperative of expanding and maintaining a plan with specific trip reduction targets, have both been achieved.

**Company:**                     California Franchise Tax Board (#1203)  
**Place:**                         Ranchos Cordova, CA  
**Location Category:**         Suburban Business Park  
**Type of Business:**         State government – tax return processing  
**Total Employees:**         4,500

**Program Environment/Impetus:** Originally not legal, wanted to be a good citizen and reduce congestion and parking impacts for neighbors.

**Public Agency Interaction:** Since the beginning of its TDM program, the Franchise Tax Board has sought and encountered other public agency support. Staff from the Board have participated in public

meetings on trip reduction and development ordinances, solicited information from other public agencies on TDM, and attended round table meetings of key players in the area on traffic congestion and demand management.

*Program Elements*

The Franchise Tax Board indicates that TDM began as such in 1985, with its move to the new Ranchos Cordova location. At that time, it offered:

- on-site transit pass sales,
- bicycle racks, lockers and showers,
- preferential vanpool parking, and
- a staggered work hours program.

In 1987, the Board stepped up its efforts by adding:

- a full-time employee transportation coordinator (ETC),
- increased alternative mode promotions, and
- rideshare matching.

The next year, as a result of the governor's executive order requiring transportation management plans for all state agencies, the Board introduced more measures, with an emphasis on economic incentives:

- a telecommuting pilot program,
- additional preferred parking for 3-person carpools (had been vanpools only previously),
- a special subsidy for vanpool drivers of \$50 per month, and
- a \$15 discount on the sale of transit passes.

In 1990, the Board provided two new measures on top of its already expanded program:

- guaranteed ride home (GRH) pilot, and
- a compressed work week pilot, begun with 80 hours over 9 days, and expanded later to 40 hours in 4 days.

*Program Costs*

*Total Annual Program Cost:* \$74,900

*Annual Cost per Employee:* \$16.64

*Employer-defined Benefits:* Aside from concerns about meeting legal requirements, the Board cites improved employee access and retainage as its greatest benefits from the program.

*Company:* City of Pasadena – City Hall (#1301)  
*Place:* Pasadena, CA  
*Location Category:* Suburban CBD  
*Type of Business:* Municipal Government  
*Total Employees:* 2,000

*Program Environment/Impetus:* SCAQMD passage of Regulation XV prompted the City, as an

affected employer, to undertake TDM plan formulation and implementation.

**Public Agency Interaction:** Regulation XV's passage obviously played the role of catalyst for Pasadena's program, and the City, as an employer, but Pasadena's regional involvement ended there. The specific elements of its program were developed in-house, and with the assistance of a private consultant. The City funded its incentives out of its own general revenue and from parking fees introduced as part of the program.

### *Program Elements*

The City created what it called "Pro-Motion" in response to Reg XV in 1989, which included a number of supporting measures and an economic incentive element:

- guaranteed ride home (GRH),
- rideshare matching,
- bicycle racks and lockers,
- flexible work hours, and
- a sliding scale of economic incentives for all employees:
  - \$300 per year charge for SOV commuters,
  - \$120 per year subsidy for 2-person carpool commuters;
  - \$600 per year subsidy for 2-person carpool commuters with childcare benefits;
  - \$240 per year subsidy for 3-person carpool commuters;
  - \$720 per year subsidy for 3-person carpool commuters with childcare benefits;
  - \$240 per year subsidy for vanpool commuters;
  - \$240 per year subsidy for commuter shuttle users;
  - \$644 per year subsidy for bus transit commuters; and
  - \$240 per year subsidy for bicycle and walk commuters.

In 1991, the City scaled back most of the subsidies while keeping the SOV charge and all of its support elements. The new program was called Prideshare and included these changes:

- SOV commuter charge went to \$420 per year,
- both carpool subsidies (for 2- and 3-person carpools) were lowered to \$127.50 per year, and the childcare benefit was eliminated,
- the vanpool subsidy was increased slightly, to \$247.50 per year,
- the commuter shuttle subsidy was eliminated,
- bus transit riders were given complete subsidies, with all commuting costs picked up by the City, and
- bicycle and walk commuters saw their subsidies raised slightly, to \$247.50 per year.

