April 1987

# Bicycle - On - Train FEASIBILITY STUDY



CALTRAIN

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BICYCLE-ON-TRAIN
FEASIBILITY STUDY

California Department of Transportation District 4, San Francisco Rail Management Branch

April, 1987

#### **ACKNOWLEDGMENTS**

The following people, and many others, provided invaluable help in the preparation of this report. They are not, however, responsible for any factual errors. For more information, please contact the author, Roger Hooson, at (415) 557-8904.

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Metropolitan Transit Board, San Diego New Jersey Transit, Newark
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Washington (D.C.) Metropolitan Area
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California Association of Bicycling
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Ralph B. Hirsch and Associates,
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Northeastern Illinois Planning Commission,
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Maryland-National Capital Parks and
Planning Commission, Silver Spring, MD
Le Monde Bicyclette, Montreal
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#### I. INTRODUCTION

At its October 1985 meeting, the CalTrain Project Management Committee (PMC) approved the work program for a Bicycle-on-Train Feasibility Study. California Department of Transportation (Caltrans) staff were directed to report on the potential for allowing standard, non-folding bicycles on board San Francisco-San Jose commuter trains, which are operated under contract to Caltrans by the Southern Pacific Transportation Company. The PMC was responding to the desire of Peninsula and San Francisco cyclists for a permanent program similar to the March-July 1982 CalTrain demonstration project, when bicycles were allowed on some off-peak trains.

Staff have closely examined the 1982 program, have contacted every other North American rail operator which allows bicycles, and have discussed the concept with Bay Area bicycle groups. A literature review was conducted. With Southern Pacific permission, six staff members took four bicycles aboard out-of-service trains on two occasions in order to document operational feasibility. Using a drop-handlebar ten-speed, a three-speed and two mountain bikes, staff members checked clearances and made comments.

The 1982 program demonstrated that demand exists for bicycle access. Bicycles were allowed only on six specific trains in each direction, weekdays and weekends. Even so, ridership rose from about 26 per week halfway through the project to 100 per week at its end, when publicity about the program's pending termination probably contributed to higher usage. Bicycle groups felt that the demonstration was successful and that significantly greater use could have overwhelmed the trains' capacity. No major incidents were reported, but the project was not continued because Southern Pacific requested that the State remit additional payment for liability coverage. Liability for the four months of the demonstration cost the State \$73,200, or over \$100 per bicycle trip.

The Metropolitan Transportation Commission's (MTC) Peninsula Route 101 Study\* states that "allowing bicycles on trains could increase the utilization of rail for short trips where bicycle access represents a reasonable alternative to the car." Permitting bicycles on Peninsula trains would also close a gap in Bay Region bike-on-transit facilities. Bicyclists may currently carry their cycles aboard Bay Area Rapid Transit (BART) trains serving Alameda, Contra Costa and San Francisco counties, or on

<sup>\*</sup> Oakland, CA: MTC, September 1984

Golden Gate and Red and White Fleet passenger ferries serving Marin and Solano counties. With bicycles allowed on CalTrain, cyclists could reach San Mateo and Santa Clara counties, including the extensive network of bicycle paths in the Palo Alto-Stanford area. Some users with flexible work schedules might be able to bike to Silicon Valley employment sites in the off-peak.

At the time of the 1982 demonstration, only two other North American rail systems had carried bicycles for more than a Only BART had significant experience. Now 12 North year. American rail systems allow bicycles during specified hours.\* The total includes eight rapid transit systems, three commuter railroads and one light rail (Figure 1). The light rail San Diego Trolley, and the three commuter railroads--Metro-North and Long Island in New York, and Canadian Pacific (CP) Rail in Montreal -- all have boarding from low-level platforms, requiring cyclists to climb steps. CP Rail operates bi-level "gallery" cars very similar to CalTrain's.\*\* In Boston, the Massachusetts

<sup>\*</sup> Not included in this total is the New York City Transit Authority. Bicycles are seen from time to time in the New York subway system, but opinions vary on whether they are officially allowed.

<sup>\*\*</sup> Gallery cars have a full lower deck, a central vault above the aisle and two partial upper decks to either side of the aisle. Headroom under the upper deck overhang is only 5'4".

### FIGURE 1 - NORTH AMERICAN BICYCLE-ON-RAIL PROGRAMS

		PEI	RMIT		Man A	Min.	TIME RESTRICTIONS									
System	Yes/ No	Validity Period	Waiver	Photo ID	Max. # Bicycles/ Train	Age (with older user)	Early AM	Peak	Midday	Eve.	Sat.	Sun.				
Bay Area Rapid Transit District Oakland	Yes	3 years	Yes	No	7	14 (less)	OK before 6:30a	Some reverse commute only		OK after 6:30p	OK	OK				
Metropolitan Transit Board/ San Diego Trolley Inc.	Yes+	2 years	Yes	Yes	2 per car	16	OK before 6:00a	Not allowed	OK 9:00a -3:00p	OK after 6:00p	OK except 11:00a -5:00p	OK				
Metropolitan <u>Atlanta</u> Rapid Transit <u>Authority</u>	No	N/A	N/A	N/A	No rule	18	Not allowed	Not allowed	Not allowed	Not allowed except midnite -2:00a	OK	OK				
Metro-Dade Transporta- tion Administration, <u>Miami</u>	Yes	Un- limited	Yes	Yes	4	16	Not allowed	Not allowed	OK 10:00a -4:00p	OK after 6:30p	OK	OK				
Washington, D.C. Metropolitan Area Transport Authority	Yes	2 years	Yes	Yes	4	16 (12)	Not allowed	Not allowed	Not allowed	OK after 7:00p	OK	OK				
Port Authority Trans- Hudson, New York City	Yes	Un- limited	No	No	2 per car	No rule	OK before 6:00a	Not allowed	OK 9:30a -3:00p	OK after 6:30p	OK except 7a-2p (east) 1p-7p (west)	OK				
Long Island Rail Road New York City	Yes	Un- limited	No	No	ц_ flexible	No rule	OK before 6:00a (west) 7:00a (east)	Not allowed	OK 9/10 am- 3/4 pm	OK after 7:00p (west) 8:00p (east)	OK except some blackout periods in summer	OK except some blackout periods in summer				
Metro-North Commuter Railroad New York City	Yes	Un- limited	Yes	No	īt	No rule	OK before 6:00a (south) 7:00a (north)	Not allowed	OK 9/10 am- 3/4 pm	OK after 7:00p (south) 8:15p (north)	OK	OK				
Massachusetts Bay Transportation Authority Boston (Rapid Transit Only)	Yes	2 years	Yes	Yes	2 .	16 (12)	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	OK except Thanks- giving to Xmas				
Montreal Urban Community Transport Commission (Rapid Transit Only)	Yes/ * No	N/A	N/A	N/A	ħ	16 (less)	Not allowed	Not allowed	Not allowed	Not allowed	OK	OK				
Canadian Pacific Railway Company Montreal (MUCTC Contract)	No	N/A	N/A	N/A	No rule	16 (less)	Not allowed	Some reverse commute only		Allowed on certain trains	OK	OK				
Toronto Transit Commission	No	N/A	N/A	N/A	Bicycles permitted at discretion of operator	No rule	OK before 6:30a	Not allowed	OK 9:30a -3:30p	OK after 6:30p	OK	OK				

<sup>\*</sup> Formerly had permit; might reinstitute + Administered by American Youth Hostels

Bay Transportation Authority is considering expanding its bike-on-rail program to low-level platform commuter rail lines. Additionally, many European systems allow bicycles.

In commenting on the draft report, one bicycle advocate suggested the use of surplus cabooses to carry bicycles. No North American rail system now runs special vehicles to accommodate bicycles, perhaps because the potential demand on any given trip is felt to be low (some European systems run baggage cars which carry bicycles, but often a baggageman is employed). On Caltrain, any additional vehicle would have to be positioned between the locomotive and first car and allow passage of electrical cables. Such a car would also entail extra operating costs, so the concept was not explored in depth.

The following report examines 12 aspects of bike-on-rail programs: types of permitted bicycles, station restrictions, train boarding, on-board storage, time restrictions, permits, legal liability, bicycle fares, bicyclist age restrictions, cycle cleanliness and good repair, disciplinary measures, and marketing. The report concludes with a short discussion of alternatives to bicycles on trains, and a summary of recommendations.

#### II. ELEMENTS OF A BICYCLE-ON-RAIL PROGRAM

### 1. Types of Permitted Bicycles

Rail systems accepting bicycles typically allow only standard, non-motorized cycles. Mopeds, tricycles, bicycles with training wheels and tandems generally are banned. Certain systems, including BART, specify a maximum length of 6'8" and height of 4'0". The Washington, D.C. and Miami Metrorail systems have a width restriction of 1'10" which technically excludes wide-handlebar mountain bicycles (about 2'1"). However, this restriction is not normally enforced. Metro-North specifies that wheel diameter be no greater than 27 inches.

Bicycle dimensions are a more important consideration for CalTrain than for most other rail operators, because clearances are tighter aboard gallery cars than on other rail vehicles. However, no rules were imposed during the 1982 demonstration program. Car dimensions, bicycle access and storage problems are discussed more fully in Sections 3 and 4.

#### 2. Station Restrictions

Many rail systems which accept bicycles are grade-separated rapid transit lines. Regulations specify that cyclists either use or avoid elevators, escalators and stairs.

There are fewer obstacles in approaching the Peninsula trains. Most stations are at grade. Exceptions are 22nd Street and Paul Avenue stations in San Francisco, where steps provide access. There is a ramp at Hillsdale station in San Mateo, but most approaches to the platform there involve climbing steps. Bicyclists may use steps to reach the northbound platform at Palo Alto, and must use steps to cross the tracks at Lawrence station in Sunnyvale.

