

# Evaluation of the CalTrain Feeder Shuttle Program Serving Suburban Workplaces

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A 2-year-old project to provide small-vehicle feeder services between San Francisco Peninsula commuter train stations and suburban employment centers is described. The typical passenger is well educated, a new train rider, and could have driven a car to a free parking space at work. The early planning process leading to development of contract specifications and bidding is outlined. Operational experience, ridership growth (including the effects of the October 1989 earthquake), marketing activities, the results of a passenger survey, and funding are described. Other shuttle services on the San Francisco Peninsula and some examples from other U.S. cities are assessed.

The California Department of Transportation (Caltrans) manages the CalTrain commuter rail service, which runs 47 mi along the San Francisco Peninsula between San Francisco and San Jose. In September 1988, Caltrans initiated a small-vehicle feeder service between suburban train stations and largely new employment centers 1 to 4 mi away. The number of routes operated grew from three initially to seven in late 1990; almost 500 boarding riders per weekday are carried.

Service is competitively contracted and is provided by relatively new, high-roof van conversions with 21 to 25 padded, forward-facing seats. Vehicle exteriors display the CalTrain logo.

One vehicle is operated on each route during peak hours only, toward employment centers in the morning and toward train stations in the evening. Four to six morning trips and four to six afternoon trips are operated per route, all timed to meet trains. A total of 66 weekday trips are provided.

No fare is charged because of the shortness of the trip and the expected high administrative cost of fare collection, which could absorb much of the revenue generated. Also, most shuttle passengers are new to CalTrain, and their train fares improve CalTrain's revenue/cost ratio, because there are virtually no marginal train costs involved in serving this number of new passengers.

The service currently costs an average of \$54,000 per route annually. Funding comes from private employers and developers (28 percent), local transit districts (25 percent), Caltrans (25 percent), and cities served (22 percent).

The typical passenger is well educated and could have driven a car to work instead of riding transit. Most passengers did not use CalTrain before the shuttles were introduced.

This paper discusses all elements of the Caltrans program and provides a brief perspective on other suburban shuttles connecting with CalTrain, as well as a few similar programs

elsewhere in the nation. It concludes with a short assessment of the Caltrans program and a suggestion for the future.

## SERVICE ORIGINS

In its 1987 session, the California legislature passed Assembly Bill 1675, which gave Caltrans \$250,000 for a CalTrain feeder demonstration program. The legislature wanted to promote competitive contracting in the provision of transit service, and Caltrans staff believed that CalTrain suburban workplace feeders would improve the train's accessibility, like the long-established shuttle connection to San Francisco's financial district.

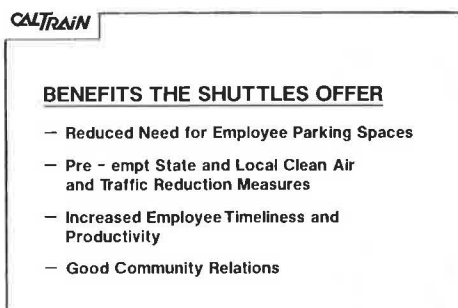
In early 1988, Caltrans staff met with planners for San Francisco Peninsula transit districts, and a number of candidate shuttle routes were chosen. Selection criteria included number of employees served, their home locations, and distance of the employment area from a train station (vehicles must make a round trip in 25 min at most to meet trains every half hour). Only areas without existing transit links to stations were considered. Transit districts were receptive because, despite public pressure to add lines to these areas, they could not afford to do so.

Next, the local assemblyman sponsored a meeting for businesses and cities in the affected areas. A brief slide show describing CalTrain and the shuttle concept was presented by Caltrans staff; key benefits to companies were outlined (Figure 1). Caltrans made several other presentations to employer groups.

On the basis of financial commitments from businesses and cities to contribute one-third of the estimated cost of each shuttle route, Caltrans selected four routes for start-up later in 1988, two in San Mateo County and two in Santa Clara County.

## THE CONTRACTING PROCESS

In writing the initial contract specifications, Caltrans staff consulted requests for proposal (RFPs) from several other agencies, including the Bay Area Rapid Transit District's RFP for its BART Express bus service and a Los Angeles RFP for residential shuttles. Because Caltrans was to issue a simple invitation for bids, rather than a full RFP, it was necessary to be explicit about driver conduct, vehicle maintenance, reporting requirements, bonding, insurance, indemnification, and other matters.



