

Difficulties with the Easy Ride Project: Obstacles to Voluntary Ridesharing in the Suburbs

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The example of a recent ridesharing demonstration project in Bellevue, Washington, is used to explore how money, convenience, and time costs influence the commute mode decision in low-density office parks. Commuters perceived that driving alone was low cost and ridesharing was high cost. The Easy Ride project attempted to lower the perceived costs of ridesharing and transit. Key features of the Easy Ride project were area-wide transportation coordinators who offered personalized commuter assistance; an intensive marketing campaign; vanpool discounts; and taxi rides home for ridesharers who missed their ride. Despite Easy Ride attempts to lower the perceived cost of ridesharing, most project sites exhibited no measurable change in mode split over 2 years' time. But Easy Ride also found that imposing costs on solo drivers can have a dramatic effect on mode split. The report concludes that the most effective approach to increasing ridesharing and transit rates may be to raise the cost of driving alone while at the same time offering incentives that lower the costs of ridesharing. But regulating suburban employers in order to impose costs on suburban drivers is politically difficult. Until such costs can be imposed, public agencies have little choice but to pursue voluntary ridesharing programs to control traffic congestion. However, to increase ridesharing and transit use significantly, the incentives of voluntary programs may have to be substantial.

Easy Ride was a demonstration ridesharing project sponsored by the city of Bellevue, Washington, and implemented by the regional transit agency, the Municipality of Metropolitan Seattle (Metro). Intended to discover ways to boost ridesharing rates and transit use, the project offered a package of services and incentives to the employees of two low-density suburban business areas within the city limits of Bellevue. The project began in June 1987 and ended in June 1989.

Easy Ride was unusual among municipal and other government-sponsored ridesharing programs, which usually require employers to provide ridesharing and transit incentives to their workers. With Easy Ride, the city of Bellevue provided services, marketing, and ridesharing incentives directly to the workers of the two target areas with the cooperation of the employers. The program was thus voluntary for both employers and workers. It was hoped that if employers recognized the benefits of ridesharing, they would

support it themselves after the demonstration project had ended.

As an experimental program, Easy Ride yielded valuable information for future public policy directions. However, final assessment of Easy Ride indicated that on average, across the companies in each target area, the ridesharing rate did not change over the 2 years of the project. With such an outcome, employers were not interested in continuing the program themselves. However, the average results did mask some variation in the ridesharing rates: two firms experienced increases by the end of the project. Their unique circumstances offer an instructive counterpoint to the overall Easy Ride experience. They also furnish significant policy implications for combining positive and negative incentives to induce commuters to carpool, vanpool, and ride the bus to work.

Easy Ride was part of the city of Bellevue's overall approach to managing traffic congestion. This context, in which Easy Ride was conceived, developed, and implemented, is described in the following sections. After presentation of the background and reasoning that led to the program, the actual outcome of the project is analyzed. In the concluding section, the policy implications of the Easy Ride experience are explored.

PROGRAM CONTEXT

Managing Change

Bellevue is a fast-growing city in the most populous county of Washington State. As early as 1980, the city recognized that it would have to manage the dramatic regional growth that loomed ahead, and that transit and ridesharing would be critical to this goal.

The city embarked on a sustained program of capital improvements that in 1989 culminated in a \$187 million commitment to transportation facilities over the next 12 years. In addition to capital improvements, the city has over the last decade been developing a comprehensive program to increase the rate of transit use and ridesharing. The city's goal is a 40 percent rideshare-to-transit rate in the central business district (CBD), where in 1990 that rate was about 20 percent. Outside the CBD, the goal is a 25 percent rideshare-to-transit rate—in 1989 the rate was about 12 percent.

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Downtown Strategies

Many of Bellevue's transportation demand management (TDM) strategies have centered on its CBD, which had a work force of 23,000 in 1989. Some of these strategies have included

- Establishing the Bellevue Transportation Management Association, of which the city was a partner;
- Imposing strict TDM requirements on developers of new office buildings;
- Limiting office parking;
- Negotiating a transit incentive agreement whereby Bellevue received additional downtown transit service. This service was furnished by the regional transit authority, Metro, in return for actions taken by the city to encourage transit use (e.g., increasing downtown employment densities, decreasing parking availability, raising parking fees, and providing of commuter bus pass subsidies by the private sector).
- Cooperating with Metro to build a downtown transit center (which was completed in 1985).