Other systems do not report problems with bicyclists negotiating steps. The Long Island Rail Road and Metro-North Commuter Railroad require patrons to use stairs, rather than escalators or elevators. BART allows use of stairs or elevators. If CalTrain initiates a bicycle program, bikes will have to be carried up several steps into the car vestibule.

However, users may need to be warned in advance about the steep, long and narrow staircases at 22nd Street and Paul Avenue. Alternatively, bicycles could be prohibited from using these stations.

To avoid interference with passenger flow and enhance safety, BART does not allow bicycles to be chained to poles, light fixtures, or pillars within stations. Most rail operators ban bicycle riding in station areas. Similar rules may be advisable for the CalTrain service, though station areas are less clearly defined.

### 3. Boarding the Train

Boarding CalTrain with a bicycle may not be easy for the occasional user. The bicycle must be hoisted up three steps totalling 3' 4" from platform to car floor, while the cyclist squeezes through one of three narrow channels formed by two stanchions (Figure 2). The channels are 1' 10" wide (side) and 2' 0" wide (center). Typical 10-speed touring or racing bicycles have a handlebar width of 1' 4 1/2", 3-speeds 1' 9" and mountain bicycles 2' 1" or 2' 2".

Other North American systems with low-level platforms and steps to the car floor tend to have wider openings. The

Figure 2



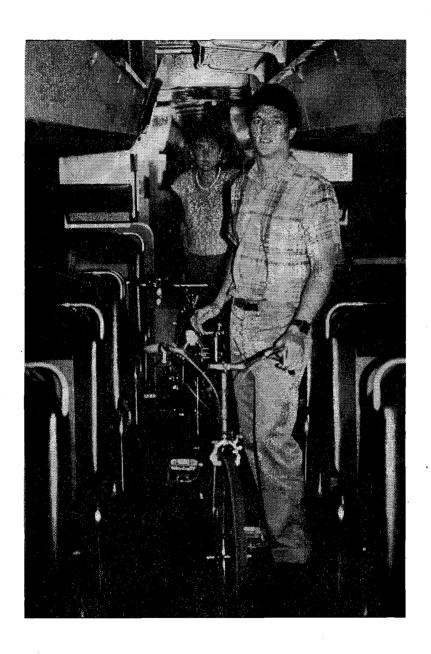
San Diego Trolley, with three steps and 2'9"-3'3" of height from platform to car floor, has a single stanchion in the door opening forming channels of 2' 7" and 2' 2". The Long Island Rail Road's typical diesel-hauled car, with four steps and about 3' 6" of height from platform to car floor, has an opening 2' 5 3/4" wide. However, CP Rail's Montreal system, the only other gallery car operation permitting bicycles, has virtually identical specifications to CalTrain equipment.

Rearrangement of the stanchions at the vestibule entrance could improve bicycle access to the Peninsula trains. If it is decided to use the vestibules for wheelchair access (see below), this step would be essential. Currently, one set of vertical poles carries discharge from the air conditioning condensors. Nippon Sharyo, the cars' manufacturer, estimates that replacement of the two side stanchions with a center stanchion and redirection of the condensor flow would cost \$550 per car (both sides). If only the 21 cab cars were rearranged, the total bill would be \$11,550. A drawback to rearranging the stanchions could be increased boarding and alighting time, since there would be less handhold space for regular passengers.

It is possible that bicyclists could gain access to the trains by means of a ramp or device designed for wheelchair The Phase I CalTrain Accessibility Study, produced by Crain and Associates, recommends fixed ramps at most stations to serve the wheelchair handicapped. lifts" would be used at other stations. Use of these devices, to be located at the north end of station platforms, would require trains to make a second stop at The train crew would then have to lower a the station. trap that covers the step-well and put in place a bridge that spans a 3 1/2" gap to the ramp or lift, a distance required by California Public Utilities Commission regulations for rail lines on which freight is carried. Estimated train delay time is one to two minutes per boarding or alighting, which may be acceptable for loading or unloading occasional wheelchair users, but would be harder to justify for bicyclists.

To pass from the entry vestibule to a storage area in the passenger compartment, cyclists must open a sliding door. On their field inspection, Caltrain staff members found this to be a fairly easy task, even with one hand. The bicycle must then be wheeled past partitions and seat armrests 2' 2" apart (Figure 3). Seats themselves are 2' 6" apart, so clearance at the handlebars is somewhat

Figure 3



greater. With other passengers aboard, there may be some jostling.

### 4. Bicycle Storage Aboard the Train

Storage of bicycles aboard gallery cars, like bicycle entry, is more difficult than on other types of rail cars. On other step-up systems, bicycles are usually kept in the entry areas at the ends of cars--in the case of New York suburban railroads, at the ends of trains. Cyclists must stand up with their bicycles. On rapid transit lines, bicycles typically are required to be held at inward-facing seats near the doors, where aisles are wide.

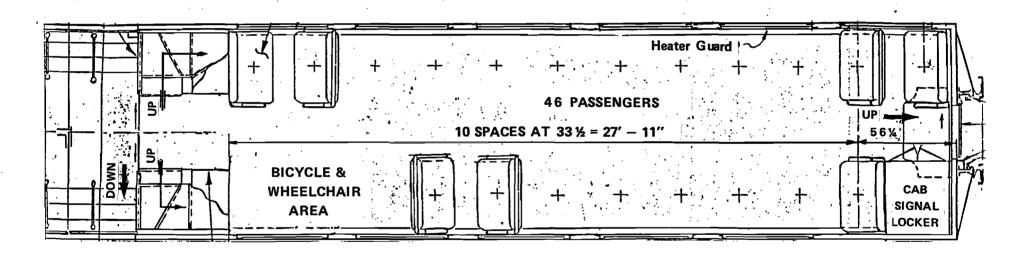
On BART, the entire area behind the rear door of the last car is available for cyclists, and seven may be carried per train. Based on casual observation, even the presence of four bicycles can antagonize regular passengers who boarded before the cyclists and subsequently are hemmed in. Mountain bicycles, with their wide handlebars, are particularly difficult to walk past.

On Caltrain, the entry vestibules are small and congested, since there is only one entryway per car (139-148 seats), compared to two entryways per car on BART (one per 36

seats) or three entryways on some other rapid transit systems, like Miami's. CalTrain vestibules are only 4' 3" wide between opposing stanchions at the top of the entry stairs.

On some Swiss tram systems, bicyclists hang their cycles from hooks in the vestibule. This would not work on CalTrain because the distance across the car from exterior door to passenger compartment door along the vestibule wall is only 2' 8 1/2", compared to typical bicycle heights of 3' 5" or more. Also, one-third the exit door space would be blocked with one bicycle hung vertically, two-thirds if another bicycle were hung on the same side of the car, at the opposite end of the vestibule.

Within the passenger compartment, removal of seats near the vestibule to form a space for bicycles might be feasible. A 1982 Caltrans study examined this possibility, and concluded that three seat pairs on one side of the aisle could be removed and replaced with four folding seats and a space for bicycles (Figures 4 and 5). There would be a net reduction of two seats, which could affect revenue at peak hours. Additionally, the folding seats might not be as comfortable for commuters as conventional seats. Only two bicycles could be accommodated in the space. Finally, if



REMOVE THREE FIXED DOUBLE SEATS (6 REVENUE SEATS)
REPLACE WITH FOUR SINGLE FOLDING SEATS (SEE DETAIL)
NET LOSS OF TWO REVENUE SEATS

TWG 10·1·87 Figure 4

Figure 5

AISLE

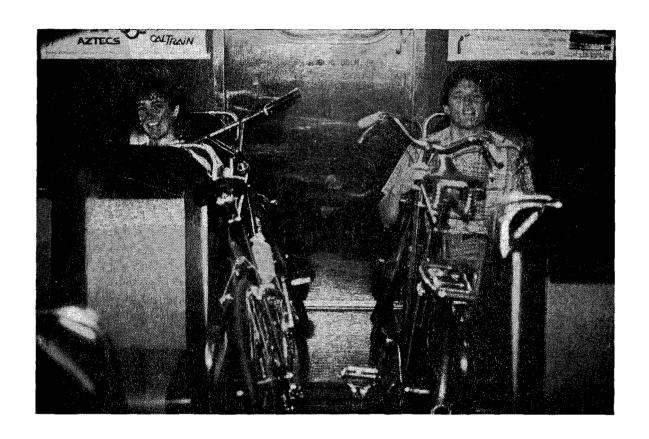
**←** To Vestibule

the same space were designated for wheelchairs, there could be disputes and aisle blockage.

In the absence of seat reconfiguration, the only realistic place to store bicycles appears to be in the aisle at the far end of rubber-floored cab cars, where there is minimal need for non-bicyclists to pass. Trailer cars next to the locomotive also could be used, but they have carpeted floors and a greater number of upper-level passengers who the conductor needs to reach from the lower level collect tickets. Each bicycle blocks up to four seats, whether the seats face or not. The cyclist occupies one of the four seats (Figure 6). With four bicycles present, 16 seats or 12% of the cab car's capacity--4% of a typical three-car train's capacity--are blocked. Since squeezing past other bicyclists and turning bicycles in the narrow aisles and spaces between seats is quite difficult, four bicycles per train appears to be a desirable maximum This is also the most common limit found on North American transit systems.

Bicycle advocates would like some flexibility in enforcement of the limit. One bicyclist suggests that large groups be allowed to pre-reserve space. This might be feasible on trains with very low ridership.

Figure 6



During the 1982 Peninsula experiment, bicycles were stored within the passenger compartment, where directed by the train crew. Crew members had authority to limit the total number of bicycles to five. Bicyclists were required to hold their cycles.