**FIGURE 1 Employer marketing graphic.**

In the first contract, vehicles were required to have 19 to 25 passenger seats, interior headroom of at least 75 in., a gross vehicle weight rating less than 18,000 lb, an age of less than 3 years with odometer mileage less than 75,000, and a radio link to a central dispatcher. With more than 20 passengers riding some trips, the current contract effective July 1990 requires 21 to 30 seats and odometer mileage less than 60,000.

The specifications are intended to secure comfortable, reliable, and intimate vehicles that can traverse company parking lots and make tight turns. Vehicles must be able to display the CalTrain logo on each side, and the successful bidder must provide significant additional vehicles and service hours if Caltrans wishes to expand service.

The contract requires that vehicles be kept clean and their components in good working order. If the operation is shut down by the California Public Utilities Commission for safety reasons, Caltrans can assess a penalty of \$500 per vehicle per day. Drivers must carry an accurate timepiece, be courteous, drive safely, and keep a log of passenger boardings by trip and delayed or missing services.

A performance bond or letter of credit in an amount sufficient to pay a substitute operator for 2 months is initially required of new contractors (reduced to 1 month after a satisfactory trial period), as is a certificate of insurance providing at least \$5 million coverage per occurrence. The successful bidder must also indemnify Caltrans and the county-level transit districts that finance the train service.

An incentive for on-time operation was included in the original contract. It provided that if 95 percent of trips arrive at their last drop-off point within 2 to 3 min of schedule time in a given month, the contractor was eligible to earn 3 percent extra. However, the successful bidder apparently believed that the record keeping necessary to earn this bonus would be too time-consuming and therefore did not apply for it. Because Caltrans subsequently believed that this provision could skew a contractor's record keeping, the agency did not include it in the specifications for the second contract.

Service providers prefer contracts of at least 3 years to reduce vehicle lease-purchase costs. However, because of the Caltrans project's initial demonstration status, an unfavorable 1-year term was applied to the first contract (an option to extend for 10 months was subsequently exercised). The current contract runs for 2 years with an option to extend, the longest possible period given that whether Caltrans will continue to manage CalTrain is uncertain.

Because 20 mi separates the northernmost and southernmost routes, Caltrans allows bidders the option of contesting

only half the service. Caltrans selects the responsive bid or combination of bids that results in the lowest total cost.

For both contracts, a list of about 20 potential bidders was assembled by referring to both a directory issued by the regional planning commission and the Yellow Pages (the successful bidder is listed only in the Yellow Pages).

The first contest in mid-1988 attracted only two bids, apparently because of the contract's short duration. The longer second contract yielded five bids. Both contests were won by the same immigrant-owned firm, employing mostly immigrant drivers. The rate was \$42/veh-hr for the first contract and \$50/veh-hr for the second. The \$50 bid is based on an average of only 4 hr 17 min of service per route per weekday and results in an annual cost per route of \$54,000.

## INITIAL OPERATIONS

The first three routes started in September 1988, and the fourth started in November after corporate contributions were secured. About 1 week before service began, Caltrans, city, and contractor staff rode the shuttle vehicle on the proposed route during rush hour. Before service started, a supervisor showed drivers the route once more.

At first, some drivers had difficulty running precisely to schedule and conversing with passengers in English. Reasonable English fluency was not required in the first contract (it was added to the second). Passengers who started riding some time after a route started had an advantage because they could learn details from veteran riders. Meanwhile, some (but not all) drivers improved their language skills.

## RECENT CONTRACTOR PERFORMANCE

Since the start-up period, the contractor has provided reliable service. Trains are rarely missed, and breakdowns are infrequent. The 2¼-year-old operation has been essentially accident free. Vehicles have passed all California Highway Patrol inspections. Vehicles are kept clean. After the firm won another major contract recently, it supplied Caltrans with new vehicles that exceed specifications.

Remaining minor issues include the accuracy of some ridership reports, occasional accounts of drivers running slightly early or late, and some new riders' complaints about drivers' English fluency (though informal passenger polling suggests that this is not an issue for most). The contractor has requested a 4 percent rate increase to cope with higher fuel costs since August 1990, and the firm's insurance company is attempting to raise its classification.

