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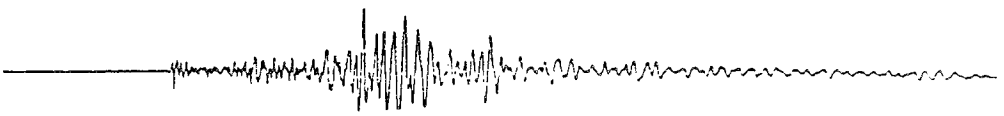

STUDIES ON THE LOMA PRIETA EARTHQUAKE
NO. 5

East Bay Ferry Service and the Loma Prieta Earthquake

Mark Hansen
Sharon Weinstein

UCTC
No. 162

The University of California
Transportation Center

University of California
Berkeley, CA 94720

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EAST BAY FERRY SERVICE AND THE LOMA PRIETA EARTHQUAKE

I. INTRODUCTION

Ferry service between the East Bay and San Francisco is one of the most tangible, in the view of some most positive, legacies of the Loma Prieta Earthquake. Begun as an emergency measure within hours of the event, the service has continued in one form or another through the time of this writing, and in the current political climate is likely to continue indefinitely.

Several studies of East Bay ferry service have been carried out over the past decade. These have probed the demand for and costs of ferry service, and developed plans for incorporating it into the Bay Area's transport system. This paper has a different objective--to narrate and analyze the events surrounding the birth of the ferry service and its transformation from an emergency response to a seemingly permanent fixture.

The investigation consisted of two parts. Supply side developments were followed through systematic reading of pertinent media stories and analysis of fares and schedules. Section 2 discusses this aspect of the research. Demand for ferry service was tracked through a series of three passenger surveys, results of which are discussed in Section 3. Section 4 offers conclusions.

II. TRANSBAY FERRY SERVICE: SUPPLY SIDE

Before the Earthquake

The Metropolitan Transportation Commission (MTC) conducted a study in 1982 to search for possible commuter markets and assess the role of ferries for emergency service applications.[1] According to the MTC, many of the plans developed in that study were applied when the San Francisco-Oakland Bay Bridge collapsed during the Loma-Prieta Earthquake on October 17, 1989. The original study, however, concluded that regular service would probably not be viable through the year 2000.

An additional MTC ferry study was conducted in 1985 which resulted in "A Guide for Implementing High Speed Waterborne Passenger Transportation Services." In 1988, a Ferry Symposium, sponsored by the University of California's Institute for Transportation Studies at

Berkeley, found that confusing regulations and a tedious, complicated approval process discouraged many potential ferry operators.

The Bay Area Water Transit Task Force was assembled by California State Senator Quentin Kopp in January, 1988, to advocate the revival of the Bay Area's region-wide ferry system. Members of the Task Force included local government officials, ferry operators and proponents, and interested members of the general public. In January, 1989, the Task Force requested that MTC do an Alternatives Analysis and Environmental Impact Statement for a water transit system on the Bay. The 3 percent Regional Measure One money (from area bridge tolls) would fund the study. An MTC pilot study to develop an action plan was in progress at the time of the Loma Prieta earthquake. A draft of Part One of this pilot study listed numerous Bay Area pre-earthquake proposals. Of special interest are: two proposals to provide Alameda-San Francisco service, one to provide Jack London Square, Oakland-San Francisco service, one to provide Richmond-San Francisco service, and an East Bay-San Francisco service focusing on Berkeley, Oakland, and San Leandro.

The Emergency Response

Emergency East Bay-San Francisco ferry service was implemented around 8 PM, October 17, less than 3 hours after the Loma Prieta earthquake, to shuttle those people stranded on the wrong side of the Bay. Most of the ferry service provided that night and the following day was offered to passengers free of charge. By Thursday, October 19, $4 fares were charged per passenger. Newspaper reports state that many of the passengers using the ferry service were reluctant to take the Bay Area Rapid Transit (BART) trains across the bay for fear of being stuck in the underwater tunnel if an after-shock should occur en route.

While many commuters stayed home the remainder of the week following the earthquake, heavy traffic congestion was expected the following Monday when commuters were expected to return to work. Sunday papers reported that ferry service to San Francisco would be provided beginning Monday, October 23, for $10 round-trip from Jack London Square in Oakland, Gateway in Alameda, and Terminal 3 in Richmond. It was reported that Ken Ryan, the chairman of the Sierra Club's transportation committee, criticized ferry operators for charging high fares. In response, Ron Duckhorn, president of Crowley Maritime, the primary emergency ferry service provider, said that one-way fares from Richmond and Oakland were raised from $4 to $5 to help pay for taking 20,000 people free across the Bay on Tuesday and Wednesday after the quake. He said, "'We are a private company. We're not public transit.'" [2]

However, the ferry service schedule effective Monday, October 23rd listed fares at $5 per round-trip from Alameda, Oakland and Richmond. By Wednesday, newspaper reports listed the reduced fare. An October 29th newspaper report states that an emergency state subsidy was holding the round-trip fare at $5. Without the subsidy the round-trip fare would have been $10.[3]

By Monday, October 30, ferry service was implemented from the Berkeley Marina after a week-long dredging project by the Army Corps of Engineers. Due to low ridership, ferry service from Oakland was cut back to reduce costs.

On November 6, California Governor Deukmejian signed an earthquake relief package that included a $2 million subsidy to keep the emergency ferry service running until the end of 1989. Ferry proponents claimed that the emergency East Bay ferry service would still be needed after the November re-opening of the Oakland Bay Bridge because many damaged portions of the roadway network would remain closed.

Toward Permanence

Although ridership fell sharply after the San Francisco-Oakland Bay Bridge reopened on November 17th, the California Department of Transportation (Caltrans) announced at the end of December that ferry service would be extended, on a reduced schedule, until March 23. The service would be streamlined to stretch the $250,000 remaining from the $2 million dollar state subsidy established in November. Caltrans expected to receive an additional $1.25 million from the Federal Emergency Management Agency (FEMA). Operating costs of $53,000 per day would be reduced to $26,000 dollars a day with the new streamlined schedule.