The city's long-range downtown transportation plan, adopted in 1990, called for a relocated and expanded transit center with exclusive freeway access, high-occupancy vehicle (HOV) lanes on two additional arterial streets (in addition to an existing HOV lane), and monitoring of parking prices to ensure higher user costs (with a goal of \$75.00 per month, in 1989 dollars, by the year 2000).

Bellevue's Suburban Activity Centers

Although employment in downtown Bellevue is expected to double in the next 10 years, employment outside the downtown will also grow rapidly. By the year 2000, the non-CBD work force will increase by 35 percent, from 57,000 to more than 76,000, according to the city of Bellevue Department of Planning.

Bellevue's nondowntown employment is loosely clustered in four areas ranging in work force size from about 3,500 to nearly 15,000. The office parks in these areas tend to be occupied by many small employers. Employment density is low, and parking is provided in the range of 4.0 to 5.0 stalls per 1,000 ft² of office. Transit service is relatively poor, capturing about 1 to 2 percent of the work trips. Ridesharing is the choice of about 8 to 10 percent of the office workers, a background (or ambient) rate that is standard in the absence of TDM measures.

To Regulate or Not To Regulate

To help address the challenges of the low-density suburban market, some jurisdictions around the nation have turned to TDM ordinances and agreements with developers to increase transit and ridesharing use. Probably the best known of these is Southern California's Regulation XV, a program under which the regional air quality district requires employers of 100 or more workers to offer trip-reduction incentives to their workers. The goal is to achieve an average vehicle ridership of 1.50 among employees who report to work from 6:00 to

10:00 a.m., a figure that equates roughly to a 55 percent drive-alone rate.

This approach has limited applicability in some states, such as Washington, where state law does not authorize trip-reduction ordinances except as part of land-use regulations for new development. Because of this limitation, the Non-CBD Transportation Management Program ordinance that was adopted into Bellevue's zoning regulations in 1986 may be applied only to new development. The ordinance affects only a small minority of Bellevue employers, because most vacant land has already been developed.

Voluntary Alternatives

Judging that the road to changes in state law might be long and rocky, the city decided to explore voluntary TDM programs for existing firms in low-density suburban employment areas. Metro had long had an outreach program aimed at major employers; it was thought that this could be intensified in the suburban setting with additional resources.

Staff at first considered whether local firms might organize and fund TDM activities through a transportation management association (TMA). However, discussions with non-CBD Bellevue firms indicated a low likelihood of TMA formation (Bellevue's existing TMA has chosen to maintain its focus on the CBD). If Bellevue were to launch an intensive TDM program in suburban activity centers, some support from local firms could be expected, but it was clear that public-sector leadership and funding would be necessary at the outset.

Working with Metro, the city conceived of a publicly funded TDM marketing program aimed at Bellevue's suburban employment areas. The city decided to test the effectiveness of an intensive and personalized transportation coordinator approach on two areas as demonstrations. If the campaign proved effective, it could be applied city-wide at a later time.

From this preliminary concept, the Easy Ride program was developed, growing into a two-year exploration of a voluntary TDM program for suburban office parks.

PROGRAM SCOPE

A total of \$110,000 per year for 2 years was budgeted by the Bellevue City Council for the Easy Ride transportation coordinators and promotional efforts, described later, and the incentives, which are addressed in detail in the section titled "Program Analysis." Actual annualized costs were \$91,100, which did not include Metro or city administrative supervision or the cost of Metro's Early Start vanpool incentive, described with the Easy Ride incentives. Of the total cost, \$26,000 per year was spent on evaluation.

Two activity centers were targeted. One was the Bellefield Office Park and Bellevue City Hall site, located south and east of the Bellevue downtown. It encompasses a large office park, several large multitenant buildings, and the City Hall. It has a work force of about 2,200. The other was the I-90 Corridor, located south and east of Bellefield-City Hall. It contains several large office parks and multitenant office buildings that house approximately 7,100 employees. It is named for Interstate 90, which traverses it (see Figure 1).