Caltrans recently decided to place postpaid customer comment cards in vehicles. So far, 90 percent of comments have been complimentary.

## RIDERSHIP

In early 1989 a ridership plateau of about 200 daily boardings was reached, and growth was unimpressive (Figures 2 and 3). Vehicle trips that averaged fewer than two passengers were discontinued. However, concerted corporate outreach efforts,

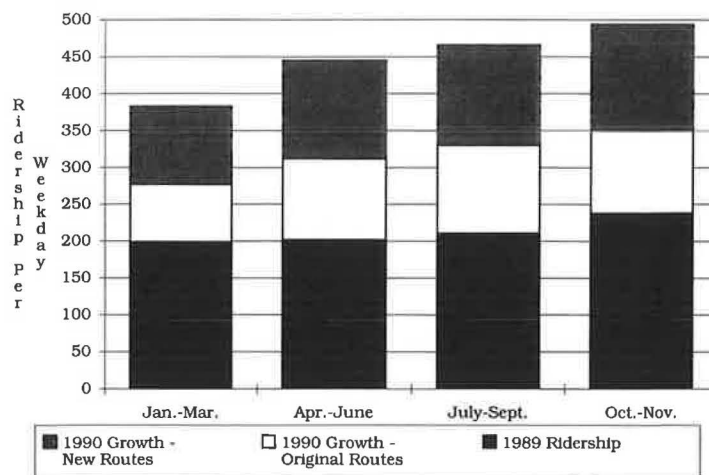


FIGURE 2 CalTrain Shuttle ridership.

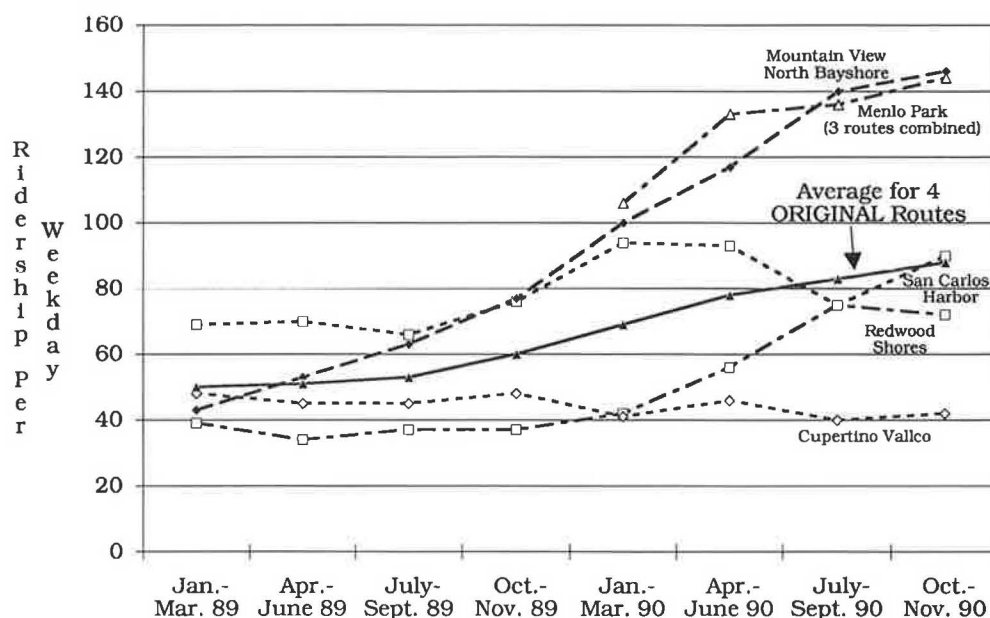


FIGURE 3 CalTrain Shuttle ridership by route.

including poster and schedule distribution, gave the Mountain View route a major boost; ridership has not stopped growing since. A large electronics company mentioned the operation in its employee newsletter, and a land developer published a front-page color photograph of the vehicle in its glossy quarterly, but ridership did not increase much on these routes. Some companies, perhaps content to support "socially responsible" transportation regardless of use, may not have made the effort necessary for major rider gains in the face of abundant free parking and dispersed employee trip patterns.

An unexpected natural calamity proved to be the boost the shuttles needed. The October 1989 earthquake closed freeways and bridges and led to renewed corporate publicity for the service. Mountain View and San Carlos ridership increased rapidly, despite a contraction of Mountain View service to only one vehicle instead of two, with 41 percent fewer runs made.