Problems with an end-of-train storage area include the need for the conductor to maneuver while collecting fares from bicyclists and from a few upper level passengers—although the overhead cab limits their number—and the procedure if bicyclists board just before departure time from terminal stations, or at intermediate points, when regular passengers are sitting in the designated seats. It may be necessary to mark the seats for bicycle use during hours when bicycles will be permitted. Non-bicyclists would be welcome to sit there, but would be on notice that cyclists might claim the seats or box them in.

Caltrans staff briefly examined the possibility of bicycle storage outside the cars, on racks. This method is not used, nor is it proposed, by any North American rail system. Racks are used on city buses, which tend to travel at slower speeds. The California Public Utilities Commission's clearance envelope allows projections 2' 7 1/2" from the sides of the current equipment, but the

San Francisquito Creek Bridge at the Santa Clara - San Mateo county line may pose a special clearance problem. It is also possible that bicycles could be stored at the end (front) of cab cars. But liability, safety and train delay issues made the prospect of exterior storage unattractive, and it was not studied in detail.

### 5. Time Restrictions

The 12 North American rail operators which permit bicycles all exclude them in rush hours, with two exceptions. BART allows bicycles to be carried in the "reverse commute" direction only, and then only outside San Francisco and downtown Oakland. In Montreal, CP Rail also allows limited reverse commute travel, serving a junior college and industrial parks. Duration of rush hour bans typically is three hours (see Figure 1); BART's blackout periods extend from 6:30 a.m. to 9:00 a.m. and from 3:30 p.m. to 6:30 p.m.

Eight of the 12 systems permit bicycles during the midday period on weekdays, and nine allow them in the evenings. On six systems, it is possible to transport bikes in the very early morning, before the commute rush. All except the Massachusetts Bay Transportation Authority, operator of

Boston's three rapid transit lines, permit cycles during at least part of Saturday, though some systems prohibit them during shopping or recreational peak periods. Among the properties with Saturday restrictions is the San Diego Trolley, with an 11:00 a.m.-5:00 p.m. ban. Rail operators allow bicycles on Sundays with few restrictions, and most allow holiday travel as well. However, line staff generally have authority to ban bicycles from specific trains without warning in the event of crowding.

During the 1982 Peninsula experiment, bicycles were allowed only on six specific off-peak trains in each direction, every day of the week, with San Francisco departure times of 8 and 10 a.m., 12 noon, 2, 8 and 10 p.m.; San Jose departure times of 9 and 10 a.m., 12 noon, 2, 8 and 10 p.m. Bicycles were restricted to the same trains on Saturdays and Sundays, despite the lack of rush hours on those days. This was cited as a shortcoming of the project in a subsequent Caltrans review.

For any future program, it would seem desirable to allow bicycles on all weekend and holiday trains, except for services making Bay Meadows (horse racing) or Stanford Stadium (football) stops on which crowds are expected. In such cases, because trains are often two hours apart, it

would be helpful to publicize in advance that these services will not carry bicycles. On weekdays, bicycle groups would like access in the early morning (before about 6:30 a.m.), the midday period, and the evening. Current Peninsula schedules are reproduced as Figures 7 and 8. Ridership trends on specific trains should be carefully examined before services are designated for bicycles.

### 6. Permits

In contrast to European practice, most North American systems require permits to bring bicycles aboard trains. Some permits are for unlimited duration, while others have two to three year validity periods. BART has a three-year permit. Permit forms from several systems are shown in Figure 9.

With one exception, permits must be obtained from a central location by mail or in person, which discourages out-of-towners or casual users. As a supplement to its regular permit, BART allows individuals to obtain a free one-day pass once a year from station agents.

Most systems administer their own permit programs, but the operators of the San Diego Trolley contract with American

# Figure 7

# CALTRAIN

						_																	_			_		
	V	<b>V</b> eekday	S									SÆ	11	l F	FR	A	N	C	IS	C	O,	/5	SA	N	J	Ю	S	E
	TRAIN NO AM															_			HAIN	NO	PM	_					_	
MI.	ZON	E/DESTINATION	22	24	26	28	30	32	34	36	36	40	42	44	45	45	50	52	54	56	58	60	62	64	68	68	70	72
0.0 1.9 4.1 5.2	<b>1</b> F	Lv San Francisco @ 4th & Townsend Sts. Lv 22nd Street Lv Paul Avenue Lv Bayshore	4:55 4:59	5:35 5:39	6:05 6:09	6:35 6:39	7:05 7:09	7:35 7:39	8:05 8:09	10:00 10:05  10:10	12:05 —		3:05 	3:50 3:54	4:20	4:25 4:29	4:42 4:47 4:51 4:54	4:54 - - -	5: 16 	5:20 - - -	5:25 - - -	5:30 _ _ _	5:57 - - -	6:05 6:09	6:35 6:39	7:20 -	8:05 -	10:00 10:05 10:10
9.3 11.6 13.7	1	Lv So. San Francisco Lv San Bruno Lv Millbrae	5:07 5:11 5:15	5:51	6:17 6:21 8:25	6:51	7:21	7:51	8:21	10:19	12:15 12:19 12:23	2:19	3:15 3:19 3:23	4:06	=		5:03	5:08  5:13	=	-	=	5:44 5:48 5:52	Ξ	6:21	6:51	7:30 7:34 7:38	8:19	10:15 10:19 10:23
15.2 16.3 17.9 18.9	2	Lv Broadway Lv Burlingame Lv San Mateo Lv Hayward Park	5:21	6:01 6:04	6:28 6:31 6:34 6:36	7:01 7:04	7:31 7:34	8:01 8:04		10:28 10:31	12:28	2:26 2:28 2:31 2:34	3:26 3:28 3:31 3:34	4:15 4:18	=======================================	4:48 4:51 4:54 4:57	=	5:16 5:19 5:22 5:25	- - -	~ - -	5:46 5:50	5:55 5:57 6:00 6:03	=	6:30 6:33	7:00 7:03	7:41 7:44 7:47 7:50	8:28 8:31	10:26 10:28 10:31 10:34
20.0 20.3 21.9 23.2 25.4	3	Lv Bay Meadows © Lv Hillsdale Lv Betmont (7F) Lv San Carlos Lv Redwood City	5:33 5:36	6:13 6:16	6:39 6:42 6:45 6:49	7:12 7:15	7:42 7:45	8:12 8:15	8:45	10:40 10:43	12:40 12:43	2:40	3:40 3:43	4:28 4:31	4:48	5:03 5:06	5:18 5:21 5:24 5:28	=======================================	_	5:45 - 5:53	5:56 5:59 	6: 12 6: 16	6:25 6:28 6:32	6:42 6:45 6:49	7:12 7:15 7:19	7:56 7:59 8:03	8:40 8:43 8:47	10:37 10:40 10:43 10:47
27.8 28.9 30.1 31.8	4	Lv Atherton Lv Menio Park Lv Palo Alto Lv California Avenue	5:46 5:49	6:26 6:29	6:53 6:57 6:59 7:02	7:26 7:29	7:56 7:59	8:26 8:29		10:53 10:56	12:51 12:53 12:56 12:59	2:53 2:56	3:54 3:57	4:39 4:42 4:45 4:48	4:59 5:02	5:14 5:17 5:20 5:23	5:32 - - -	5:37 5:40 5:43 5:46		5:59 6:02 6:05	_	6:25	6:38 6:42	6:55 6:58	7:25 7:28	8: 10 8: 13	8:53 8:56	10:51 10:53 10:56 10:59
34.8 36.1 38.8 40.8	5	Lv Castro Lv Mountain View Lv Sunnyvale Lv Lawrence	6:02			7:36 7:39 7:43 7:47	8:06 8:09 8:14 8:17	8:43		11:09	1:05 1:09 1:12	3:09	4:07 4:11	4:55	5:09 5:12 5:16 5:20	5:30 5:34	5:44 5:48	5:56	6:03	6:15	6:24	6:38	6:55	7:12	7:41	8:26	9:09	11:05 11:09 11:12
44.3 45.7 46.9	•	Lv Santa Clara Lv College Park Ar San Jose	-	_		7:54	8:24	_	-	11:16  11:25	1:16 - 1:25	_	_	_	-		_	6:04  6:13	-	_	-	_	_	-	-	-	9: 16 - 9: 25	11:16 
,	Sa	aturdays	a	nc	d F	re	si	de	nt									5	Su			/S/	/H					
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0.0 1.9 4.1 5.2	SF	Lv San Francisco @ 4th & Townsend Sts. Lv 22nd Street Lv Paul Avenue Lv Bayshore	6:05 6:09	7:05 7:09	8:00 8:05 8:09 8:12	10:05	12:	05 2: -	05 3: -	00 4:0 05 4:0 - 4:0 10 4:1	5 5:05 9 5:09	6:35 6:39	8:0 <b>5</b> 	10:00 10:05 10:10		Day, Labor	ë.		8:05 8:09 8:12	10:1	05   1.	2:05 . 	2:05 —	4:05 4:09	6:05 6:09	7:20 -	8:05 	10:00 10:05 10:10
9.3 11.6 13.7	1	Lv So. San Francisco Lv San Bruno Lv Millbrae	6:17 6:21 6:25	7:21	8:17 8:21 8:25	10: 15 10: 19 10: 23	12:	19 2	19 3:	15 4:1 19 4:2 23 4:2	1 5:21	6:51	8:19			ndance	ati season		8:17 8:21 8:25	10:1	19   1.	2:15 2:19 2:23	2:19	4:21	6:21	7:34	8:19	10:15 10:19 10:23
15.2 16.3 17.9 18.9	2	Lv Broadway Lv Burlingame Lv San Mateo Lv Hayward Park	6:31 5:34	7:31 7:34	8:28 8:31 8:34 8:36	10:26 10:28 10:31 10:34	12: 12:	26 2: 28 2: 31 2: 34 2:	28 3: 31 3:	2 <del>0</del> 4:20 28 4:30 31 4:3 34 4:3	0 5:30 3 5:33	7:00	8:28 8:31			ay, Indepe	clng/foot		8:31 8:34	10:2 10:2 10:3 10:3	28 <i>1.</i>	2: <i>28     .</i> 2:31	2:28 2:31	4:30 4:33	6:30 6:33	7:44 7:47	8:28 8:31	10:26 10:28 10:31 10:34
20.0 20.3 21.9 23.2 25.4	3	Lv Bay Meadows  Lv Hillsdale Lv Belmont Lv San Carlos Lv Redwood City	6:42 6:45	7:42 7:45	8:42 8:45	10:37 10:40 10:43 10:47	12: 12:	40 2: 43 2:	40 3: 43 3:	37 4:3: 40 4:4: 43 4:4: 47 4:4:	2 5:42 5 5:45	7:12 7:15	8:40 8:43	- 10:37 10:40 10:43 10:47		, Mamorial Day, Independance Day,	vice during racing/football		8:39 8:42 8:45 8:49	10:4	10   12 13   12	2:43	2:40 2:43	4:42 4:45	6:42 6:45	7:56 7:59	8:40 8:43	10:37 10:40 10:43 10:47
27.8 28.9 30.1 30.7 31.8	4	Lv Atherton Lv Menlo Park Lv Palo Alto Lv Stanford • Lv California Avenue	6:57 6:59 ~	7:56 7:59 -	8:53 8:56 8:59 9:02	10:53 10:56	12: 12:	53 2: 56 2:	53 <i>3</i> :	51 4:5: 54 4:5: 57 4:5: 	5:55	7:25 7:28	8:53 8:56 —	10:53 10:56 —		r New Year's Day, h	train servic		8:59 —	10:5 10:5 10:5	3 1. 6 1.	2:56 : 	2:53 2:56 —	4:55 4:58 —	6:55 6:58 —	8:10 8:13	8:53 8:56	10:51 10:53 10:56 
36.1 38.8 40.8	5	Lv Mountain View Lv Sunnyvale Lv Lawrence	7:13	8:14	9:08 9:12 9:16		1:0	05 3: 09 3:	05 4: 09 4:	07 5:0: 11 5:1: 15 5:1:	7 6:07 6:11	7:37 7:41	9:05 9:09	11:05 11:09		New Y	Special	÷	9:08 9:12	11:0 11:0 11:1	)5  9	1:05 : 1:09 :	3:05 3:09	5:07 5:11	7:08 7:12	8:22 8:26	9:05 9:09	11:05 11:09 11:12
44.3 46.9		Lv Santa Clara Ar San José	7:30	8:30	9:20 9:28	11:16 11:25	1: 1:	16 3: 25 3:.	16 4: 25 4:	19 5:15 28 5:28	6:19 6:28	7:49 7:58	9:16 9:25	11:16 11:25		*	•	اسيد		11:1 11:2		1:16 : 1:25 :	3: 16 3: 25	5: 19 5:28	7:20 7:29	8:34 8:43	9: 16 9:25	11:16 11:25
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**EFFECTIVE APRIL 5, 1987** 