While ferry subsidies were coming from emergency funds, low ridership indicates that the East Bay ferries were doing little to alleviate traffic congestion problems after the Oakland Bay Bridge reopened. The continuation of East Bay services using emergency funds was apparently an effort to maintain ridership until permanent ferry services could be established. Since plans to establish an East Bay ferry system existed before the Loma-Prieta earthquake, local government officials and ferry operators hoped to take advantage of the progress already made towards establishing ferry operations. This was an effort to take advantage of an outcome of the earthquake, not to alleviate the transportation problems resulting from it.

In early January, 1990, newspapers reported that FEMA agreed to pay an additional $812,000 toward the cost of running the emergency ferry service, thus extending service until June. However, by the middle of March, federal ferry service funds had been cut. Ferry services from Berkeley and Richmond would end on March 23, 1990. On March 23 the Metropolitan Transportation Commission (MTC) agreed to contribute $276,000 towards continuing

Oakland/Alameda ferry operation, while the city of Alameda and the Port of Oakland each agreed to contribute $60,000 each. An additional $330,000 of funding is to be arranged by MTC on July 1, 1990. These newly established funds were to be used towards the purchase of two $1.1 million high-speed boats that would cut the commute time from 37 to 23 minutes. One-way fares were to be raised from $2.50 to $3.50 upon arrival of a third catamaran, although commuter booklets of 10 tickets could be available at $2.50 per one-way fare.[4]

The Ferry Advocates

By mid-November, 1989, newspapers reported the formation of several citizen groups organized to publicize the ferry service and encourage subsidies past January. Subsequently, ferry-supporting citizen groups and waterfront businesses have sponsored fundraising activities and billboard ads. The Berkeley Ferry Committee sponsored free musical performances and a guest lecture series on the Berkeley ferry. Community group members handed out fliers at the San Francisco-Oakland Bay Bridge toll plaza advertizing ferry services and offering free-ride coupons to new passengers. In addition to these activities, activists wrote newspaper articles, vocalized their opinions and service problems to the press and politicians, circulated petitions urging ferry service subsidies, and printed newsletters distributed to active members and supporters.

Several politicians actively supported the continuation and improvement of East Bay ferry services. Some community activists referred to the East Bay ferry service as an "apple pie" issue, since the service had few opponents within the community.

The political appeal for the new ferry services was evident when California Governor George Deukmejian boarded the Jack London Square ferry en route to San Francisco to sign an earthquake relief package including ferry subsidy funds. On board, Deukmejian extolled the ferry service and generally made statements to encourage ridership. California State Senator Quentin Kopp, who was working toward establishing ferry service before the earthquake, pressed for legislation to increase ferry subsidies and encouraged BART to take over operations of the ferry service from Caltrans. Kopp argued in January that the purchase of ferry boats would be far less expensive than the construction of 1-1/2 miles of freeway, and he proposed bills to the Senate that would allocate funds towards the ferry services.

Local city officials viewed ferry services as an asset to their communities, a pollution reduction measure, and an added service to residents. In early December, Berkeley Mayor Loni Hancock wrote to California Governor George Deukmejian requesting that Berkeley ferry service continue. Mayor Hancock and Berkeley City Council members Alan Goldfarb and Nancy Skinner

rode the Berkeley ferry in January to show support for the service. Mayor Hancock hired a band for the occasion.

While Alameda city council members supported continuation of the Alameda ferry service, many members feared city subsidies for the service would be too risky an investment. Instead, they pressed for the Legislature to approve additional state ferry subsidies. They also requested that Regional Measure 1 funds, collected from bridge tolls established the previous year, be directed towards ferry operation expenses. Alameda City Councilman Joe Camicia reportedly lobbied in Sacramento on behalf of the Bay Organization for Aquatic Transit (BOAT), an Oakland/Alameda citizen ferry support group.

The ferry service was not without opposition, however. It came mainly from within the transportation community. Caltrans director Joe Fitzpatrick, was quoted as saying, "I say it makes no sense for taxpayers to support this, literally, trip through nostalgia."[5] On November 11, an article by Jerry Wiggins, former member of AC Transit's Board of Directors, was published in *The Oakland Tribune*.[6] He argued that using increased bridge tolls to subsidize the ferry service "discriminates" against bus and BART riders because ferries require a $5 subsidy per passenger while bus and BART require $2 subsidies per passenger. An unsigned letter to the editor in the *Express*[7] stated that the average income of a person traveling to San Francisco from the East Bay exceeds $40,000 per year, while that of people riding AC Transit buses, living and working in the East Bay, is about $20,000. The writer argued that increasing subsidies to ferry riders is subsidizing those who need assistance the least.

The Service Offered

Many ferry proponents stressed the ferry service amenities when rallying for more ferry riders. There are many comforts and conveniences offered by the ferry service that are unavailable, and impractical, on other commute modes. Ferry operators offer food service on the boats: fresh coffee, juice, donuts, bagels and muffins in the morning; alcoholic and soft drinks, and snacks in the afternoon. Smoking is permitted on the deck (many would consider this a disadvantage). Commuters can relax, read, work, play cards, and socialize in spacious comfort. Passengers can roam the decks, enjoy the fresh air, or sit indoors as they travel. These inherent advantages were further emphasized when, as mentioned earlier, the Berkeley ferry citizen support group sponsored live musical entertainment on some evening runs from San Francisco, and a morning lecture series on runs from Berkeley.

Despite these amenities, it soon became apparent the accessibility of the ferry terminals was a major problem. The first response was to provide ample free parking at all terminals. (A $1

parking fee at the Jack London Square terminal was charged until March 23rd). Beginning in mid-November, 1989, free transfers to local Muni and AC Transit buses were attached to ferry tickets.