Finally, in 1993, the City further scaled back its subsidies with Prideshare II:

- the SOV commuter charge was kept at its previous level,
- all other subsidies were removed, except the transit subsidy, which was lowered to \$420 per year, and
- a mandatory compressed work week with 80 hours in 9 days was instituted.



*Program Costs*

*Total Annual Program Cost:* \$146,550  
*Annual Cost per Employee:* \$73.27

*Employer-defined Benefits:* Pasadena's consistent concern with its TDM program has been that it meet the Regulation XV requirements. Over time, it has been satisfied that its program is sufficient, and has also shown a high sensitivity to costs, cutting back the program's more expensive measures while still moving toward its targets.

*Company:* PL Porter (#1302)  
*Place:* Woodland Hills, CA  
*Location Category:* Suburban Business Park  
*Type of Business:* Engineering/Manufacturing/Service  
*Total Employees:* 233

*Program Environment/Impetus:* Original program begun in 1970s as part of a relocation plan for the firm's headquarters.

*Public Agency Interaction:* PL Porter has had significant public agency interaction with regard to its TDM program since the passage of Regulation XV in 1989, primarily in the form of assistance from the AQMD on measures and evaluation tools.

*Program Elements*

PL Porter's original program was begun in 1974 as part of a relocation plan. It consisted primary of a vanpool assistance program, in which the firm helped the acquisition and partially subsidized the use of vans.

The implementation of Regulation XV in 1988-89 provided the impetus for PL Porter to expand its efforts. The firm joined the area TMA, and offered:

- rideshare matching,
- a midday shuttle,
- guaranteed ride home (GRH),
- bus transit subsidy (\$15 per month), and
- preferred parking for carpools.

In 1993, PL Porter added two new pilot measures:

- flexible work hours, and
- telecommuting.

*Program Costs*

*Total Annual Program Cost:* \$16,240  
*Annual Cost per Employee:* \$69.70

*Employer-defined Benefits:* Although the catalyst for the most recent changes in PL Porter's program has been the regional ECO requirement, the firm has also found that the program encourages a higher level of employee productivity and morale and reduces parking capacity constraints at its current site.

*Company:* Southern California Gas (#1303)  
*Place:* Los Angeles, CA  
*Location Category:* Regional CBD Core  
*Type of Business:* Public utility – gas company  
*Total Employees:* 1803

*Program Environment/Impetus:* LA City Council mandate, prior to passage of Regulation XV, begun in 1984.

*Public Agency Interaction:* Public agency interaction for SoCal Gas has been high. The original LA City Council requirement specified certain measures to be used in all employer programs, and the company complied. Since Regulation XV, there has been some added flexibility, but the targets to be reached are more ambitious. Little or no direct public agency involvement is cited in the most recent phases of the program.

#### *Program Elements*

SoCal Gas' original program, begun in 1984, had the following elements:

- transit promotion and information,
- vanpool subsidy program, SoCal Gas provided and maintained vans for employee use,
- transit subsidy program, at \$15 per month.

The passage of Regulation XV led to an explosion in the number and range of measures offered (previous measures were kept), all of which are apparently still offered now:

- a number of institutional efforts to promote ridesharing (including special task forces from all levels of the utility's work force),
- rideshare matching,
- bicycle racks, showers, and lockers,
- use of company vehicles for work hours meetings,
- guaranteed ride home (GRH),
- preferred parking, coupled with a parking pricing scheme in which all SOV and 2-person carpool commuters must park at an off-site facility, while 3-person carpool commuters are allowed to park on-site. Parking charges were also graduated based on occupancy and location of the spaces.
- compressed work week, 40 hours in 4 days,
- flexible work hours,
- transit subsidies, moved to \$60 per month in 1993, and
- a commuter allowance of \$50 per month for all employees.

*TCRP B-4: Employer Technical Memorandum*

*Program Costs*

*Total Annual Program Cost:* \$1.372 million  
*Annual Cost per Employee:* \$760.95

*Employer-defined Benefits:* SoCal Gas is pleased with the response it is getting among its employees to the program, including the resulting drop in vehicle trips and reduced parking demand, as well as improved employee morale. It is also satisfied that it is meeting the Regulation XV requirement.

*Company:* Allergan (#1304)  
*Place:* Irvine, CA  
*Location Category:* Suburban Business Park  
*Type of Business:* Health Services  
*Total Employees:* 1,425

*Program Environment/Impetus:* Growth in congestion around site and desire to help employees get to work more easily.