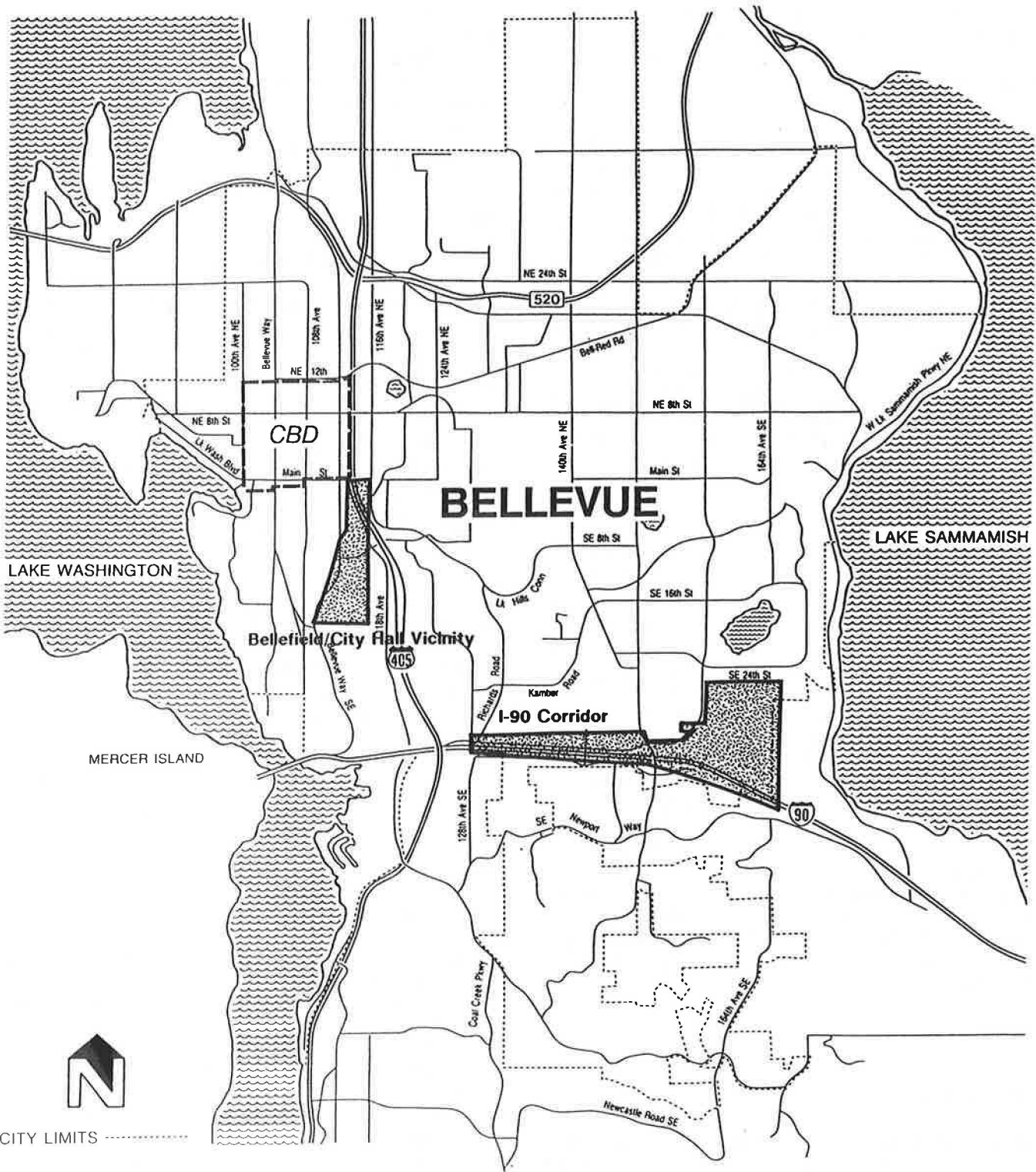


FIGURE 1 Easy Ride project areas.

Transportation Coordinators

A key feature of the Easy Ride project was personalized commuter assistance through Metro-trained transportation coordinators. The full-time (I-90 Corridor) and half-time (Bellefield–City Hall) transportation coordinators had three primary roles:

- To personalize HOV marketing by helping commuters to make carpool and vanpool arrangements and to find suitable transit routes. This personalization included making follow-up calls to individuals applying for Metro's computerized ridematch service, offering assistance in resolving problems, and helping to overcome resistance to forming rideshare arrangements.
- To assume the role of the normally on-site employee transportation coordinator (ETC) for employers of fewer than 100 employees.
- To market HOV programs to all employers in the targeted areas, encouraging them to implement TDM programs. These programs included parking management, flex time, provision of transit pass subsidies, appointment of a staff coordinator, and regular distribution of Easy Ride marketing materials.

Promotion techniques included regular distributions of ridematch applications, setting up information tables in lobbies, posting flyers and information materials, and conducting large and small transportation fairs both indoors and out. Research of existing employer characteristics and logging of contacts and results were also major activities.