A second problem was the frequent changes in ferry service schedules, which undoubtedly discouraged riders who were trying to establish a reliable commute routine. Within the first month of service alone, nine schedule revisions were issued. There were significant changes to the Jack London Square ferry schedule on October 28, December 2, and December 26. Significant changes were made to the Alameda and Richmond schedules on October 28, November 11, and December 2, and to the Alameda schedule on December 26, as well. The Berkeley service was established on October 30, with schedule changes implemented on November 1, November 11, December 26, and January 6. These often closely spaced schedule changes are likely to have confused riders, especially those who didn't ride the ferries daily. Since the schedules did not offer an "effective until" date, the occasional rider might not have suspected that the schedule received a week ago might already be outdated.

Compounding the uncertainty surrounding schedules were questions as to how long the services would continue. Ferry service proponents claimed that this uncertainty was detrimental to attracting and maintaining ridership. According to newspaper reports, ferry service beginning Tuesday, the night of the earthquake, was to be continued only through the following Thursday night. The service was continued, but reports that service might be reduced or eliminated due to low ridership began to appear as early as Thursday, October 26th. By mid-November, reports surfaced that service would be continued into January. On Thursday, December 7th, the public was informed that Caltrans' contract with private ferry operators would expire on Friday, and that service would be scaled back the coming Monday. By Sunday, however, newspapers reported that Caltrans had delayed its decision on service cutbacks and that service levels would remain unchanged for another week through December 15th. At this point the Red and White ferry's general manager was quoted as saying, "We're as confused as the passengers are."[8]

The continuation of the service remained a week-to-week if not day-to-day issue until December 26th, when Caltrans "streamlined' services so that subsidies would last through March 23. This was the first commitment to any sort of extended service for the East Bay ferries. As the March 23rd deadline approached, low ridership on the Berkeley and Richmond ferries made it clear that service to these ports would be terminated. But not until March 23rd did newspapers report "Last-Minute Deal Keeps Oakland [and Alameda] Ferry Afloat."[9] On March 24th, Ron Duckhorn, vice president of Crowley Maritime, was quoted as saying, "'We're confident this is a permanent service now and we'll be able to continue it after the year is over.'"

III. EAST BAY FERRY SERVICE--THE DEMAND SIDE

Passenger Surveys

An on-board passenger survey was conducted on the East Bay ferries by MTC in the first half of November, 1989, before the Oakland Bay Bridge was opened. Over 1,000 passengers were surveyed. Riders expressed general satisfaction with the service, often describing it as "civilized" and "relaxing," and noting the friendly service and convivial atmosphere. Many were pleased that they could sit, drink coffee, and read the newspaper en route. Tremendous support for the ferry service was evident in these surveys, and many volunteered (without being solicited for an opinion on the issue) that service should continue.

In view of the drop in ridership that took place after the reopening of the Bay Bridge, the aspects of the service that passengers viewed negatively are of particular interest. Table 1 is a summary of the negative comments written in on the on-board ferry survey referred to earlier. As can be seen, the most common comments were requests for faster ferries and for improved bus connections and/or shuttle bus/express service in the East Bay. These views were expressed in various newspaper articles written around the time of the on-board survey. Also common were requests that fares not be increased, reflecting the public concern that subsidies for ferry service would soon be cut.

After the San Francisco-Oakland Bay Bridge was reopened, follow-up phone surveys were conducted to determine the commute patterns and attitudes of those surveyed on the East Bay Ferry while the Bridge was closed. The first phone survey was conducted between the Thanksgiving and Christmas vacation times in 1989. The second phone survey, similar to the first but with added questions, was conducted during the second half of March and the beginning of April in 1990. Phone numbers were requested on the original on-board survey from those willing to participate in a follow-up survey. The on-board surveys were grouped together by East Bay terminal, and then put in a random order and given sequential identification numbers.

Phone numbers for the first phone survey were selected from groups of ten idenfification numbers in sequential order. Once a participant was reached and surveyed, the remaining surveys in that group of ten would be skipped. An effort was made to survey the people originally surveyed from each terminal in representative proportions. Phone numbers from the second phone survey were chosen based on identification numbers created by a random number generator. In consideration for those who volunteered their phone numbers, care was taken not to contact the same person twice.

Sample sizes for the two phone surveys were 60 and 51 respectively. This was the largest sample possible given the limited resources for the study and the repeated call backs that proved necessary to reach selected respondents. Response rates were quite high, with over 75 per cent on those initially selected ultimately completing the phone survey.

Table 2 is a copy of the first phone survey. Questions 1 through 5 were designed to identify the respondent's travel pattern. Question 6 asks what respondents who ride the ferry would do if ferry service from their terminal were terminated. Questions 7 and 8 ask respondents whether they support certain potential ferry funding options.

To avoid receiving less important reasons for participants switching back from ferries to other commute modes, question 5b response options were not offered to participants; the question was left open-ended. It is interesting to note that at first, when question 5b was stated "Why do you prefer that mode?" participants frequently objected, stating that they "preferred" the ferry, but no longer rode it for particular reasons. Participants also often inquired whether the increased motor vehicle registration fee suggested in question 8 would be state-wide, or only in the San Francisco Bay Area. Since answering this question would in effect be altering its content, respondents were left to assume what they would.

Table 3 is a copy of the second phone survey. It is identical to the first phone survey with the addition of questions 5c and 5d. These questions were added at the request of the Oakland-Alameda Organization for Aquatic Transit, a citizen ferry support group, to aid ferry operators in schedule development. If the respondent offered reasons for choosing other commute mode(s) completely unrelated to the ferry schedule, question 5c wasn't asked.

On the original on-board survey, respondents were asked how often they intended to continue riding the ferries after the San Francisco-Oakland Bay Bridge reopened. Options were: Never, Occasionally, 1 to 2 Days per Week, 3 to 4 Days per Week, or 5 or More Days per Week. Ridership frequency predicted by respondents was compared to their actual ridership reported during the follow-up phone surveys. Figures 1 and 2 present the average number of one-way trips per week of respondents who predicted ridership in each category. The number of one-way trips apparent in Figure 1, the results of the first phone survey, is higher than that in Figure 2, the second phone survey, reflecting the decline in ridership that occurred between December and March.