# Peninsula Timetable

## SAN JOSE/SAN FRANCISCO

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7	ľ	eekdays																										
ĺ									TRAIN	NO	AM										TA	AIN N	0. – PI	M				
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0.0 1.2 2.6	6	Lv San Jose Lv College Park Lv Santa Clara	4:50 - 4:55	_	_	_	_	_	6:50 -6:55	-	7:05 _ _	_	_	8:00 8:05	_	10:00  10:05	Noon _ 12:05	-	3:03	3:33	4:03	4:33	5:03	5:38	6:03	_	_	10:00 10:05
6.1 8.1 10.8 12.1	5	Lv Lawrence Lv Sunnyvale Lv Mountain View Lv Castro	5:00 5:03 5:07		6:09	_	6:30 6:36	6:44	7:04	7: 12 7: 18	7:18	7:23	7:44 7:48	8:13	9:13	10:10 10:13 10:17	12:13	2:13	3:14	3:44 3:48	4:14 4:18	4:44 4:48	5:14 5:18	5:49	6:14 6:18	6:58	8:13	10:10 10:13 10:17
15.1 16.8 18.0 19.1	4	Lv California Avenue Lv Palo Alto Lv Menlo Park Lv Atherton	5:13 5:16 5:19 5:21	6:04	6:25	6:36	6:42 —	6:50 6:53 6:56 6:59	_	7:24 7:27 7:30	7:28 _ _ _	7:37 7:40	7:58 8:01		9:26 9:29	10:23 10:26 10:29 10:31	12:26 12:29	2:26 2:29	3:27 3:30	3:57 4:00	4:28 4:31	4:58 5:01	5:28 5:31	6:03 6:06	6:28 6:31	7:11 7:14	8:26 8:29	10:23 10:26 10:29 10:31
21.5 23.7 25.0 26.6 26.9	3	Lv Redwood City Lv San Carlos Lv Belmont Lv Hillsdale Lv Bay Meadows	5:25 5:29 5:32 5:35	6:18	6:36 6:39	- 6:47	_	7:06 7:09	_	7:38 7:41	7:37 7:41 — —	7:50	8:11 8:15	8:40	9:39 9:42	10:35 10:39 10:42 10:45	12:39 12:42	2:39 2:42	3:41 3:44	4:11 4:14	4:41 4:44	5:11 5:14	5:42 5:45	6:17 6:20	6:41 6:44	7:24 7:27	8:39 8:42	10:35 10:39 10:42 10:45
28.0 29.0 30.6 31.7	2	Lv Hayward Park Lv San Mateo Lv Burlingame Lv Broadway	5:38 5:40 5:43 5:46	6:27 6:29 6:32 6:35	-	6:53 6:56 6:59	7:00 7:03 7:06 7:09	-	7:32 7:35 7:38 7:41	=	=======================================	7:59 8:02 8:05 8:08		8:49 8:51 8:54 8:57	9:50 <b>9</b> :53	10:48 10:50 10:53 10:56	12:50 12:53	2:50 2:53	3:53 3:56	4:25 4:28	4:56 4:59	5:26 5:29	5:53 5:56	6:29 6:32	6:53 6:56	7:35 7:38	8:50 8:53	10:48 10:50 10:53 10:56
33.2 35.3 37.6	1	Lv Millbrae Lv San Bruno Lv So. San Francisco	5:49 5:53 5:57	6:38 6:42 6:46	=	7:06	7:12 7:16 7:20	7:24	=	=	7:56	8:11 8:15 8:19		9:04	10:03	10:59 11:03 11:07	1:03	3:03	4:05	4:38	5:08	5:38	6:06	6:41	7:06	7:48	9:03	10:59 11:03 11:07
41.7 42.8 45.0 46.9		Lv Bayshore Lv Paul Avenue Lv 22nd Street Ar San Francisco @ 4th & Townsend Sts.	6:05	6:51  6:56 7:05	7:10	7:17 7:21	7:24 7:27 7:31 7:40	-	- - 8:05	8:10	- - 8:18	8:23 8:26 8:30 8:40	- - 8:45	9:17	10:16	11:11  11:16 11:25	1:16	3:16	4:17 4:21	4:50 4:53	5:19 5:23	5:49 5:53	6:17 6:21	6:52 6:56	7:17 7:21	8:01	9: 16	11:11 11:16 11:25