*Public Agency Interaction:* Once Regulation XV entered the picture, Allergan witnessed a high level of interaction with public agencies, primarily in the form of AQMD guidelines and assistance. In 1993, the City of Irvine took over monitoring responsibility from the regional air quality district, a change which has increased involvement and actually placed the regulating agency in a sort of partnership with the company.

*Program Elements*

Allergan started its program in the late 1970s with a vanpool subsidy effort in which it purchased and maintained vehicles for employee use.

The firm's TDM program remained intact until 1989, when the passage of Regulation XV created a requirement that the firm expand and formalize its program. At that time, it added:

- bicycle racks, showers and lockers,
- preferred carpool parking,
- additional vans purchased for vanpool (up to 9 vans from about 4 previously),
- rideshare promotions,
- a 50% transit subsidy, and
- flexible work hours.

The following year, 1990, Allergan went even further:

- guaranteed ride home (GRH),
- rideshare holiday bonuses (based on percentage of days ridesharing), and
- new vans for the vanpool (up to 13 vans).

1992 saw the addition of these elements:

- on-site conveniences (pass sales, other services),
- additional van purchases (up to 15 vans),
- a pilot compressed work week (80 hours in 9 days),
- telecommuting.

In 1993, the firm continued to purchase new vans, began to provide company vehicles for midday work-related travel, and fully implemented its compressed work week plans.

*Program Costs*

*Total Annual Program Cost:* \$153,000

*Annual Cost per Employee:* \$107.36

*Employer-defined Benefits:* Throughout the process, Allergan has more or less been concerned with providing an employee benefit and meeting legal requirements, and its program has been successful on both counts.

*Company:* Cedars-Sinai Medical Center (#1305)  
*Place:* Los Angeles, CA  
*Location Category:* Regional CBD Fringe  
*Type of Business:* Non-profit Hospital  
*Total Employees:* 6,000

*Program Environment/Impetus:* Regulation XV requirement brought program into being in 1990, but Cedars-Sinai did not present a full program until 1992.

*Public Agency Interaction:* Cedars-Sinai cites assistance from the South Coast AQMD as the primary source of guidance and information in the selection of measures for its program

*Program Elements*

Cedars-Sinai had a low-level support program from 1990 until 1992. It did some vanpool support and on-site bus pass sales from the start, and then expanded significantly with these measures in 1992:

- bicycle support with racks, lockers and showers,
- a non-SOV reimbursement program for the cost of unused employee parking for all those commuting to work by transit, carpool/vanpool, bicycle, or walk,
- a transit subsidy program of \$15 per month.

In 1994, the medical center added a shuttle service from the hospital to the new Metrorail station in its vicinity.

*Program Costs*

*Total Annual Program Cost:* \$464,625  
*Annual Cost per Employee:* \$77.43

*Employer-defined Benefits:* In addition to fulfilling its requirement, Cedars-Sinai also reports it is pleased that employee satisfaction and productivity have risen.

*Company:* Warner Center Hilton (#1306)  
*Place:* Woodland Hills, CA  
*Location Category:* Suburban Business Park  
*Type of Business:* Hotel  
*Total Employees:* 165

*Program Environment/Impetus:* Passage of Regulation XV prompted this location of the Hilton to provide TDM support measures to its employees.

*Public Agency Interaction:* The Hilton cites two areas of significant public agency interaction: the involvement of the Warner Center TMO in selection and evaluation of measures, and a training and certification course offered by the AQMD which its ETC attended.

*Program Elements*

The Warner Center Hilton's TDM program, begun in 1991, has several components, all of which have been retained from its inception through the present:

- free meals for all employees (already offered, but also a transportation-related benefit for employees),
- bicycle racks, showers and lockers,
- preferential parking for carpools and vanpools,
- a full-time employee transportation coordinator (ETC), and
- an alternative mode subsidy policy, for all non-SOV users, a \$15 per month bonus.

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*Program Costs*

*Total Annual Program Cost:* \$31,000  
*Annual Cost per Employee:* \$187.87

*Employer-defined Benefits:* The Hilton cites satisfaction with its program in two areas: it is meeting the legal requirement, and it is having a positive effect on employee satisfaction.