It is noteworthy that in both phone surveys, those who predicted they would never ride the ferries, or ride only occasionally, were found to be riding the ferries more often than those who predicted they would ride 2 to 3 days per week. During the first phone survey, those who predicted only occasional ridership were actually riding more than those who predicted they would

ride five or more days per week! These results suggest that people generally can't accurately predict what their commute response will be to certain changes in the system, or that many respondents in certain categories didn't anticipate other factors that would affect their commute decisions.

Figures 3 and 4 show respondents' predicted future ferry usage compared to their actual ferry usage during the first and second phone surveys, respectively. To calculate the predicted ferry usage, "occasionally" was assumed to equal 1 one-way trip per week, 1-2 days per week was assumed to equal 3 one-way trips per week, 3-4 days per week was assumed to equal 7 one-way trips per week, and 5 or more days per week was assumed to equal 10 one-way trips per week. During the first phone survey, respondents used the ferries 24 percent less than predicted. During the second phone survey, respondents used the ferry 81 percent less than predicted. Respondents generally appear to have lost enthusiasm for the ferry service as time progressed, the memory of the earthquake emergency faded, and many commute patterns returned to normal.

Respondents to the phone surveys were asked what commute mode they were currently using most often. As shown in Figure 5, during the first phone survey, close to half of the respondents were using the ferry as their primary commute mode. By the second phone survey, only 13 percent were using the ferry as their primary commute mode, as shown in Figure 6. Little change occurred between the two phone surveys in the percentage of respondents who switched to driving alone by car and to BART. However, the percentage of respondents that switched to buses nearly doubled, and the percentage that switched to carpooling increased by 40 percent from the first phone survey. Six respondents on the second phone survey, 11 percent of those surveyed, reported that they no longer commute to San Francisco. Apparently, respondents who switched from the ferry to other commute modes between December and March were more likely to switch to bus or carpool, perhaps because these modes were established to be reliable once again after the Bay Bridge had been reopened for a while. The "other" category in Figure 6 represents one respondent who commutes by truck to carry the tools of his profession.

Phone survey respondents who were using another commute mode more often than the ferry were asked why they chose that mode. Figures 7 and 8 present the results of this question for the first and second phone surveys, respectively. The most commonly cited reason in both phone surveys was that the chosen mode was faster. 24 percent of the responses to the first phone survey were that the chosen mode was more convenient, not necessarily specifying which aspects in particular were more convenient. Lower expense comprised 12 percent of the responses, and other responses cited were: a long travel time or far distance to the terminal, poor connections to the ferry terminal, and infrequent ferry service or an inconvenient ferry schedule. Reasons in the

"other" category were: dissatisfaction with parking facilities, a need for late night commute service, and a need to have a car in San Francisco during the day.

Respondents to the second phone survey more frequently specified particular aspects of convenience which caused them to chose commute modes other than the ferry. Long travel time or distance to the terminal were the proffered reasons in 23 percent of the responses, 15 percent of responses were "more convenient," 11 percent of responses cited expense, and 11 percent cited inconvenience of the ferry schedule. Others mentioned infrequent ferry service and bad connections to ferry terminals. Comprising the "other" category is one respondent who didn't like the smoking and drinking on deck and the fact that there were no women captains on the ferries, and another respondent who needed his car in San Francisco during the day.

Phone survey respondents using ferry as their primary commute mode were asked how they would commute if service from their terminal were terminated. As shown in Figure 9, of respondents to the first phone survey, 30 percent said they would take the bus, 24 percent would take BART, 17 percent would drive alone, 13 percent would carpool, 10 percent would take another ferry, and comprising the "other" category was one respondent who would take a motorcycle and another who would quit his or her job. In the second phone survey, this question did not yield meaningful results because of the small number of respondents for whom the ferry was the primary commute mode.

Phone survey respondents were asked: 1) if they would support and increase in peak period tolls from $1 to $2 on the San Francisco-Oakland Bay Bridge to subsidize the ferry service, and 2) if they would support a $4 increase in the annual vehicle registration fee to subsidize the ferry service. Figures 10 and 11 show the results of these questions for the first and second phone surveys, respectively. While a strong majority of respondents would support both measures, the increase in vehicle registration fee received slightly less support, as some respondents expressed a concern that Californians residing outside the Bay Area should not be required to subsidize a Bay Area ferry service. Both measures received slightly less support during the second survey than during the first, as respondents expressed greater concern about funding a transit service that doesn't attract riders. Respondents often specified what aspect of the ferry service would need to be improved for the subsidies to be worthwhile.

Ridership History

Figure 12 shows the total daily ridership for the East Bay ferries from the week after the earthquake through May of the following year. Four distinct periods are evident. During the period prior to the reopening of the Bay Bridge, daily ridership fluctuated around 8-10 thousand. After the

reopening, traffic fell by 50% within a week, stabilizing at 3.5-4 thousand. In response to this diminished traffic, and to the accelerated expenditure of subsidies it entailed, service reductions were made after Christmas. With these ridership plunged again, to roughly 1.5 thousand. The "downward spiral" resumed in March, when Berkeley and Richmond services were eliminated, and Oakland service was reduced, followed by a further fall in ridership to under 500 passengers per day.

IV. CONCLUSIONS

The previous sections depict a system in which supply and demand are substantially "out of sync." At the same time that political support for maintaining East Bay ferry service was reaching a crescendo, riders were abandoning the service in large numbers--this despite a subsidy amounting to $5 per round trip.

How could this happen? First, the habit of subsidizing transit, compounded by the availability of FEMA money, effectively eliminated pressure for the service to be financially self-sustaining. The usual arguments--congestion relief, environmental concerns, and so forth--for such subsidies were reflexively trotted out for spending public funds in this way. The superficial parity in level of support, in terms of the percentage of costs recovered through fares, bolstered this line of thinking.