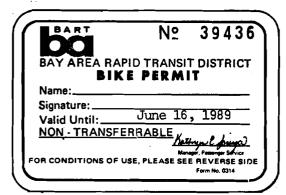
### Saturdays and Presidents' Day

### Sundays/Holidays\*

	TRAIN NO AM						TRAI	N NO.	- PM			TRAIN - AM					TRAIN No PM						
MI./ZO	NE/DESTINATION	81	83	45	47	49	51	53	59	63	67	71	73	_	81	45	49	51	53	59	67	71	73
0.0 2.6	Lv San Jose Lv Santa Clara					10:00 10:05							10:00 10:05				10:00 10:05	Noon 12:05	2:00 2:05	4:00 4:06	6:00 6:06	8:00 8:05	10:00 10:05
6.1 8.1 s 10.8	Lv Lawrence Lv Sunnyvale Lv Mountain View	6:13	7:13	8:13	9:13	10:10 10:13 10:17	12:13	2:13	4:14	5:14	6:14	8:13	10:10 10:13 10:17	ce Day, ason.	6:13	8:13	10:10 10:13 10:17	12:13	2:13	4:14	6:14	8:13	10: 10 10: 13 10: 17
15.1 16.1 16.8 4 18.0 19.1	Lv California Avenue Lv Stanford • Lv Palo Alto Lv Menlo Park Lv Atherton	6:26 6:29	7:26 7:29	8:27 8:30	9:26 9:29	10:23 	12:26 12:29	2:26 2:29	4:28 4:31	5:28 5:31	6:28 6:31	8:26 8:29	10:23 10:26 10:29 10:31	Day, Independence Da stmes Day. racing/footbail season.	6:26 6:29	8:27 8:30	10:23 10:26 10:29 10:31	- 12:26 12:29	2:26 2:29	4:28 4:31	6:28 6:31	8:26 8:29	10:23 
21.5 23.7 25.0 26.6 26.9	Lv Redwood City Lv San Carlos Lv Belmont Lv Hillsdale Lv Bay Meadows •	6:39 6:42	7:39 7:42	8:40 8:43	9:39 9:42	10:35 10:39 10:42 10:45	12:39 12:42	2:39 2:42	4:41 4:44	5:42 5:45	6:41 6:44	8:39 8:42	10:35 10:39 10:42 10:45	Year's Day, Memorial Day, Independence Day, Thanksgiving and Christmas Day. al train service during racing/football season.	6:39 6:42	8:43	10:35 10:39 10:42 10:45	12:39 12:42	2:39 2:42	4:41 4:44	6:41 6:44	8:39 8:42	10:35 10:39 10:42 10:45
28.0 29.0 30.6 31.7	Lv Hayward Park Lv San Mateo Lv Burlingame Lv Broadway	6:50 6:53	7:50 7:53	8:51 8:54	9:50 9:53	10:48 10:50 10:53 10:56	12:50 12:53	2:50 2:53	4:56 4:59	5:53 5:56	6:53 6:56	8:50 8:53	10:48 10:50 10:53 10:56	Day, Men sgiving an 1 service d	6:50 6:53	8:51 8:54	10:48 10:50 10:53 10:56	12:50 12:53	2:50 2:53	4:56 4:59	6;53 6:56	8:50 8:53	10:48 10:50 10:53 10:56
33.2 36.3 1 37.6	Lv Millbrae Lv San Bruno Lv So. San Francisco	7:03	8:03	9:04 1	0:03	10:59 11:03 11:07	1:03	3:03	5:08	6:06	7:06	9:03	10:59 11:03 11:07	, Year's [ , Thanks :isi train	7:03	9:04	10:59 11:03 11:07	1:03	3:03	5:08	7:06	9:03	10:59 11:03 11:07
41.7 42.8 45.0 SF 46.9	Lv Bayshore Lv Paul Avenue Lv 22nd Street Ar San Francisco @ 4th & Townsend Sts.	7:11 7:13 7:17 7:25	8: 13 8: 17	_ 9:17 1	_ 0:16	11:11  11:16 11:25	1:16	_ 3:16	5:19 5:23	6:17 6:21	7:17 7:21	 9:16	11:11 - 11:16 11:25	★ New Ye Day, Th	7:13 7:17	9:17	11:11 - 11:16 11:25	- 1:16	3:16	5:19 5:23	7:17 7:21	- 9:16	11:11 - 11:16 1,1:25

CALTRAIN

### Figure 9



Bike-N-Ri Permit	ide	Photo
<b>⊕</b> San Diego	Trolley	
Name		
Expiration Date	Signature	

PATH BICYCLE PERMIT
720 Greenwich St. Apt. 4-L New York AV 10014
Signature of Holder  This permit entities the holder whose name appears above, to carry a bicycle on the PATH system during non-tush hours subject to the rules and regulations below:  1. Fares: Pay the normal fare for each journey.  2. No More than Two Bicycles per PATH Car.  3. Group Travel Limited: Do not enter a PATH station with more than four accompanying cyclists.
<ol> <li>Rash Hour Restrictions: Do not enter any PATH station between 6:00 A.M. and 9:30 A.M. or between 3:00 P.M. and 8:30 P.M. on week- days (except major holidays).</li> </ol>

### **Bicycle Permit**

Name

720 Greenwich Street, Apt. 4-L

Address

New York, N. Y. 10014

002479

Permit Number



#### Restrictions

Weekdays

**Outbound from Grand Central Terminal** 

Bicycles will not be permitted on trains scheduled to depart from Grand Central Terminal between:

7:00 and 9:00 AM and 3:01 and 8:15 PM (7:00 and 12 noon and 3:01 and 8:15 PM on the Friday after Thanksgiving, and the week between Christmas and New Year)

Inbound to Grand Central Terminal

Bicycles will not be permitted on trains scheduled to arrive in Grand Central Terminal between:

6:00 and 10:00 AM and 4:00 and 7:00 PM (6:00 and 12 noon and 4:00 and 7:00 PM on the Friday after Thanksgiving, and the week between Christmas and New Year)

In addition, bicycles will not be permitted on train #1347, departing New Haven, Connecticut, at 9:03 AM and scheduled to arrive Grand Central Terminal at 10:48 AM

Weekends

There are currently no time or train restrictions for cyclists on weekends. However, since fluctuations in ridership are greater on weekends than on weekdays, train crews may restrict bicycles if a particular train is crowded.

Holidays and Holiday Eves

No bicycles will be carried on New Year's Eve, New Year's Day, St. Patrick's Day, Mother's Day, The Eve of Rosh haShanah, the Eve of Yom Kippur, the Eve of Thanksgiving, Thanksgiving Day, Christmas Eve, and Christmas Day, In addition, no bicycles will be permitted on trains scheduled to depart Grand Central Terminal between 12:00 noon and 8:30 PM on the following days:

Friday before Memorial Day weekend, the day before Independence Day (or weekend), Friday before Labor Day weekend

### Liability

I hereby agree to assume all liability for any damage or injury to myself, other persons, or property resulting from, or in connection with, the carriage of my bicycle on Metro-North trains, or at any facility used in connection with Metro-North rail services.

Having read and understood the bicycle access program regulations, I agree to all the terms and conditions in the use of the Metro-North bicycle permit.

Applicant's signature

4-1-86

Date

Youth Hostels for permit sales at a downtown location. In New York, Metro-North and Long Island permits may be obtained either from the rail system or from American Youth Hostels, which also sponsors many group bicycle trips using surplus cars on weekends.

Fees of \$3 to \$5 are generally charged for permits, with Washington, D.C.'s Metrorail charging \$10. Fees intended to offset administrative costs of the permit Half the properties require bicyclists to apply system. for the permit in person, usually during weekday business Washington's Metrorail has office hours one hours. Saturday a month, but like Miami's rapid transit system requires applicants to view a safety film and pass a written exam on rules and regulations. Washington, Miami, Boston and San Diego require a photo ID card, and compel bicyclists to display the permit on their clothing or bicycle at all times. New York railroads are less strict. Permits are not transferable on any system, and some charge for replacement permits in the event the original is lost.

The Metropolitan Atlanta Rapid Transit Authority (MARTA) and the Toronto Transit Commission do not have permit systems, and Atlanta reports no incidents (rules and regulations are posted in stations). However, bicycle

usage in Atlanta is light. In Toronto, bicycles may be brought aboard at the discretion of station agents or vehicle operators, and staff could provide no details on extent of use. Montreal's Metro recently eliminated permits, but standards of behavior have declined markedly and bicycle advocates are recommending that they be restored. Also in Montreal, the CP Rail operation does not require permits, but poor manners might force institution of a permit system in the future.

Permits were not required during the 1982 CalTrain demonstration program. However, a number of incidents were reported, as described in Section 11, Disciplinary Measures. These might have been reduced in number with a permit system.

From the operator's standpoint, permits may be an administrative burden, and permit charges may or may not cover the full cost of programs. They have three chief benefits. First, the application process provides a mechanism for educating cyclists about train boarding and bicycle storage, as well as rules and regulations. Second, the process allows the transit system to obtain a signature on a legal waiver agreement, as described in the next

section. Finally, permits can be individually revoked in the case of poorly behaved cyclists.

For the CalTrain service, it may be appropriate to combine permit administration with the bicycle locker program in the Public Transportation Branch. Applicants could obtain permits through the mail by reading a pamphlet which explains rules and regulations and train cars' physical arrangements, filling out an application, signing a waiver, and sending the required documents and fee to Caltrans.

A photo permit may not be necessary if cyclists are required to carry a separate photo ID.

Permits could allow the holder to bring a guest. In addition, temporary permits for out-of-town visitors could be made available at stations. However, only three stations are open on Saturday, and only the terminal stations of San Francisco and San Jose on Sundays. For this reason, the possibility of contracting for permit sales with retail outlets or bicycle shops should be investigated. Like regular permit holders, applicants for temporary permits would be required to sign waivers.

Some bicycle advocates have suggested that conductors should carry temporary permits and waiver forms. Since waivers would have to be read and signed by bicyclists before they board trains, this would cause delays and therefore is not recommended.

### 7. Legal Liability

Legal liability is a major concern of rail operators in the United States, but most liability questions related to bicycles have been satisfied by asking cyclists to sign waivers as part of the permit process.

A common waiver agreement involves two parts: first, a release of liability for negligence on the part of the transit property, and second, an agreement to indemnify and hold harmless the agency for the cyclist's negligence. A copy of BART's agreement is included as Figure 10. The more complete waiver agreement required on the San Diego Trolley is presented as Figure 11.

The San Diego agreement acknowledges a potential shortcoming of waivers: that they might not prevail in courtroom proceedings. It states that the agreement "is intended to be as broad and inclusive as is permitted by

## Figure 10: Bart

### RELEASE OF LIABILITY AND INDEMNIFICATION

#### Release:

In consideration of the permission granted to me to bring my noncollapsible bicycle onto a BART car while riding on the BART system as a passenger, I hereby release the San Francisco Bay Area Rapid Transit District, its directors, officers, representatives, agents and employees from any and all liability for injury of any kind to me or to my bicycle or other property I may have with me, incurred by reason of any act beyond the control of BART's directors, officers, representatives, agents and employees, and arising because of my bringing my bicycle on BART property.

### Indemnification:

I further agree to indemnify and hold harmless, the San Francisco Bay Area Rapid Transit District, its directors, officers, representatives, agents and employees from all costs, damage or expenses, direct or indirect, for injury to other persons and/or their property, and/or incurred by reason of any act or failure to act on my part or by reason of any act beyond the control of BART's directors, officers, representatives, agents and employees, and arising because of my bringing my bicycle on BART property.

(Signatur	e of Permittee)
	(Date)
(Signature of guardian)	responsible parent/
	(Oate)

If applicant is under 18 years of age, signature of responsible parent or guardian is required.