The transportation coordinators used an array of HOV incentives as sales tools. These incentives included some incentives that Metro already had available, as well as a few developed especially for Easy Ride. The two sets of incentives—both Metro and Easy Ride—were primarily targeted at vanpoolers and are described in detail in the section titled "Program Analysis."

Project promotion was aided by a package of coordinated marketing materials. Eight brochures described services and incentives; these were grouped into a presentation folder. Firms were offered free wall-mounted plexiglass "commute options boards" that were regularly stocked by the transportation coordinators. A portable table-top display was developed for use at fairs and in building lobbies.

Advisory Committees

To help ensure private-sector participation, Easy Ride established two advisory committees (one for Bellefield, one for I-90) composed of employers, building managers, and developers. The advisory committees' roles were to review program operations from a private-sector perspective, to suggest new marketing tactics and employee incentives, and to facilitate the introduction of the transportation coordinators into reluctant firms.

Data

Easy Ride was conducted under good circumstances for assessing its effectiveness. To analyze the performance of the Easy Ride program, Metro conducted employee surveys in several buildings in each project area at three times during the program. These surveys determined mode split, attitudes toward and awareness of program services, and demographic information.

The first round of surveys was conducted before the program was offered, in June of 1987. This provided baseline data. A second survey was fielded 1 year later, and a final survey was conducted at the program's conclusion, in June of 1989. In each year, the same buildings were surveyed. The sample in each survey was determined by the number of employees who chose to return completed questionnaires. The samples were not random, but the methodology offered consistency and return rates were generally high enough to furnish a clear picture of employee commuting habits (return rates for Bellefield–City Hall's three surveys were 47 percent of 1,299 employees, 30 percent of 1,451 employees, and 43 percent of 1,093 employees; for I-90, they were 21 percent of 3,025 employees, 32 percent of 2,363 employees, and 43 percent of 2,053 employees).

As a back-up indicator, employee automobile occupancy counts were conducted. Other evaluation tools were logs of contacts made with clients and other reports of the transportation coordinators.

In addition, other sites were surveyed that could be used as bases of comparison with Easy Ride. Because these Eastside business areas received only the Metro incentives, they acted as quasi-controls on the project. (Eastside refers to King County east of, and across Lake Washington from, Seattle. It encompasses six incorporated cities, including Bellevue, and unincorporated county areas.) All incentives are explained in the following section.

PROGRAM ANALYSIS

Assumptions

Transportation costs are composed of money, time, and inconvenience costs. In the analysis that follows, the thesis is proposed that commuters perceive ridesharing or transit use as much more costly than driving alone in terms of these three costs. Driving alone actually costs little, especially when the special attributes of the automobile are taken into consideration (power, beauty, control, instant mobility, and so on). Ridesharing and transit cost more not only in out-of-pocket expenses but also in manifest inconvenience and lost time. If a cost disparity did not exist, just as many commuters would be seen riding in carpools, vanpools, and buses as driving alone in automobiles.

The Easy Ride strategy was to try to lower the three-faceted cost of ridesharing enough to divert commuters from their single-occupant automobiles into carpool, vanpool, and transit arrangements.

Lowering the Cost with Services and Incentives

Easy Ride lowered the cost of ridesharing in several respects. One, it reduced some of the costs of inconvenience, which we might call transaction costs. These are the costs of finding fellow passengers or bus lines, making arrangements and communicating with fellow passengers, finding a way home in emergencies, and so on.

Easy Ride reduced some transaction costs by providing computerized ridematching and personal follow-up services in both I-90 and Bellefield–City Hall. The transportation coordinators widely publicized and distributed ridematch registration forms and made follow-up calls to registrants to assist in resolving problems in carpool and vanpool formation.

The transportation coordinators also conducted carpool and vanpool formation meetings, thus absorbing the cost of bringing interested parties together. Coordinators also planned transit routes for interested individuals if transit options were available.

Finally, Easy Ride offered a solution to the problem of having to leave earlier or stay later than the rest of one's pool. This was done through a service guaranteeing a ride home by taxi, which was offered in the I-90 Corridor only. The program had a 60-mi limit per person per year and was free except for the \$1.00 taxi drop charge.