Once it was established that the service was desirable irrespective of its need for subsidy, the same factors that discouraged ridership were seen as justifications for further support. The "downward spiral" observed above was interpreted as a mandate to drastically upgrade the service rather than as one to let it fade away. Faster boats, better access, and other service enhancing measures were justified in this way.

These lines of thinking were bolstered by two other factors. First, intraregional rivalries created a situation in which the waterfront communities of Berkeley, Richmond, and Oakland had strong incentives to support the service. However marginal the impact, each of these cities stood to gain accessibility from such a service, at cost to be born almost exclusively by taxpayers elsewhere. Each of these communities was also motivated by the prospect of losing out to its neighbors in the location of terminals.

Further, the start-up of these services in response to the earthquake was seen as a tremendous opportunity which simply could not be missed. Just at the time when studies concerning East Bay ferry services emphasized the tremendous regulatory and financial obstacles

to their initiation, a natural event had seemingly swept these away in a matter of a few hours! Perhaps correctly, it was perceived that, should service be terminated, inertia would foreclose restarting it until the next closure of the Bay Bridge. Sustaining the service--at whatever cost--was a small price to pay at least until its long term desirability could be accurately assessed.

Finally, it is notable that support for ferry subsidies persisted even among those who had ceased riding (see Figures 11 and 12). This may be interpreted as a sign that East Bay ferry services have considerable support even among non-users, a factor that would help to explain and justify the disparate trends in political support and ridership. On the other hand, it must be recalled that everyone included in the survey used the service at the time of the Bay Bridge closure. A large proportion of the subsidy supporters no doubt envisioned that the subsidies would result in a high quality service they could return.

In the hours after the earthquake, the East Bay ferries reunited several hundred families. In subsequent days, they offered a safety net for a transport system that had been torn asunder in an unprecedented fashion. These represent enormous benefits. Almost immediately, however, the emergency service became entangled in a web of politics, intergovernmental relations, and dusty logic that has kept it operating until this day. In the view of some, East Bay ferry service, like the removal of the Embarcadero Freeway, will prove to be one of the silver linings of the Loma Prieta Earthquake. More likely, the service will be one of the earthquake's more enduring costs.

Notes

1. Metropolitan Transportation Commission (1989), "How to Best Use MTC Resources to Implement High Speed Water Transit Services. Phase I: Impediments Encountered by Prospective Ferry Operators."

2. "Mass transit expecting big boost," *Contra Costa Times.* Sunday, October 22, 1989.

3. "Mass transit a winner so far," *The Oakland Examiner.* October 29, 1989.

4. "Speedy new ferries set for service," *The Oakland Tribune.* March 24, 1990.

5. "Service cuts expected for transbay ferries," *The Oakland Tribune.* December 3, 1989.

6. "Ferry subsidies," *The Oakland Tribune.* November 8, 1989.

7. "The Rich Get Quicker," *Express.* November 3, 1989.

8. "Ferry Tales," *The Oakland Tribune.* December 9, 1989.

9. "Last-Minute Deal Keeps Oakland Ferry Afloat," *The San Francisco Chronicle.* March 23, 1990.

TABLE 1: SUMMARY OF NEGATIVE COMMENTS FROM ON-BOARD FERRY SURVEY

	COMMENTS	NUMBER OF RESPONDENTS			
		JLS	BERK	RICH	ALAM
1.	Prefer or request faster ferries (or dredge near Berk for faster svc)	68	23	8	7
2.	Improve bus connections and/or provide shuttle bus/express service on east bay	67	19	4	5
3.	Improve bus connections and/or provide shuttle bus/express service in S.F.	32	11	7	6
4.	Too expensive (sometimes specified expense including bus)	35	7	5	13
5.	Request for monthly pass or discount ticket booklets	21	5	4	4
6.	Unsatisfactory parking [1]	42	0	0	6
7.	Request for Muni-Ferry and/or ACTransit-Ferry combination pass	19	9	5	6
8.	Request that fare not be increased	61	13	18	33
9.	Dislike smoking	17	7	0	0
10.	Raise bridge tolls	13	4	3	3
11.	Concerned about bad weather/Request for covered walkways, shelters and/or more frequent buses	15	8	5	2
12.	Free Parking [2]	12	2	2	6
13.	Suggest more advertising	14	5	6	2
14.	Request for more accessible bus and/or ferry schedules	11	5	3	2
15.	Request for more frequent service	31	17	15	11
16.	Ferries departing late/request for on-time departure	5	1	3	9
17.	Ferries delayed at destination (or go slow to avoid waiting)	7	0	4	10
18.	Request for earlier service	5	1	1	3
19.	Request for later service (or more frequent late service)	6	12	9	5
20.	Clearer ferry destination signs in S.F.	2	0	0	0
21.	Loudspeaker too loud	3	1	0	0
22.	Request for ferries that take cars	3	2	0	0
23.	Continued/improved bike service	3	4	0	1
24.	Difficult to get tickets	6	0	0	0
25.	Blue & Gold too small for early morning runs	2	0	0	0
26.	Shuttle from parking to ferry on east bay	2	0	0	0
27.	Request for 1-way ticket	4	2	0	1
28.	Shift schedule	NA	15	7	NA

TABLE 1 (CONTINUED)

[1] JLS: too far; entrance and exit too slow; poor lighting makes unsafe; overflow lot dark, unpaved and especially dark.
ALAM: pave/mark aisles on parking lots.

[2] JLS: Request for free parking.
Other locations: Keep/prefer free parking.

OTHER COMMENTS: NOT TALLIED.

General

- Seats should be dried on wet mornings
- Complaints about bad coffee, lack of decaffeinated coffee, lack of half-and-half, noise from T.V.
- Requests for newspapers.

JACK LONDON SQUARE

- Riders from Alameda who found Alameda schedule too inconvenient.
- Riders who would prefer to wait on the boat instead of on the dock before ferry departs.
- Complaints that boats take long to unload.
- Complaints about stopping at second pier in S.F. to pick up Alameda passengers (why not load Jack London Square and Alameda passengers at same place).