An equally significant effect of the earthquake was the rapid introduction of two new routes in Menlo Park (to one of which the other Mountain View vehicle was assigned), followed by a third route there in March 1990. The earthquake caused a previously reticent major employer to commit funds and to pressure the city and other employers to do likewise. Ridership on these services is included in Figures 2 and 3 starting in the first quarter of 1990.

Largely because of postearthquake ridership growth and new routes, patronage in the entire fourth quarter of 1989 (including December) increased 44 percent over the third quarter. By the second quarter of 1990, daily ridership of 445 was more than double that of a year earlier; it was up 50 percent on the original routes. October-November 1990 ridership of 494 continued to be more than double the 238 of a year earlier, and the Mountain View route experienced a capacity problem.

More than half the daily ridership is in the morning; some commuters appear to get rides or walk in the afternoon. Ridership per vehicle trip now averages 7.5; for the four original routes it is 8.3. The most heavily used trips made by the Mountain View and San Carlos shuttles carry more than 20 passengers.

Despite general ridership success, one route has not done well. The location of Cupertino's Vallco Research Park near the present south end of the CalTrain corridor means that the train is a realistic option only for commuters who live to the north, and few new employees can afford to do so. Those who do live there find that the uncongested I-280 freeway is a tempting alternative. A planned southern CalTrain extension to new housing in south San Jose, Morgan Hill, and Gilroy should help to address the problem.

## MARKETING

Caltrans is responsible for most shuttle publicity, but cities and a major developer have assisted with corporate outreach. Because the shuttles serve a limited set of employers, marketing efforts have been concentrated there. Contacts with some employer representatives had been made when the initial routes were chosen, but additional names were obtained before service began.

The marketing agency used by Caltrans developed 11-in. × 17-in. posters for company bulletin boards (size reduced for Figure 4), distributed cards that could be returned for a free CalTrain round-trip ticket, and supplied schedule holders for Caltrans-designed shuttle timetables and route maps. Both the poster and the schedules show the shuttle vehicle.

**The people  
who really get  
ahead in this  
business  
don't have any  
drive!**



CalTrain's fast & comfortable trains up & down the Peninsula 52 times every weekday!



CalTrain's quick & easy shuttle between your train and your office!

**CalTrain. It beats driving.**

Another key marketing tool is the CalTrain logo on vehicles. Weatherproof boards, about 5 ft long, are installed in contractor-supplied metal frames on vehicle sides below the windows. The display is relatively subtle but clearly marks the vehicles as part of the CalTrain service.

## PASSENGER SURVEY RESULTS

Caltrans conducted its second survey of shuttle riders in May 1990. For the four "mature" routes operating more than 1 year, key results include the following:

- Though the service is not restricted to CalTrain passengers, 96 percent of respondents connect with the train.
- Eighty-nine percent ride the shuttle both morning and afternoon. Of the 11 percent who do not, 79 percent still take CalTrain in the other direction, but they use other means to get to the station, chiefly walking or getting a ride.
- Sixty-seven percent use the service 5 days per week. This is an increase over the year-ago level of 59 percent and is about the same percentage as CalTrain riders in general.
- Sixty-five percent buy a monthly train pass, up from 60 percent in the previous survey. Another 16 percent buy tickets good for more than a single round trip.
- Sixty-one percent of those who worked at their present location before the shuttles started never, or hardly ever, used CalTrain then. Another 8 percent used the train fewer than 3 days per week. This is mainly because convenient connections between stations and workplaces did not exist.
- Sixty-seven percent had a car available to them on the day of the survey but chose to take the train and shuttle instead. This percentage is similar to train riders in general.
- Sixty-three percent are male, a percentage similar to train riders with work destinations outside the San Francisco central business district.
- The median age is approximately 34.
- Sixty-five percent have at least a 4-year college degree; 24 percent have a graduate degree.

## FUNDING

Figure 5 indicates that the initial state share of 67 percent of funding declined to 25 percent in fiscal year 1990–1991. The combined city and private share increased to 50 percent, and the transit districts made up the remaining 25 percent, sharing costs with the state on the same basis as they do the CalTrain service. The state share has declined both because the original demonstration grant funds are exhausted and because current state policy is that mass transit services should be funded locally.