Metro offered a 6-month subsidy, available throughout the Eastside, that covered the cost of empty vanpool seats. This was not part of Easy Ride but was still available to I-90 and Bellefield–City Hall employees. Called "Early Start," it enabled vanpools to begin operating before they had their full complement of riders. This process reduced search costs because once on the road, a vanpool was its own best advertisement for additional passengers. (Early Start applied only to vanpools using Metro vans. Under Metro's vanpool program, passenger vans—owned, insured, and serviced by Metro—are loaned to groups of 8 to 15 commuters.)

Carpoolers and vanpoolers generally share the cost of fuel, and vanpoolers and transit users buy vanpool or bus passes. These expenses make the out-of-pocket costs of ridesharing seem greater than the out-of-pocket costs of driving alone. The actual costs of driving to work alone are hidden in monthly gasoline credit-card payments, insurance premiums, and vehicle maintenance.

Easy Ride reduced out-of-pocket expenses by offering vanpoolers a savings on their fares. This savings varied by target area. In Bellefield–City Hall, "one month free" was offered over the first 8 months of Easy Ride and was renewed for a 5-month period in the second year. In the I-90 Corridor, vanpoolers could collect a subsidy of \$10.00 per month if they rode in a Metro van. They could also participate in the "two months free" program that was offered during the last 4 months of Easy Ride.

An I-90 Corridor employee who vanpooled for the last 18 months of the Easy Ride project could have saved \$180 (at \$10 per month). Using a monthly vanpool fare of \$60 as an example, the employee who vanpooled for the last 4 months of the project could have saved \$160 (at \$10 per month plus two months free). In contrast, a Bellefield vanpooler could have saved at most only \$60 (one month free), and then only during certain portions of the project. Thus the financial inducements to vanpool were greater in the I-90 Corridor.

In addition to the monetary subsidies, the Easy Ride transportation coordinators attempted to educate their target work forces about the real costs of daily drive-alone commuting. The intent was to narrow the perceived chasm between ridesharing and drive-alone costs.

Ridesharing takes more time than driving alone to work because a commuter must collect passengers (or wait for a bus) before the actual commute begins. In time-conscious, high-pressured society, the time loss is one of the largest deterrents to ridesharing and transit use, surpassing transaction costs and out-of-pocket expenses. Therefore, time loss should be the element most urgently addressed in a ridesharing program. However, Easy Ride did not include an extensive time-savings element except that the transportation coordinators did try to persuade employers to reserve parking spaces close to building entrances to provide ridesharers with a time-savings fillip at the end of the drive to work.

Results

Two years of marketing Easy Ride's services and incentives yielded valuable information about how to approach the matter of ridesharing in the suburbs. However, final assessment of Easy Ride indicated that on average, across the companies in each target area, the ridesharing rate did not change over the 2 years of the project (*I*).

In the Bellefield–City Hall target area, survey data indicated that 6.9 percent of the total employee population had begun carpooling and vanpooling since the beginning of the Easy Ride program. The surveys also indicated that 6.0 percent reported abandoning ridesharing, for a statistically insignificant net gain (*I*).

In the I-90 Corridor, survey data indicated that 3.9 percent of the employee population began carpooling and vanpooling over the 2 years of the Easy Ride program, and 3.9 percent left these modes to begin driving alone (*I*). Hence, there was no net gain in the ridesharing rate.

The rates of ridesharing entry and exit in Bellefield–City Hall and I-90 Corridor were about the same as the control sites. The 1989 results indicated that in 1989, over all sites (Easy Ride included), 5.5 percent entered ridesharing or transit use, and 5.5 percent left it (*I*). Thus the Easy Ride rates of 6.0 and 3.9 percent, respectively, are probably background rates of turnover that occur whether ridesharing incentives exist or not.

Table 1 presents the means of travel over the course of the program for survey respondents in Bellefield–City Hall and I-90 Corridor. The responses indicate that the percentage of people commuting by HOV to Bellefield–City Hall or I-90 Corridor was no greater in 1989 than it had been in 1987. The drive-alone rate crept up somewhat in I-90 and declined in Bellefield–City Hall, but neither change was statistically significant (*I*). The apparent decline in Bellefield–City Hall was caused entirely by two firms whose experience is discussed later.

Counts of employee vehicle occupancy confirmed the results of the HOV–TSM surveys. Counts in Bellefield–City Hall and I-90 Corridor indicated that the average number of occupants per vehicle driven to either area did not increase over the 2-year period.