BERKELEY

- Requests to improve docks.
- Requests for Peete's coffee, gourmet food, muffins, etc.

RICHMOND

- Requests for afternoon ferry from S.F./more flexible daytime schedule
- Like secure lot, easy parking.

ALAMEDA

- Complaints that new schedule less convenient.
- Requests that boats not wait for stragglers.

TABLE 2: EAST BAY-SAN FRANCISCO FERRY FOLLOW-UP PHONE SURVEY

1. Form ID #: __ __ __ __

2. How many times did you take the ferry to S.F. in the past week?

__ 0 __ 3
__ 1 __ 4
__ 2 __ 5 or more

3. From S.F.?

__ 0 __ 3
__ 1 __ 4
__ 2 __ 5 or more

4. (If above answer not 0:)
To/From which East Bay terminal did you take the ferry?

__ 1 Alameda
__ 2 Jack London Square
__ 3 Berkeley
__ 4 Richmond

5. Is there another mode of transportation that you used more frequently in the past week for the same commute that the ferry provides?

__ 1 Yes __ 2 No

a. Mode used:
__ 1 Car (drive alone)
__ 2 "Regular" van/carpool
__ 3 "Casual" carpool
__ 4 Bus
__ 5 BART
__ 6 Other (specify:
_____
_____)

b. Reason for using other mode:

__ 1 Faster (how much? _____)
__ 2 Less expensive
__ 3 More frequent service
__ 4 More convenient
__ 5 Uncertainty (ie. will service from Berkeley be cancelled today?)
__ 6 Other (specify:

_____

_____

_____)

6. [If still taking ferry:]
How would you commute if service from your terminal were terminated?

__ 1 Car (drive alone)
__ 2 "Regular" van/carpool
__ 3 "Casual" carpool
__ 4 Bus
__ 5 BART
__ 6 Ferry from other terminal (specify:
_____
_____)
__ 7 Other (specify:
_____
_____
_____)

7. Would you support an increase in peak period tolls on the San Francisco-Oakland Bay Bridge from $1 to $2 to subsidize the East Bay-San Francisco ferry service?

__ 1 Yes
__ 2 No
__ 3 Undecided

8. As part of a larger package to improve air quality, would you support a $4 increase in the motor vehicle registraton fee to subsidize the East Bay-San Francisco ferry service?

__ 1 Yes
__ 2 No
__ 3 Undecided

TABLE 3: EAST BAY-SAN FRANCISCO FERRY FOLLOW-UP PHONE SURVEY

1. Form ID #: __ __ __ __

2. How many times did you take the ferry to S.F. in the past 5 work days?

   __ 0 __ 2 __ 4
   __ 1 __ 3 __ 5 or more

3. From S.F.?

   __ 0 __ 2 __ 4
   __ 1 __ 3 __ 5 or more

4. (If above answer not 0:) What East Bay ferry terminal did you use?

   __ 1 Alameda __ 3 Berkeley
   __ 2 Jack London Sq __ 4 Richmond

5. Is there another mode of transportation that you used more frequently in the past week for the same commute that the ferry provides?

   __ 1 Yes __ 2 No

   IF YES:

   a. Mode used:

   __ 1 Car (drive alone) __ 4 Bus
   __ 2 Reglr van/carpool __ 5 BART
   __ 3 Casual carpool __ 6 Other (spec:
   _____
   _____)

   b. Reason for using other mode:

   __ 1 Faster (How much? _____)
   __ 2 Less expensive
   __ 3 More frequent service
   __ 4 More convenient
   __ 5 Uncertainty (ie. will service from Berkeley be cancelled today?)
   __ 6 Other (specify):
   _____
   _____
   _____)

   c. (If mention schedule)
   Would you ride the ferry more often if it arrived/left S.F. at a more convenient time?

   __ No
   __ Yes: When? arrive S.F._____
   leave S.F. _____

   __ IF NO:

   d. What arrival/departure times would be most convenient?

   arrive S.F._____ leave S.F._____

6. [If still taking ferry:]
   How would you commute if service from your terminal were terminated?

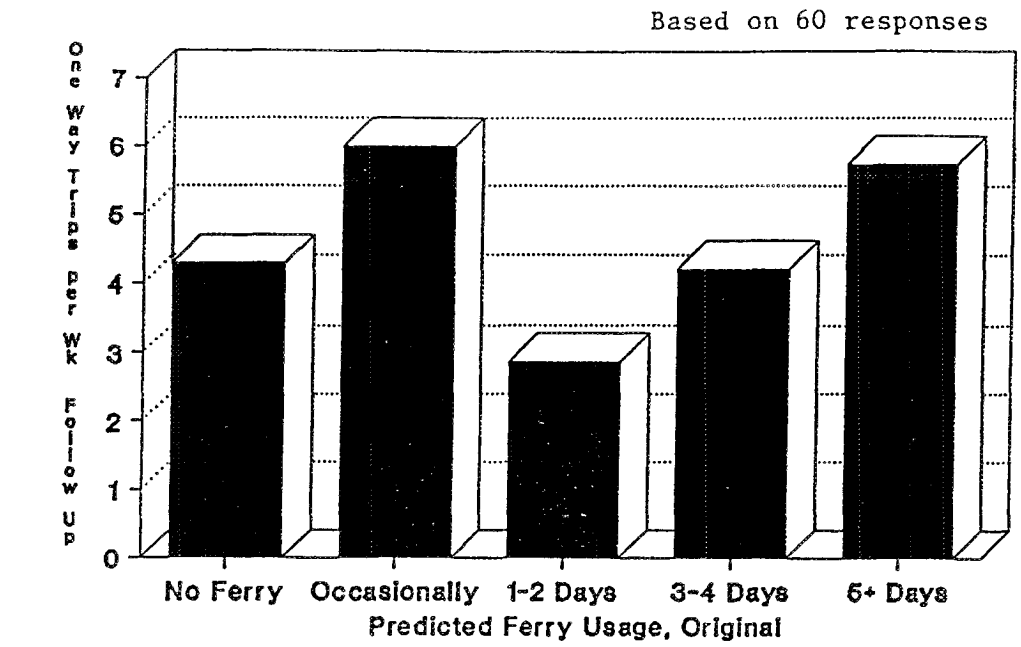
   __ 1 Car (drive alone)
   __ 2 "Regular" van/carpool
   __ 3 "Casual" carpool
   __ 4 Bus
   __ 5 BART
   __ 6 Ferry from other terminal (specify:
   _____
   _____)
   __ 7 Other (specify:
   _____
   _____
   _____)

7. Would you support an increase in peak period tolls on the S.F.-Oakland Bay Bridge from $1 to $2 to subsidize the East Bay-S.F. ferry service?