## Figure 11: San Diego Trolley

REVISED

BIKE-N-RIDE PROGRAM:
RELEASE AND WAIVER OF LIABILITY AND INDEMNIFICATION AGREEMENT

RELEASE OF LIABILITY FOR NEGLIGENCE

I release the San Diego Metropolitan Transit Development Board and San Diego Trolley (MTDB/SDTI) from all liability for injury or damage to me or my bicycle or other property, caused by any act or failure to act on my part, MTDB/SDTI's directors, officers, representatives, agents and employees, including their active or primary negligence, arising because of the presence of my bicycle on MTDB/SDTI property. I recognize that my bicycle in trolley station areas and aboard trains poses a potential hazard to the San Diego Trolley's other patrons and to me in the event of sudden stop or acceleration, collision, fire or other emergency, as well as to other patrons who may stumble or fall or bump into my bicycle. I freely and willingly waive all claims or injury to myself or damage to my bicycle and other property arising out of the Bike-N-Ride Program.

AGREEMENT TO INDEMNIFY AND HOLD HARMLESS

I further agree to indemnify and hold harmless MTDB/SDTI and its directors, officers, representatives, agents and employees from all costs, damages, or expenses for injury to other persons and/or their property and/or damage to MTDB/SDTI property which occur because of any act or failure to act on my part or because of any act or failure to act of MTDB/SDTI and its directors, officers, representatives, agents and employees, including the active or primary negligence, arising because of the presence of my bicycle on MTDB/SDTI property. I recognize this provision makes me personally liable for injuries to MTDB/SDTI patrons, employees and damage to property arising by reason of my bicycle's presence on MTDB/SDTI trains or in the stations.

I expressly acknowledge and agree that bringing bicycles on-board Trolley cars is potentially dangerous and involves the risk of injury and/or property damage. I further expressly agree that the foregoing release, waiver, and indemnity agreement is intended to be as broad and inclusive as is permitted by the law of the State of California and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect.

I HAVE READ THE FOREGOING RELEASE OF LIABILITY FOR NEGLIGENCE AND AGREEMENT TO INDEMNIFY AND HOLD HARMLESS AND FULLY UNDERSTAND THEIR SIGNIFICANCE. I AGREE TO BE BOUND BY THE PROVISIONS OF BOTH IN RETURN FOR MTDB/SDTI GRANTING ME PERMISSION TO BRING MY BICYCLE ON SAN DIEGO TROLLEYS WHILE RIDING AS A PASSENGER.

If under 18 years of age, notarized signature of parent or guardian is required.

Date:	
	Signature of Permit Holder
Witness	Signature of Parent or Guardian
	(if permit holder is under 18 years of age)

LEGAL:ss - 9/23/85

the law of the State of California, and that if any portion thereof is held invalid, it is agreed that the balance shall, notwithstanding, continue in full legal force and effect." Even if waivers aren't the last word in a court of law, such language may dissuade bicyclists from filing claims or bringing suit. Certainly, staff of the dozen North American rail operators allowing bicycles could recall no bicycle-related claims being filed against their systems. The Deputy Claims Agent for the Long Island Rail Road, which carries many bicycles in summer on individual and group trips, expressed complete confidence in the company's bicycle program. With over 40,000 permits issued to date, BART staff cannot recall any claims.

The liability issue is more complex for the CalTrain partners than for other rail operators. In 1982, Caltrans was paying Southern Pacific a sum of \$400,000 annually as consideration for assuming legal liability for the overall operation. At the same time, SP was contributing \$400,000 to CalTrain as "a contribution to the public good" (Section 14 of the Master Agreement). Although these amounts were not intended to be linked, there was an understandable reluctance within SP management to take on what was felt to be the additional liability burden of carrying bicycles. Therefore, SP requested and the State

paid \$73,200 for four months of special liability coverage for the bicycle demonstration program. When Caltrans expressed interest in extending the program by two months through the summer period, Southern Pacific requested another \$20,000 which the State declined to pay. The demonstration program thus ended in mid-July.

The status of payment obligations is substantially different now than in 1982. Caltrans pays SP \$614,500 annually for insurance, while SP no longer makes any contribution to the service's operating costs. Moreover, many more North American rail operators have experience carrying bicycles, and as previously noted none report any claims.

Southern Pacific, like other State contractors, would prefer that the State assume the liability burden directly. However, according to Caltrans' Legal Division this is beyond the State's authority, as well as being contrary to Caltrans' obligations as set forth in the master contract. Legislation to allow the State to indemnify contractors is only entering the discussion stage.

Another possibility would be for Caltrans to purchase a special policy on the commercial insurance market which

covers only bicycles. However, the State Insurance Department and Caltrans legal staff maintain that insurance carriers would be unwilling to underwrite such a minor policy. Also, since there is no claims experience anywhere, it would be difficult for carriers to calculate a premium.

Based on the record of a dozen rail operators in North America--experience which was much more limited in 1982--there appears to be little cause for concern over added liability exposure resulting from bicycle carriage. By requiring cyclists to sign waivers, rail operators reduce the already low risk even further.

### 8. Bicycle Fares

If bicycles on trains deprive non-bicyclists of a seat, it may be appropriate to charge an extra fare for bikes. This is done extensively in Europe, where cyclists must pay a premium of up to one additional full fare, or a flat fixed amount. Some cyclists indicate a willingness to pay \$1-2 extra per trip for use of the Peninsula trains.

The concept of bicycle fares has not caught on in North America, perhaps because permits are typically required,

and off-peak space generally is available. No extra fare was charged during the 1982 demonstration.

If a ceiling is set on the number of bicycles per train, and peak-hour services and specific trains serving sports events are off limits, fares may not be justified in a future CalTrain program. Non-bicyclists should be able to find seats even with bicycles aboard. However, if a modest liability assessment becomes part of the bicycle program, bicycle fares may be essential. Establishment of a new fare category would require California Public Utilities Commission review and approval.

### 9. Bicyclist Age Restrictions

Eight of the 12 North American rail systems which accept bicycles have a minimum age requirement for bicyclists. BART will not allow permit holders under age 14 to travel without an older permit holder. Washington, Miami, and Boston will not issue permits to those under 16--younger cyclists may sometimes travel with a parent--while Atlanta bars cyclists under 18. San Diego completely bans bicyclists under 16 because they could have difficulty negotiating the steps, while the two Montreal systems allow

bicyclists under 16 only if accompanied by an older person.

The Montreal age restriction appears most suitable for a CalTrain program. San Diego's complete ban on cyclists under 16 prevents families from making use of the trains. Caltrans should also reserve the right to require younger permit holders to travel with an adult over 18 if rowdyism, carelessness or vandalism become problems.

### 10. Bicycle Cleanliness and Good Repair

Six out of eight permit agreements have restrictions similar to Washington, D.C.'s: "bicycles must be clean and free of excess grease and dirt and not have any sharp projections." Since clearances aboard CalTrain are tighter than on other systems, this rule appears essential for the Peninsula service.

During the 1982 CalTrain demonstration program, there were several incidents, including soiling of a conductor's uniform and placement of bicycles on seats. Incidents like these and observed situations on BART suggest the need for a cleanliness policy.

### 11. Disciplinary Measures

In designing a bicycle program, it is essential that a procedure be established to deal with rule breakers. One advantage of permits is that repeat offenders can have their authority to bring bicycles on the train revoked, thereby safeguarding the privilege for others.

Clearances on gallery car equipment are tight, and the possibility of damage to equipment, as well as altercations with other passengers, is real. On the CP Rail system in Montreal, bicycles have been left in vestibules and conductors harassed. During the 1982 CalTrain experiment, several violations occurred, including bicycles on seats, bicycles in the wrong car, blocked aisles and restrooms, soiled conductors' uniforms and the forced removal of a bicyclist from a non-designated train. Nevertheless, the United Transportation Union endorsed the project in a June 29, 1982 letter (Figure 12).

On other commuter rail systems, conductors generally have complete authority to enforce rules applying to bicyclists. However, decisions on permit revocation are made in the general office. A Metro-North representative could not



### united transportation union

June 29, 1982 1732

Mr. M. D. Ongerth
Superintendent
Western Division
Southern Pacific Transportation Co.
1707 Wood Street
Oakland, CA 94607

Dear Mr. Ongerth:

Reference to Peninsula Commute Special Notice \$14 dated March 10, 1982 reguarding "Bicycle Experiment" to be in effect until July 14, 1982. With the experimental period ending, I wish to advise you of the over-all experiences and suggestions if you are planning on renewing bicycles on the San Francisco-San Jose Commute Trains.

While there are a few Conductors and Brakeman who are in opposition to bicycles on the commute trains, the majority are in favor of continuing the bicycle policy as set forth in your Special Notice \$14. The great majority of passengers with bicycles have cooperated with train crews in conditions in bicycle policy.

While we all realize that the present commute equipment is not suitable for transport of bicycles, we will overlook the minor inconveniences caused by bicycles. We wish to encourage the ridership of all persons on the commute trains with bicycles or not.

Suggest that all conditions set forth in Special Notice #14

be continued with following exceptions.

1. On week-end and holiday trains bicycles be allowed on all trains if passenger load permits

2. On west bound trains bicycles be allowed in west car only (head-end)

I would be happy to meet with you to discuss the bicycle policy.

Yours truly

Local Chairman #1732

United Transportation Union

recall any instance of permit cancellation in the threeyear history of that program.

BART permits may be temporarily confiscated on line by police officers, but final decisions on disciplinary measures are made by an eight-member Monitoring Committee comprised of four BART representatives and four members of bicycling organizations. The Committee has revoked only about ten permits in ten years, generally for repeat violations. Typically, warning letters are sent before permits are cancelled. Bay Area bicycle groups endorse the formation of a similar committee to oversee any CalTrain bicycle-on-rail program.