*Company:* Rick Engineering (#1401)  
*Place:* San Diego, CA  
*Location Category:* Suburban Business Park  
*Type of Business:* Engineering consulting firm  
*Total Employees:* 120

*Program Environment/Impetus:* City of San Diego ordinance requiring plans created need for Rick to engage in TDM.

*Public Agency Interaction:* Aside from the City's requirement, Rick Engineering also sought information and advice from a range of public agencies, including the City, California labor law research, and classes at UCSD on TDM.

*Program Elements*

Rick Engineering began its TDM program in 1990 by joining its area TMA, and offering these two measures:

- bicycle lockers and racks, and
- preferred carpool spaces.

In 1992, the firm added a compressed work week program, with 80 hours in 9 days being the standard.

The following year, 1993, Rick added these elements:

- a fully subsidized vanpool program (employees required to pay taxes on benefit, but that's all),
- guaranteed ride home (GRH), and
- an alternative-mode subsidy program, in which all non-SOvers get a bonus of \$25 per month.

*Program Costs*

*Total Annual Program Cost:* \$22,580  
*Annual Cost per Employee:* \$188.18

*Employer-defined Benefits:* In addition to meeting the City requirement, Rick Engineering cites improved community relations, corporate image, and employee morale, as positive results of its program.

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**Company:** Mercy Home Care (#1402)  
**Place:** San Diego, CA  
**Location Category:** Suburban Business Park  
**Type of Business:** Home Health Care Service  
**Total Employees:** 270

**Program Environment/Impetus:** Mercy cited concerns over an impending legal requirement and wanting to get ahead of the curve, so to speak.

**Public Agency Interaction:** Mercy got help from a City administrator-funded rideshare network set up to help commuters Citywide. In addition, Mercy sent a staff member to a UCSD course on TDM.

**Program Elements**

Mercy's program, begun in 1993, is primarily a promotion- and raffled-based program, with some additional support elements:

- employees are given coupons for entry into quarterly raffles based on number of days ridesharing or taking other alternative transportation to work (prizes donated by local businesses),
- removal of requirement for all field staff to report to the office daily,
- preferred carpool parking, and
- guaranteed ride home (GRH).

**Program Costs**

**Total Annual Program Cost:** \$4,330  
**Annual Cost per Employee:** \$16.04

**Employer-defined Benefits:** Mercy's program has allowed it to meet the City requirement, and to improve employee morale.

**Company:** Cornell University (#1501)  
**Place:** Ithaca, NY  
**Location Category:** Suburban Campus  
**Type of Business:** University  
**Total Employees:** 10,900

**Program Environment/Impetus:** Cornell got involved in TDM for a whole host of reasons, including: in anticipation of an upcoming legal requirement, in response to increasing congestion on-campus and directly adjacent to the campus (coupled with the unlikelihood of expanding the infrastructure), and as a way to deal with the extra demand likely to arise from new construction.

**Public Agency Interaction:** Cornell's public agency interaction was minimal, both in evaluating and

selecting measures to be put into its program.

*Program Elements*

Cornell's program, begun in 1990, runs the gamut of potential TDM measures:

- flexible work hours,
- employee transportation coordinator (ETC),
- alternative-mode raffles and promotions,
- RideShare, a carpool matching and incentive program, in which those carpooling get discounts on parking and may be eligible for special rebates,
- OmniRide, a transit subsidy program in which those living within the county get a 100% subsidy, while those outside get a lower level (but still a subsidy), and through which a new, more customer-convenient map was developed for the local transit system, and
- parking pricing for SOV commuters, including the conversion of several previously-free spaces to fee-based parking.

*Program Costs*

*Total Annual Program Cost:* \$270,000

*Annual Cost per Employee:* \$24.77

*Employer-defined Benefits:* Cornell's program has been a success from nearly all of its original perspectives: it has minimized construction impacts, reduced congestion in and around its campus, promoted pedestrian safety, and improved employee morale.



## GLOSSARY OF TDM TERMS

**Alternative Commute Mode** - any travel mode for getting to and from work other than driving alone. This includes all forms of ridesharing (eg. carpooling and vanpooling), public transit (eg. commuter bus and rail), and non-motorized commute modes (eg. bicycling and walking).

**Alternative Work Arrangement** - any strategy designed to shift the timing of commute trips (eg. flexible work hours) or the place of work (eg. telecommuting).