   __ 1 Yes __ 2 No __ 3 Undecided

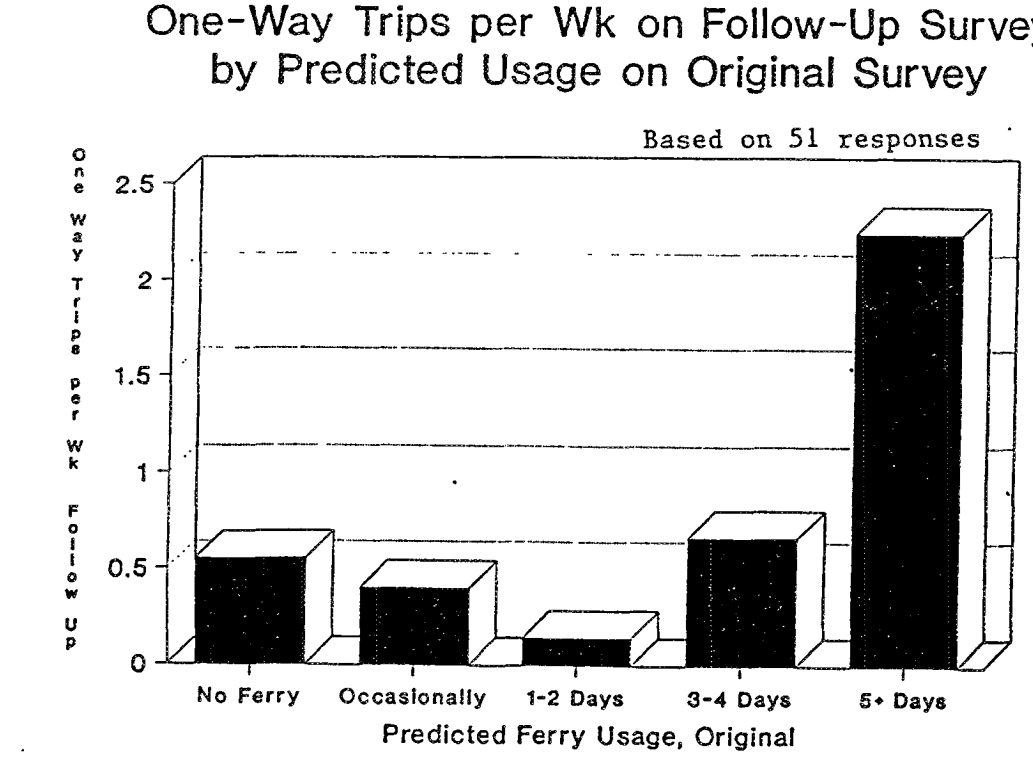
8. As part of a larger package to improve air quality, would you support a $4 increase in the motor vehicle registraton fee to subsidize the East Bay-S.F. ferry service?

   __ 1 Yes __ 2 No __ 3 Undecided



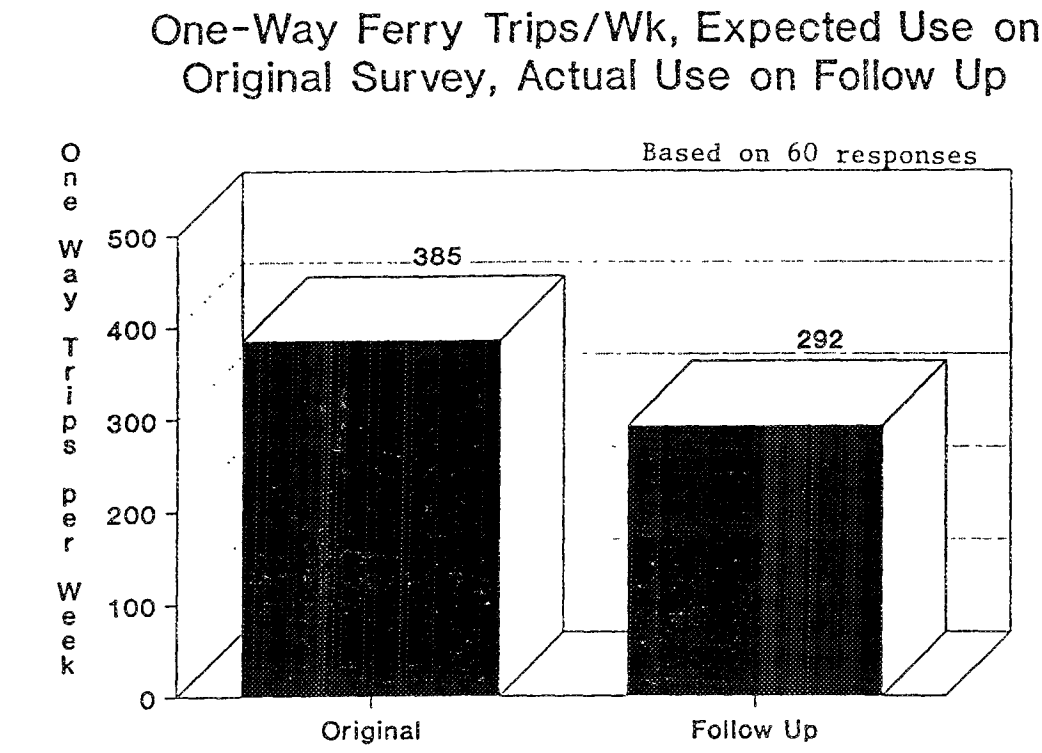
Follow-Up Survey #1 (December, 1989)