### 12. Marketing

The final major element of importance in designing a bicycle program is marketing. Some systems do no marketing, others (including BART) actively promote their programs through rider newsletters and instructional brochures, while still others rely on bicycle groups, especially American Youth Hostels, to promote bicycle access. Samples of marketing are reproduced in Figures 13-15.

# San Diego Trolley's Bike-N-Ride Program





San Diego Trolley

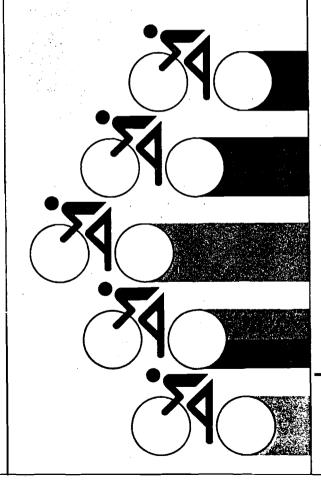


**American Youth Hostels** 

**Effective July 1986** 

## Metro

**Bike-On-Rail** 



# BIKES ON THE



**Massachusetts Bay Transportation Authority** 

San Diego Trolley has a great way to shorten the distance of long bicycling trips. The Bike-N-Ride program allows you to bring your bicycle on-board the Trolley during the following hours:

Monday-Friday 5:00 a.m.-6:00 a.m.;

9:00 a.m.-3:00 p.m.;

6:00 p.m.-1:00 a.m.

Saturday 5:00 a.m.-11:00 a.m.;

5:00 p.m.-1:00 a.m.

Sunday All Day, 5:00 a.m.-1:00 a.m.

A bicycle permit must be obtained before boarding the Trolley. Each cyclist must have their own permit and may bring only one bicycle on-board at any time. This permit is required at all times while on-board and must be accompanied by a valid proof of Trolley fare payment. The permit must be displayed on the bicycle and be visible at all times while in Trolley stations or on the train.

#### How to Obtain a Permit

The bicycle permit process is designed to ensure you understand the various safety rules and operating procedures before boarding the Trolley.

Bike-N-Ride permits are issued to persons 16 years of age or older. Due to the potential difficulty in carrying a bicycle up and down the Trolley steps, children under the age of 16 are not permitted on-board the Trolley with bicycles at any time.

The Bike-N-Ride program is administered in conjunction with the American Youth Hostels (AYH) organization. Permits can be obtained through their local office:

American Youth Hostels

1031 India Street (around the corner from the

Santa Fe Depot Trolley Stop between Broadway and C Street)

Hours: Monday-Friday, 10:00 a.m.-4:30 p.m.

Phone: 239-2644

A recent passport size photo which will be affixed to the permit is required at the time you apply for a permit. The permit is non-transferable and expires two years after the date of issue. There is a non-refundable charge of \$3.00 for each permit. Lost permits should be reported to the American Youth Hostels as soon as possible. A nominal fee will be charged for replacement.

When applying for a permit, the various rules and procedures for riding the Trolley will be reviewed. They are summarized in this brochure, which should be kept handy for future reference.

#### Fares

There is no additional fare for bringing your bicycle onboard the Trolley. Information on fares is given in the "San Diego Trolley Timetable," and on the ticket machines located at each station. Always purchase your single-ride ticket or validate your multi-ride ticket before boarding the Trolley. Proof of payment, along with your Bike-N-Ride permit; must be shown to fare inspectors when asked. Failure to produce either of these can result in a citation.

#### **Travel Time Restrictions**

Due to safety concerns, bicycles are allowed on-board the Trolley only during the hours listed in this brochure. Bicycles are not allowed on-board during peak ridership times (Monday–Friday: 6:00 a.m.–9:00 a.m. and 3:00 p.m.–6:00 p.m.; Saturday: 11:00 a.m.–5:00 p.m.). You are responsible for ensuring that you reach your destination during the permitted travel times and prior to the restricted periods. Fare inspectors may issue citations and/or revoke permits for failure to comply.

#### How to Board the Trolley

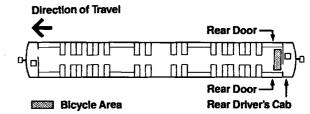
Each Trolley stops at every station in the system. Once you are at the station and have paid your fare, walk your bicycle to the platform to wait for the Trolley.

- Proceed to the rear door of any Trolley Vehicle after the train stops.
- Press the lighted green button on the side of each door to open the doors.
- Before boarding, check to see if there are cyclists already on-board (only two cyclists are allowed onboard each vehicle). If so, walk your bicycle to another vehicle.
- Lift your bicycle up the steps, paying particular attention not to bump the doors or the center stanchion.
- At no time may you board a vehicle other than at the rear door.

Occasionally, you may also encounter an inoperable door or a wheelchair lift-only door. If so, you must then board the Trolley at the rear door of another vehicle.

#### On-Board the Trolley

Once you have boarded the Trolley, your bicycle should be placed next to the wall of the rear driver's cab (see diagram). Up to two bicycles may be in this area at one time. You should position your bicycle so that it does not block other passengers from entering or exiting the Trolley. No bicycles are permitted in the aisleways.



While the Trolley is in motion, you must remain with your bicycle at all times. For safety reasons, please hold onto the bicycle, with the kick-stand up. Remember that you are responsible for any damage to the Trolley vehicle and for any injury to other passengers as a result of your negligence.

#### **Getting off the Trolley**

After the Trolley has come to a complete stop at your destination, press the white button below the lighted sign to open the doors. If other passengers are waiting to get off, let them exit first. Be sure to lift your bicycle when descending the Trolley steps, paying careful attention not to bump the doors or center stanchion.

At several stations in the system, you may be required to exit the Trolley from the left-side doors. Should a wheel-chair lift be present at the rear of the vehicle, the left-side doors will be unavailable for exiting. In this situation, you may wheel your bicycle up the aisleway and de-board at the middle doorway. Be sure to wait until the Trolley has come to a full stop before proceeding up the aisleway. Due to the narrowness of the aisleway, you must take extra precautions not to bump your bicycle against the seats or other passengers.

### Figure 15

# Summer Bicycle Trips From BART

n long, summer days when the outdoors beckons, what could be more fun than discovering a new part of the Bay Area or revisiting a familiar one by bicycle?

BART makes it so easy. All you need is a bicycle permit and a BART ticket to begin your adventure. Here are four bicycle trips from BART stations, and there are many more. (Two of these trips were included in a SUNSET Magazine article (1997)

BART Adventures.)
To obtain a BART bicyc
464-7133 for an appointn
application at the Passen
in the Lake Merritt Stati
ask for an application to b
A bicycle permit costs \$3.
three years. BART bike i
identification may obtair
once a year from BART st

The minimum age for BART without being ac adult is 14 years. Youngst must have their parents (liability form in order to mit.

Bicycles are allowed weekdays before 6:30 a.n and 3:30 p.m., and after 6 ends and holidays, they a all hours of operation. always board the last car

### Alameda Regional



istance: 21 miles roumont Station; 16 mil Union City Station, incluside trip. Though not welfull of gravel, this trail is especially when you see h other migrating birds who make Alameda Creek their home. You ride past housing developments and farmers' fields to saltevaporation ponds fronting San Francisco Bay.

The trail approach from the Fremont Station is longer but safer than from the Union City Station. Paseo Padre Parkway has a smooth, wide shoulder; Decoto Road's shoul-

### TAccepts Bicycles



Imagine taking your bicycle on the T. Pedal to the nearest station, stroll up to the collector's booth, and guide your cycle past other passengers with not so much as a blink. Think where you could go. Without a car, gas stations, traffic or much pedaling, tour the Blue Hills Reservation, feel the sea breezes along Revere Beach, circle the Charles River or visit Wompatuck State Park in Hingham.

On June 1, 1986 the MBTA's Bicycle Program will be operating year round after a successful six-month experiment in 1985. On Sundays and state holidays, except certain holidays and except between Thanksgiving and Christmas, up to two bicycles per train are allowed on the last car of any Red, Orange or Blue line train

Restrictions. To use the program, bicyclists must obtain a special Bicycle Pass which costs \$5 at the Washington Street Senior Citizens Office (weekdays 8:30 a.m. – Noon, 12:30 – 4 p.m.). Children under 16 must be accompanied by a parent or guardian. Bicyclists must sign a waiver of responsibility in order to receive the pass.

For suggestions where to go in the MBTA service area, two sources are:

MetroParks Bikepaths. Send a stamped, self-addressed envelope for a free brochure to: MDC Public Information, 20 Somerset St., Boston, MA 02108.

Explorer's Recreational Map and Guide, Metropolitan Boston. \$1.95 at bicycle and camping stores, map and bookstores.

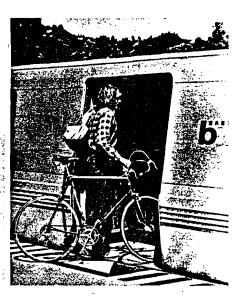
#### •Two for One •

At the John F. Kennedy Library, Columbia Point, Boston. Present this coupon and SAVE up to \$2.50 with each adult admission.



Admission: \$2.50 adults, \$1.50 seniors, children under 16 free. Open 9-5 daily except Thanksgiving New Year's Day, Christmas Day. Take the Red Line to JFK/UMASS, free bus to library. Or exit 15S/exit 14N off Southeast Expressway.

Valid through April 30, 1987.



### History Ride Through Oakland

oin docents from the Oakland Museum for a leisurely, six mile ride through Oakland's past.