**Buspool-** a commute mode where sixteen to forty-five riders travel to a common destination aboard a privately arranged and independently operated commuter bus. Weekly or monthly fares are shared by all the riders and paid on a subscription basis.

**Carpool** - a commute mode where two or more individuals ride together to work in a personal or company-owned vehicle. Typically, driving responsibilities are shared so that no money need change hands.

**Commute Mode** - the choice of vehicle in which to travel to work; includes single occupant vehicle, carpool, vanpool, bus, rail, taxi, motorcycle, bicycle, walking, and ferry or other water vehicle.

**Commuter Assistance Center** - an information center sponsored by an employer, developer, building manager, or local government which offers information on commuting alternatives, serves as an outlet for transit fare media, and administers other commuting subsidy programs.

**Compressed Work Weeks** - an alternative work hours program which enables employees to work the full number of hours in a work period in fewer than the usual number of days for that work period. Employees work more hours per day to make up the hours not worked on the "off" day. Examples include the "4/10" schedule, in which employees work four 10-hour days, and the "9/80" schedule, in which employees work eight 9-hour days and one 8-hour day for a total of 80 hours over a period of 9-work days

**Coordination of Land Use** - a medium to long term strategy to reduce travel distances and increase the use of commute alternatives by moving jobs closer to workers and making developments more user-friendly to ridesharers and transit users and easier to get around without the use of an automobile. Examples include mixed-use developments which combine office, retail and residential uses and bicycle and walking paths to nearby residential areas.

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**Employee Transportation Coordinator (ETC)** - a person designated by a business or organization to develop and implement a program for changing the commuting behavior of its employees. ETCs provide personalized assistance to commuters as well as provide more general marketing and information functions. Most trip reduction ordinances and regulations require employers to select and train an ETC.

**Flexible Work Schedules (Flextime)** - an alternative work hours program which enables employees to set their own arrival and departure times, as long as they accumulate the required number of hours (typically 40) over the course of the week. Most flextime programs establish "core hours," a band of time (eg. 10 am to 3 pm) during which all employees must be at the work location.

**Guaranteed Ride Home (GRH)** - a travel service that provides ridesharers and transit riders with an ensured means for the return trip home in the event of a mid-day emergency or unplanned overtime. A subsidized taxi service is the most common GRH vehicle. Other GRH options include short-term auto rental, company fleet vehicles, and straggler vans.

**High Occupancy Vehicle (HOV)** - a private or public vehicle with at least one passenger in addition to the driver; may also define HOV lane accessibility which typically is set at two or more persons per vehicle but can be a higher minimum if justified by prevailing traffic congestion levels.

**High Occupancy Vehicle (HOV) Lanes** - a traffic lane reserved for the exclusive use of carpools, vanpools and buses. HOV lanes are also referred to as carpool or diamond lanes and are generally located on regional expressways. HOV lanes enable ridesharers and transit riders to enjoy reduced travel times compared to drive alone commuters traveling in more congested, conventional lanes.

**Matchlist** - a list of potential ridesharing partners specifically tailored for commuters who share similar commuting patterns based on their home and work locations and work schedules.

**Mid-Day Shuttles** - a shuttle which provides ridesharers and transit riders working in isolated office parks or other work sites with a means for running errands during the day. Such shuttles provide a connection to nearby merchants and restaurants enabling employees to use transit or rideshare to work without feeling "stuck" in the middle of the day.

**On-site Services** - the availability of services on or near the work site to minimize the need for a car to perform personal or business errands before, during or after the work day. These include cafeterias and restaurants, dry cleaners, ATMs, child care and exercise

facilities, post office or stamp machines, printers and copy shops, convenience shopping, and video rentals.

**Park-and-Ride Facility** - a parking lot or garage to which commuters can drive from their residences, park their cars, and board a transit or commuter bus or join carpools and vanpools for the balance of the work trip. By providing a convenient transfer point, park-and-ride lots effectively extend transit's service area while also facilitating ridesharing arrangements.

**Parking Management** - a program utilizing parking resources to encourage ridesharing and transit use by making driving alone less attractive. This can be done by limiting the parking supply, instituting parking fees, and giving high occupancy vehicles preferential treatment.