Caltrans does not collect funds directly from the private sector. Instead, the agency signs cooperative agreements with cities in which the cities pledge to provide a specified sum, which currently amounts to 50 percent of the shuttles' contract cost. Cities then recoup as much from private interests as they can. The percentage of the combined city/private share paid by the private sector has varied by city in the first 2 years of the program, ranging from 18 to 67 percent and averaging 48

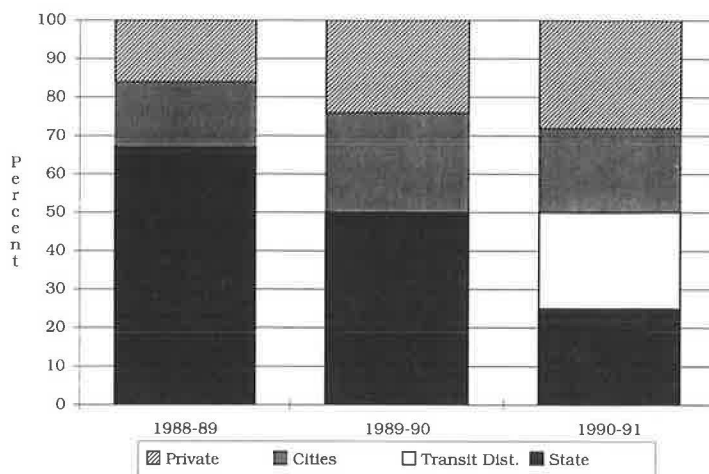


FIGURE 5 CalTrain Shuttle funding.

percent. In fiscal year 1990–1991, two of four cities will obtain more from employers and developers, which will result in an average private share of 56 percent, or 28 percent of all shuttle funding.

Companies volunteer to contribute, sometimes on the basis of amounts suggested by cities or developers. No city ordinance requiring corporate participation has yet been passed. Typical annual contributions for companies with less than 1,000 shuttle-served employees are \$1,000 to \$2,500. On the Cupertino route, two large computer businesses, each with 2,500 to 5,000 served employees, now contribute \$8,855 per firm, or one-third each of the combined city/private share (they had previously split their cost responsibility according to the number of employees at each company). Cupertino, whose city manager took a lead role in getting the companies to give so much, pays the remaining one-third.

## FARE REVENUE

Shuttle riders pay no fare, so no revenue is generated directly. However, new train revenue is produced, and the passenger survey summarized earlier allows it to be measured. Revenue from those who used the train before the shuttle started is subtracted, except for any additional travel. Revenue from riders whose companies moved to the area after shuttle service started is partially counted.

On the basis of these formulas, in May 1990 new train revenue amounted to 26 percent of the cost of shuttle operation for the four original routes, up from 16 percent a year earlier, and 20 percent of the cost of all routes, including the new Menlo Park services. Marginal train costs were almost nothing.

## OTHER SUBURBAN WORKPLACE SHUTTLES SERVING CALTRAIN

The Caltrans-managed shuttle services discussed in this paper are only one type of transit link between train stations and workplaces in San Mateo and Santa Clara counties. (Because

San Francisco and downtown San Jose are traditional central cities, connecting services there are beyond the report's scope.)

The Santa Clara County Transit District operates full-size buses on four dedicated train connection routes serving the heart of Silicon Valley employment, the Golden Triangle. Each route meets about six morning and seven evening trains in the primary commute direction and carries between 25 and 42 transferring passengers each morning. Another five Santa Clara County Transit routes carry between 26 and 101 morning transfers each, but they are not train-dedicated services. Passengers with monthly or weekly train tickets ride County Transit free when traveling away from trains. Alternatively, for \$18/month, passengers may purchase a "Peninsula Pass" sticker affixed to the monthly CalTrain ticket, which permits unlimited travel on all County Transit lines and those of neighboring counties.

The next most important link between CalTrain and suburban workplaces is the Marguerite, a small-vehicle service contracted by and serving Stanford University. Each morning, about 135 passengers transfer from the train to the Marguerite. Vehicles are high-roof van conversions with about 15 perimeter seats and considerable standing room.