TABLE 1 MEANS OF TRAVEL, BELLEFIELD-CITY HALL AND I-90 CORRIDOR, 1987 TO 1989 (1)

Mode	Bellefield/City Hall			I-90		
	1987	1988	1989	1987	1988	1989
Drive Alone	84.3%	80.1%	79.6%	87.9%	90.7%	89.8%
Carpool	9.1	11.1	11.0	7.7	5.7	6.4
Vanpool	1.5	3.9	4.3	0.2	0.3	0.5
Bus	2.9	2.2	1.8	1.6	1.3	0.9
Other	2.3	2.7	3.4	2.7	2.0	2.4
Total	100.0	100.0	100.0	100.0	100.0	100.0

The effects of the fare discounts for vanpools and the Early Start vanpool program were difficult to document. According to Metro surveys of project area vanpoolers, employee awareness of the fare discounts was low, even among recipients of the discounts. The rate of vanpool formation was higher in Bellefield-City Hall than in I-90 Corridor, where the subsidies were larger. Discounts were not a major consideration in decisions to vanpool. Nor did employees respond to the transportation coordinators' efforts to educate them about the true costs of solo commuting.

Of the monetary subsidies, Metro's Early Start subsidy appeared to be the most popular in both target areas. This fact makes sense where few people choose to vanpool. If commuters were clamoring to vanpool, search costs would be low and fare discounts would then draw commuters' attention. But where vanpoolers are scarce, search costs can be reduced by permitting vanpools to operate only partly full.

The Guaranteed Ride Home (GRH) was offered only in the I-90 Corridor. Commuters to the test area who used an HOV mode at least three times per week were eligible to use the program. By the end of the Easy Ride program, only 28 percent of those eligible had signed up for it (2). The failure to register may have been because of lack of awareness of the program or because of lack of interest. There are few data to support either speculation. Roughly 40 percent of the I-90 Corridor employees could have been exposed to ETCs and commute option boards, the main sources of information about the existence of the GRH. But according to the last survey, no more than 17 percent of the I-90 Corridor employees were aware of it.

Thirteen percent of all GRH registrants had commuted alone to work shortly before registering for the GRH program (2). Whether GRH was the most compelling reason to abandon solo commuting is not clear. Focus groups on ridesharing conducted by Metro elicited comments from solo commuters who said that they needed more incentives than just GRH to get them out of their cars. In particular, they noted that if they were charged for parking or if there were more convenient transit service, they would consider abandoning solo commuting.

In the same focus groups, those who were already HOV users stated that they found the GRH program valuable. In addition, 70 percent of the respondents to a survey of GRH registrants reported that GRH was important to their decision

to rideshare, and 50 percent said that GRH allowed them to continue ridesharing (2).

Actual usage of the GRH program was low. Over the 2 years of Easy Ride, 21 registrants took 24 trips, which accounted for 3.4 percent of the miles that could have been used under the program (2).

To trim time consumed by carpooling and vanpooling, the transportation coordinators in both target areas attempted to persuade employers to provide reserved parking close to building entrances. The response was minimal. Only 25 spaces were reserved in Bellefield, and 24 in the I-90 Corridor—enough for only 19 percent of the carpool and vanpool vehicles arriving in Bellefield-City Hall and 10 percent in the I-90 Corridor.

Employer interest was lukewarm at best. Unmotivated employers did not allow access to employees, failed to distribute promotional materials as promised, refused to provide transit or other subsidies, and declined to reserve rideshare parking or charge for parking. In addition, although many employers appointed on-site ETCs, it was made clear that the ETCs' primary allegiance was to their full-time jobs.

As a measure of employee interest, the number of employees who submitted ridematch registration forms was assessed. Relatively few employees completed and returned forms: 7 percent in the I-90 Corridor and 9 percent in Bellefield-City Hall. To put these figures in perspective, Southern California's Commuter Computer in the pre-Regulation XV days usually collected applications from 20 to 30 percent of a given employee population. Thus employee interest in ridesharing appeared to be low.

The Advisory Committees played fairly conservative roles. Management of the Easy Ride project was retained by Metro and the City of Bellevue, leaving the committee to assist with promotions and entry into firms. Interest in forming a TMA was low. When asked what would increase that interest, one committee member listed (a) severe local congestion; (b) complaints by employees that congestion impaired their mobility; (c) a requirement that employees pay for parking; and (d) improved Metro suburban transit service.

A surprising outcome in the Easy Ride effort was that unexpectedly large numbers of employees requested bus transit information. Bus patronage did not increase, however. Suburban bus service was not well matched to local commute patterns.

How Low Is Low Enough?