These free tours begin from the Museum at 1000 Oak Street, which is one block from the Lake Merritt BART Station. The tours begin at 10 a.m. and last two-and-a-half hours on the third Sunday of every month from July through October. Guides lead groups of about 12 bicyclists through Downtown Oakland, stopping frequently to discuss an area's history — what it was and what it is today.

Participants must be at least 12 years old, and advance reservations are required. Call 273-3515 for schedule and reservations.

### Angel Island State Park

ngel Island is a picnic haven and has a panoramic 5-mile bicycle road around the perimeter of the island. Once you climb uphill to reach the road, the ride is mostly level.

From the Embarcadero BART Station, ride down Market Street and cross over the Embarcadero to the Ferry Building. Ride north along the Embarcadero to Pier 43½ on Fisherman's Wharf where the Red & White Ferry boats depart on a regular schedule for Angel Island. The fare is \$6.10 round trip. The first 25 bicycles are allowed on the Ferry boats, space permitting. Call 546-2815 for schedules.

The 1982 CalTrain demonstration project was marketed on two occasions. Before the project began, 8000 flyers were distributed to passengers and posted at stations (Figure 16); additional flyers of a different design were provided to Southern Pacific staff and sent to bicycle clubs and dealers (Figure 17). Three months into the project and one month before termination, another flyer was mailed to clubs and dealers (Figure 18), along with schedules, District 4 bicycle maps, and service promotional materials.

There is a question whether extensive marketing is desirable for the CalTrain program, given the tight clearance aboard gallery cars. Encouraging the general public to ride, as BART and Boston's MBTA do in their passenger newsletters (Figure 15), could lead to inexperienced cyclists complaining about the difficulty of carrying bicycles aboard, turning and storing them. A more restricted informational campaign directed to bicycle shops and organizations may attract users who don't mind steps, stanchions, and narrow aisles. This approach, which was used during the 1982 demonstration project, continues to be favored by Peninsula bicycle advocates.

### Figure 16

# NOTICE

### EFFECTIVE MARCH 15, 1982

BICYCLES WILL BE ALLOWED ON THE FOLLOWING SOUTHERN PACIFIC TRAINS DAILY DURING A FOUR-MONTH DEMONSTRATION PROJECT:

TO SAN FRANCISCO: #47, 49, 51, 53, 65, 67

TO SAN JOSE : #30, 32, 34, 36, 64, 66

BICYCLES WILL BE RESTRICTED TO THE REAR PORTION OF THE LAST CAR OF THE TRAIN. ENTRY AND EXIT WILL BE BY THE REARMOST DOOR OF THE TRAIN. THE MINIMUM AGE FOR BICYCLISTS IS EIGHTEEN. S.P. PERSONNEL MAY, AT THEIR DISCRETION, LIMIT THE NUMBER OF BICYCLES ABOARD ANY ONE TRAIN TO FIVE.

### FOR FURTHER INFORMATION

CALL CALTRANS (415) 557.0136

### Figure 17

### GOOD NEWS FOR BICYCLISTS

BEGINNING MARCH 15, 1982, YOU WILL BE ABLE TO BRING YOUR BIKE ALONG ON CERTAIN SOUTHERN PACIFIC TRAINS ANY DAY DURING OFF-PEAK HOURS. THESE TRAINS ARE:

TO SAN FRANCISCO: #47, 49, 51, 53, 65, 67 TO SAN JUSE: #30, 32, 34, 36, 64, 66

THIS IS A SPECIAL DEMONSTRATION PROJECT UNDERTAKEN AT THE REQUEST OF NUMEROUS PENINSULA CYCLISTS. IN ORDER FOR IT TO BE A SUCCESS, PLEASE HELP BY ADHERING TO THESE RULES:

- . YOU MUST BE AT LEAST 18 YEARS OLD.
- YOU MAY RIDE ONLY IN THE LAST COACH OF THE TRAIN.
  YOU MUST ENTER AND EXIT BY THE REARMOST DOOR OF THE TRAIN.
- YOU SHOULD BE READY TO BOARD AS SOON AS THE TRAIN ARRIVES IN THE STATION. YOU MUST IMMEDIATELY MOVE TO THE REAR OF THE COACH, TAKING CARE NOT TO INTERFERE WITH OTHER PASSENGERS.
- . YOU CANNOT EXPECT HELP IN BOARDING FROM S.P. PERSONNEL.
- . YOU MUST CLOSELY ATTEND YOUR BICYCLE WHILE ON THE TRAIN. UNLESS OTHERWISE DIRECTED BY S.P. PERSONNEL, YOUR BIKE SHOULD STAND IN THE AISLE AND BE HELD AS CLOSE TO ONE SIDE AS POSSIBLE.
- . WHEN DISEMBARKING, YOU SHOULD MOVE TO THE EXIT WELL IN ADVANCE OF YOUR STOP.
- . S.P. PERSONNEL MAY, AT THEIR DISCRETION, LIMIT THE NUMBER OF BICYCLES ON A TRAIN TO FIVE.
- . GROUPS OF CYCLISTS PLANNING TO USE THE S.P. TRAINS SHOULD MAKE PRIOR ARRANGEMENTS WITH CALTRANS AT (415)557-0136.

FOR FURTHER INFORMATION, CALL CALTRANS AT (415)557-0136.

### NOTICE TO BICYCLISTS

You may bring your bicycle with you on Cal. Train Peninsula trains serving between San Francisco and San Jose.

- Bike service is available during off
   peak hours on week days, Saturdays,
   Sundays, and holidays.
- Trains which provide the bike service are:

  To San Francisco: #47, 49, 51, 53, 65, 67

  To San Jose: #30, 32, 34, 36, 64, 66
- This offer is good until July 15, 1982.
- You will need additional information on how to use the bike service.

Call Cal Train (415)495-4546.

This service is funded by CALTRANS, Santa Clara County Transit, SamTrans, MUNI.



### III. ALTERNATIVES TO BICYCLES ON TRAINS

Although this is a study of bicycles on trains, that concept might not be found workable. Four alternatives which encourage bicycle travel are discussed here.

State-sponsored lease program. The bicyclist would ride to the nearest station and store his bike in a locker. At the other end of his train journey, he would open another locker and remove a State bicycle to complete his trip. The cyclist would have sole use of the bicycle for the duration of his lease. He would be responsible for maintaining the bicycle, and would be required to sign a waiver of legal liability.

This program has the advantage of serving peak-hour riders, which a bicycle-on-rail program could not reasonably do. However, it would not provide for occasional bicyclists, or patrons who use several stations on an irregular basis. At certain stations, additional lockers might need to be constructed.

Individual use of two lockers. This alternative is possible now. The bicyclist would place a deposit on two lockers through the Caltrans bicycle program, one at the

origin station and one at the destination station. He would store a bicycle in each. Currently, only three of over 300 users rent two lockers, but with greater publicity of this alternative, the total might increase.

Folding bicycles. Like the previous alternative, this one is possible now. Folding bikes may be brought aboard trains if enclosed in a carrying case. Because of limited legroom, cyclists often find it necessary to use the adjacent seat to store their bike.

Folding bicycles are available in one-speed and three-speed models. According to one user, gearing can be adjusted so that even San Francisco hills can be climbed without much trouble. The same user reports that folding bikes are seen quite often on the Peninsula trains.

Some bicycle advocates object to the requirement that folding cycles must be enclosed in a carrying case. They note that most Bay Area transit systems do not require cases. However, seating is tighter aboard CalTrain and there is less room to store folding bikes. Storage in the aisle or on seat cushions could result in oil and dirt rubbing off on clothing. The limited space in front of seats appears to be the only feasible storage area.

Bicycle van along CalTrain route. Another potential alternative is a parallel van-and-trailer service similar to the Caltrans Bay Bridge shuttle, or a dedicated bicycle bus. Such a service could stop at some or all stations.

In commenting on the draft report. bicycle groups did not embrace this concept as an alternative to train access.

#### IV. RECOMMENDATIONS

North American bicycle-on-rail programs have grown substantially in number over the past five years. Based on their record, and that of the 1982 CalTrain demonstration project, bicycle access appears workable. To date, other transit systems have not experienced claims or lawsuits as a result of carrying bicycles. Staff recommends another demonstration program if and only if the liability issue can be resolved at little or no cost to the public agency partners in the CalTrain service.

If it is decided to implement a bicycle-on-rail program, staff recommends a permit system. In order to obtain a permit, prospective users would be sent a descriptive pamphlet and required to familiarize themselves with the train cars' tight physical arrangements and with rules and regulations. The pamphlet would explain that permits could be revoked for rule violations. Applicants would send Caltrans a certificate pledging their understanding of, and agreement to, the rules and regulations governing bicycle transportation. They would also be required to enclose a processing fee and a signed waiver of legal liability. This should address any liability concerns and avoid an increase in insurance costs.

Bicycles should not be permitted on trains during weekday rush hours. They should be allowed on weekday early morning, midday and evening trains if those trains are not subject to crowding. Bicycles should be allowed on all weekend trains except those serving sports events.

There should be a limit of four bicycles per train, with possible exceptions at the conductor's discretion. Tight aisle clearances and the need for conductors to collect tickets will not permit a greater number on a regular basis. However, consideration should be given to allowing organized bicycle groups to pre-reserve space aboard certain trains. At least for the duration of the demonstration project, bicycles should be stored at the end of cab cars. Signs should identify this as a provisional bicycle area during non-rush hour periods.

Access should be restricted to pedal-powered bicycles of standard size, clean and in good repair. Permit holders under 16 would have to travel with an older permit holder.

Additional suggestions are made in the body of the report.

For the existing folding bicycle program, cyclists should be permitted to bring folding bikes without a carrying case if

their bicycle is stored on the floor in front of the seat next to them (same seat pair), not in the aisle or on the seat cushion.