At least four employers and three land developers operate their own shuttles to CalTrain stations in San Mateo and Santa Clara counties. High-roof van conversions are most commonly used, although two companies operate low-roof vans. Some firms contract for service, whereas others own or lease vehicles and provide their own drivers. A business park that leases prefers this to outright ownership because maintenance is covered. But another company, which bought a vehicle, is satisfied that major maintenance is covered under an extended warranty. Driver wage costs are a minor or nonexistent issue if drivers can perform other work the rest of the day, as is the case at one company that uses employees who were already on the payroll.

Most private shuttles make several trips to and from the station each peak period. Of five operations studied, the average number of daily morning transfers is 20. Some companies charge users a nominal amount, whereas others provide free service. One firm that formerly assessed its employees \$10 per month dropped the fee: it was not covering the cost



of shuttle operation, and the shuttle was not that expensive anyway.

Companies offer several reasons for initiating and fully funding their own shuttles. The two most common may be to retain employees after a corporate move by offering an alternative to driving long distances and, among developers, to make remote office leasing easier. A third reason is likely to become more important: shuttles are a way to satisfy government requirements to reduce solo driving and clean the air.

#### **SUBURBAN WORKPLACE SHUTTLES SERVING OTHER COMMUTER RAILROADS**

There are other U.S. locations where public agencies are at least somewhat involved in funding or managing shuttle services between suburban commuter rail stations and nearby employment clusters. The following are a few examples. Wholly private operations are not discussed.

Near Princeton, New Jersey, a transportation management association (TMA) contracts with a local limousine company to provide two small vehicles with drivers for peak service between a New Jersey Transit station and the Princeton Forrestal office complex located about 5 mi away. Started with an Urban Mass Transportation Administration entrepreneurial services grant, the service is now supported entirely by the developer of the complex and three employers there. TMA funding comes partly from the same four firms and partly from the New Jersey Department of Transportation. Six morning trips and five evening trips are operated, connecting with both New York and Philadelphia trains. The shuttle is free to employees of sponsoring firms.

In suburban Philadelphia, the Southeastern Pennsylvania Transportation Authority (SEPTA) operates its own full-size buses between commuter rail stations and major employers (including a shopping mall) on five routes as of mid-1990. Many routes operate all day. These services are fully funded by businesses that requested that SEPTA operate them. Many firms were having difficulty recruiting inner-city employees. Buses are timed to meet SEPTA's commuter trains, and bus timetables showing connections are readily available at key train stations. Passengers ride free by showing a rail pass.

In suburban Chicago, the Pace public bus district contracts with private operators to run home-oriented shuttles to and from selected Metra commuter rail stations. Some vehicles carry passengers between stations and workplaces on return trips, but not many commuters took advantage of the work link as of mid-1990.

A major work-end shuttle network is essential to development of the Los Angeles-Orange County commuter rail corridor, according to Orange County Transportation Commission members quoted in the September 25, 1990, *Los Angeles Times*. Like the San Francisco-San Jose corridor, this one has substantial employment clusters along at least 40 mi of its 58-mi length, but businesses are usually beyond easy walking distance.

#### **SUMMARY AND OUTLOOK**

The 1989 *CalTrain Passenger Survey* indicated that 12 percent of train passengers going to work in San Mateo and Santa Clara counties completed their trips on small vehicle shuttles, whereas another 17 percent rode full-size buses operated by transit districts on regular routes (some dedicated to meeting trains, some not). In the year since, the proportion of small-vehicle users has probably grown.

The CalTrain shuttle program has demonstrated that reliable, swift, and dedicated connectors between train stations and workplaces can attract passengers who have the option of driving. Ridership growth has been strong since the October 1989 earthquake, despite the major handicaps of free workplace parking and dispersed employee trip patterns.

Employers and developers now contribute a greater percentage of the cost than initially. Public sources include the state, the three San Francisco Peninsula transit districts, and individual cities served. An increased private role appears appropriate, but the involvement of several public agencies and the extra staff needed for an expanded program are likely to make service additions more difficult.

Therefore, alternatives such as partial public subsidy of company-managed shuttles are under study. As discussed earlier, several employers already run their own train shuttles, and workers at other firms are pressuring their companies to do so, particularly because affordable housing is so far away.

In California's principal urban areas, the future looks bright for rail-based workplace shuttle services. Voters have funded an ambitious program of rail improvements, but it may be some time before major office developments are located within walking distance of a large number of train stations. Until then, small vehicles able to negotiate company parking lots will be needed to make the train system accessible.

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