The final survey results indicate that Easy Ride did not lower the time, inconvenience, and monetary costs of ridesharing enough to stimulate demand for it. Easy Ride in fact offered fairly minimal reductions in the costs addressed here. How much of a reduction would have been enough?

With enough funding, Easy Ride could have reduced the cost of ridesharing much further than it did. Financial subsidies could have been extended to carpoolers (in the form of money, car washes, fuel, tune-ups, or the like). Firms could have been paid to reserve rideshare parking and grant ridesharers extra vacation time. Bus riders could have been given free or discounted passes. Vanpool discounts could have been enormously increased.

Even more expensive ways of lowering the costs to ridesharers might have been to install a coherent system of free-way HOV lanes, bring express (or luxury) bus service into Bellefield–City Hall and the I-90 Corridor, provide on-site fleet vehicles for midday trips, or furnish high-quality child care centers at outlying park-and-ride locations.

But to create significant, noticeable demand for ridesharing or transit, how high the financial subsidies should be, how many miles of HOV lanes are needed, where the bus service should be routed, or how many child-care centers should be built need not be known. How to make ridesharing competitive with the private automobile is not known although an enormous investment may be required. The results of Regulation XV in Southern California may eventually provide some idea of how low is low enough. Until then, trying to stimulate demand with positive incentives is experimental at best.

Raising the Price of Driving Alone

As documented elsewhere (3,4), the most effective way to increase ridesharing and transit rates is to attach a cost to single-occupant-vehicle (SOV) parking by either charging a fee or reducing the supply. Carpoolers park free or park near the building entrances. Solo commuters pay a fee or walk. The Easy Ride experience provided a few unexpected opportunities to measure the effects of parking shortages and parking fees.

In the descriptions of the Bellefield–City Hall and I-90 Corridor averages were used. In the case of Bellefield–City Hall, the average survey results masked two interesting variations at the building level. The drive-alone rate among City Hall's 400 employees decreased from 79 to 48 percent over the course of the Easy Ride program. The drive-alone rate for a company called Contel decreased from 80 to 70 percent over the same 2 years.

The story behind these figures is instructive. Before the Easy Ride program began, City Hall reported an alternative-mode travel rate of about 20 percent, which compares favorably with the 10 percent experienced by the rest of the Bellefield project area. City Hall had a long-standing rideshare program with an active ETC and a fleet ridesharing arrangement whereby carpooling employees could take city cars home free of charge.

Some parking problems had also begun to crop up at City Hall. As employee numbers grew, employees began to use visitor parking as well as employee slots. This practice forced visitors and employees into competition for the same parking spots, making parking more difficult for employees.

When the Easy Ride program began, City Hall began to offer additional subsidies to its work force: a \$15-per-month subsidy to carpoolers, a \$25-per-month subsidy to vanpoolers, and free passes to transit users. At the same time, City Hall began to monitor use of its desirable visitor parking close to the building. This practice forced drive-alone employees to park further away and thus exacted from them a time and distance cost. Carpoolers and vanpoolers, however, could park close to the building with the visitors.

Two months before the end of the Easy Ride program, City Hall began charging \$30/month for parking, with free or dis-

counted parking for carpools and vanpools. Although the fees were begun late in the program, they had been discussed for many months; employees believed for a year that they might be charged at any time.

The combination of ridesharing subsidies and services, monitored visitor parking, preferential parking, and parking fees (or the threat of fees) had a striking effect. By the end of the Easy Ride project, City Hall's drive-alone rate was 48 percent, in contrast to approximately 90 percent for the rest of Bellefield.

The Contel story is a less dramatic version of the City Hall story. Contel had just moved to Bellefield when Easy Ride was undertaken. The parking supply in its new quarters was inadequate. Unlike City Hall, Contel did not reserve parking for rideshare vehicles, charge for parking, or supplement the Easy Ride program with extra subsidies early in the program. It had only its parking shortage and a management committed to employee ridesharing as a solution to the parking problem. Contel exhibited a decline in solo commuting from 80 to 70 percent, which occurred during the first year of the Easy Ride program. During the second year of the program, the parking shortage eased because of company layoffs; at the same time, a \$15/month vanpool and transit subsidy was introduced, and the rideshare held steady.

IMPLICATIONS OF EASY RIDE FOR POLICY MAKING

City Hall and Contel were the only institutions with parking problems, and they were the only ones to report an increase in ridesharing. The implication is straightforward. But what makes negative incentives work when positive incentives do not?