**Parking Pricing** - a parking management program which uses parking fees to encourage commute alternatives while providing an economic disincentive to drive alone. Parking pricing can take many forms, including the (1) reduction or elimination of employer-provided parking subsidies, and (2) the application of different fees for different modes, i.e. carpools and vanpools receive free or discounted parking while drivers of single occupant vehicles (SOVs) pay the full parking fee. Parking pricing may generate revenue that can be used to subsidize employees who use transit and other alternative modes.

**Parking Supply Limitation** - a parking management program which reduces the amount of parking available by either building less parking or restricting its use. This encourages the use of high occupancy modes by reducing the parking supply below the amount normally demanded by users.

**Preferential Parking** - a parking management program which provides reserved parking for high occupancy vehicles (HOVs) in the most desirable location. Examples include reserved parking near the building entrance, covered parking, and priority on-site parking when on-site parking is limited.

**Rideshare Agency** - a regional organization, typically a private non-profit or public agency, that promotes ridesharing and other commute alternatives by assisting individual commuters, employers, and TMAs. Regional rideshare agencies can provide a variety of TDM programs and services including ridematching, marketing, third-party vanpool assistance, training, and related planning services.

**Rideshare Friendly Work Site Design** - an employment site designed (or redesigned) to accommodate the needs of commuters arriving by high occupancy vehicles rather than expecting that employees primarily arrive by private automobile. Such work sites

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accommodate the space and maneuvering needs of transit and vanpool vehicles, locate bus stops and rideshare loading areas near building entrances, and provide sidewalks connected to adjacent neighborhoods to encourage pedestrian and bicycle access.

**Rideshare (or Transit) Subsidies** - regular, periodic payments made to employees who use carpools, vanpools, transit or other alternatives to driving alone. Subsidies can be provided as cash payments of a pre-set amount or as a reimbursement for actual travel costs, or take the form of pre-paid fare media such as transit passes.

**Ridesharing** - the sharing of a private vehicle among two or more individuals. This term is generally used to describe carpools and vanpools, but can also include some forms of private transit such as buspools and shuttles.

**Single Occupant Vehicle (SOV)**- the primary commute mode of driving alone.

**Telecommuting** - a work arrangement which reduces home-to-work trips by allowing employees to work-at-home. The purpose is to move information rather than people and automobiles. Employees may be linked to the work place by computer and modem, or simply take work home requiring no computer. Telecommuting employees usually work at home one to several days per week but generally report to a central office location on the remaining days.

**Telecommuting Center** - a form of telecommuting where employees work at a satellite work center (run by a single employer) or neighborhood work center (run by multiple employers). The centers usually are equipped with computers and modems and connected to a main office.

**Transportation (Travel) Allowance** - regular, periodic payments that are given to all travelers, including those who drive alone, to be used to defray the costs of travel. Travel allowances provide an economic incentive to shift from SOVs to less costly modes or modes in which costs are shared because employees whose travel cost is less than the allowance pocket the difference. Allowances are often set to be equal to a parking charge. Employees can buy parking or apply the allowance to other travel costs.

**Transportation Management Association (TMA)**- a voluntary association of employers, developers and other businesses, usually from a well-defined employment area or travel corridor, working together with public agencies to address common transportation concerns. TMAs implement a variety of programs, including services for member employers designed to reduce employee vehicle trips.

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**Transportation Systems Management (TSM)** - low cost improvements to make the transportation system work more efficiently, such as traffic signal coordination.

**Travel Demand Management (TDM)** - a set of actions or strategies, the goal of which is to encourage travelers to use alternatives to driving alone, especially at the most congested times of the day. TDM strategies seek to reduce vehicle demand on the transportation system by increasing the number of persons in a vehicle, or by influencing the time of, or need to, travel. TDM encompasses alternative modes to driving alone (ex. carpools and vanpools), alternative work arrangements which shift the time or place of work (ex. flexible work schedules and telecommuting), and the techniques or strategies that encourage use of these modes (ex. high occupancy vehicle (HOV) lanes and financial incentives).

**Trip Reduction Ordinance (TRO)** - a legal mechanism aimed at employers and/or developers to limit the number of SOV users with the purpose of reducing vehicular emissions, minimizing traffic congestion, or both.

**Vanpooling** - a commute mode where seven to fifteen persons commuting in a van that is most often provided by an employer or leased from a vendor. Operating costs are covered by monthly fares paid by the riders. Drivers pay no fare in return for their service.