One reason, of course, is the cost. Requiring employees to hunt for parking spaces (or walk farther to the office or pay for parking) attached relatively large costs to a mode that in the past had little out-of-pocket cost. This change narrowed the gap between the cost of ridesharing and the cost of driving alone. In the City Hall case, the provision of substantial ridesharing and transit subsidies reduced the cost disparity even further.

To obtain some idea of the lower costs offered by City Hall's actions, consider the following: carpoolers to City Hall began receiving \$180 year (and shared fuel costs). Vanpoolers received \$300 (in turn they paid annual vanpool fares of approximately \$720 but shared fuel costs). Solo commuters received nothing; instead, they had to pay \$360/year for parking (and to bear the full cost of their vehicles' fuel). Carpoolers and vanpoolers could park near City Hall, realizing a time savings, whereas solo commuters were required to walk some distance to work. In addition, the on-site employee transportation coordinator provided ridematching, transit information, and assistance in forming carpools and vanpools, services that helped employees choose new travel modes by reducing transaction costs. From the results, it was clear that the cost gap was narrowed to the point that considerable numbers of employees were willing to make alternative transportation arrangements.

But costs alone may not be the only motivating factor. Research indicates that if it is possible to intrude on employ-

ees' habitual commute activities, the chances of diverting the employees into ridesharing are considerably increased (5). The intrusions can be permanent, as in applying parking charges, or temporary, as in relocating a firm. (But if the intrusion is temporary, its effect may need ongoing reinforcement.)

Mandatory disincentives or shocks like relocation intrude into commuters' lives and force them to make an unpleasant change—if their company has moved, they must pay out more money, walk a longer distance from the parking lot, lose privileges they once held, or commute farther. Once commuters have been forced to alter their behavior, many become willing to consider transportation options that they had previously ignored.

Contrasted with the overall Easy Ride results, the City Hall experience offers interesting implications for policy making. It suggests that a combination of substantial positive and negative incentives can be the most effective approach to trip reduction. This combination of approaches offers advantages in low-density office park settings, where exceptionally high parking charges or other major disincentives to driving alone are out of the question. In this environment, working the cost issue from both the incentive and disincentive sides seems most effective. In other words, policy makers should attempt to narrow the gap between the costs of ridesharing and the costs of driving alone by lowering the cost of one while raising the cost of the other.

FUTURE DIRECTIONS

The difficulty, of course, is to surmount the political and legal barriers so that the costs of solo commuting can be raised and imposed on commuters, either through employers or through direct government mandate. The suburbs are particularly difficult for imposition of strict regulation, because the private sector does not perceive a need for, and would oppose, mandatory measures. After all, parking is abundant, and buses do not provide good alternative transportation. Further, many employers chose suburban locations expressly for driving convenience. Imposing aggressive ridesharing regulations on suburban areas appears almost insurmountably difficult, absent an unusually strong public policy arising from air quality or growth management laws.

Even supposing that a municipality were successful in requiring suburban employers to charge employees for parking and to provide ridesharing incentives, successful enforcement is the question. For Bellevue and other cities, it may be difficult to monitor and enforce TDM regulations that apply to a large population of small employers.

However, it is not clear what other choices remain. Bellevue is exploring, along with Metro and other jurisdictions, the possibility of levying a tax on parking. Whatever the outcome of the parking tax research, it is clear that a do-nothing approach will not long be tolerated by the citizens of fast-growing communities like Bellevue. Programs of voluntary incentives appear to be expensive versions of the do-nothing approach—unless the incentives can be made far more substantial than those offered by the Easy Ride program. Even then, as noted earlier, the investment that must be made to increase ridesharing and transit use cannot be predicted. The required investment may be beyond the means of any municipality or public agency.

Although Bellevue has less enthusiasm now for publicly funded employer programs in TDM, for now there seem to be few other alternatives. Until progress is made on parking taxes or removal of legislative barriers to employer regulation, formidable obstacles will remain in the path of suburban ridesharing for jurisdictions like Bellevue. Meanwhile, the city of Bellevue and Metro are pursuing further research in voluntary programs, especially those focusing on expanding the involvement of employers.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the helpful comments of Tom Noguchi, Peter Valk, and Kenneth A. Small. Data presented in the report were supplied by the Municipality of Metropolitan Seattle (Metro).

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The opinions expressed in this report are those of the authors and are not intended to represent the official positions of the city of Bellevue or Metro.

Publication of this paper sponsored by Committee on Ridesharing.