Figure 1



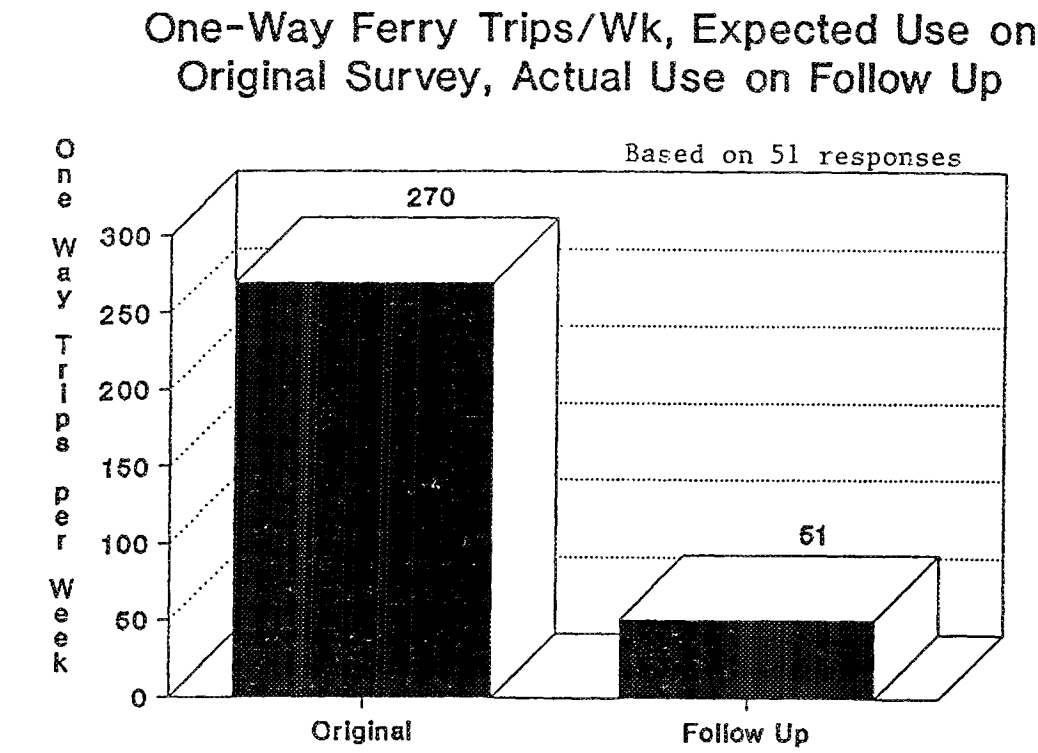
Follow-Up Survey #2 (March, 1990)

Figure 2



Follow-Up Survey #1 (December, 1989)

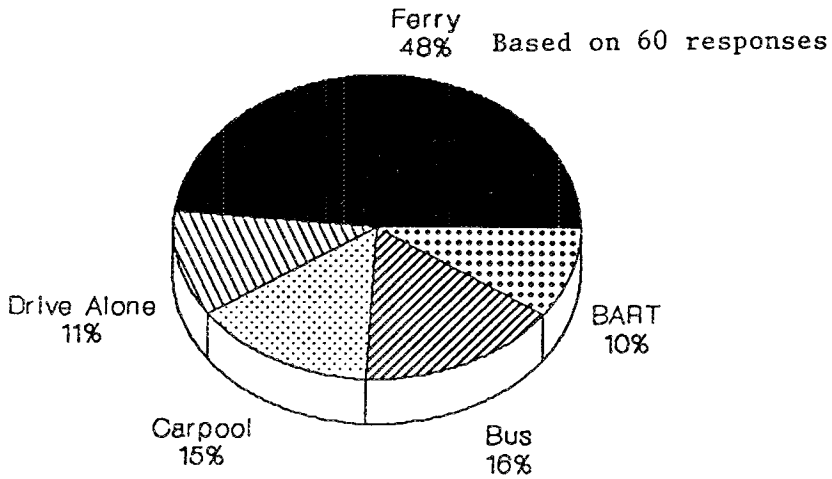
Figure 3



Follow-Up Survey #2 (March, 1990)

Figure 4

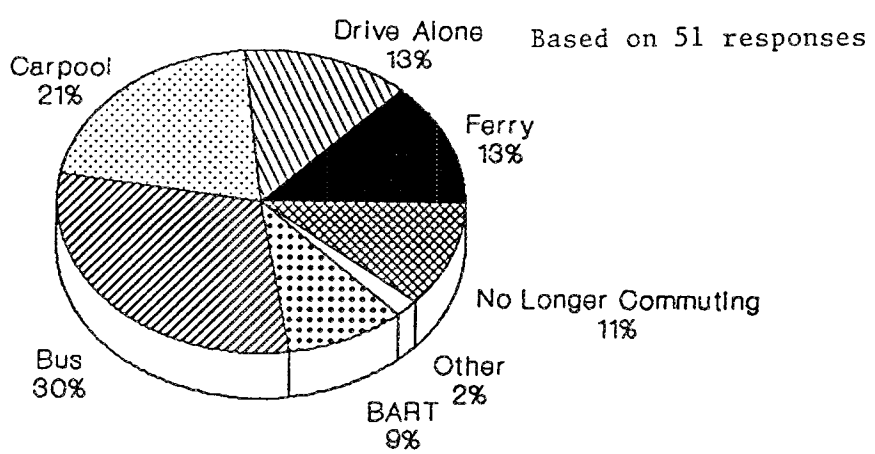
Mode Used Most Frequently For Commute



Follow-Up Survey #1 (December, 1989)

Figure 5

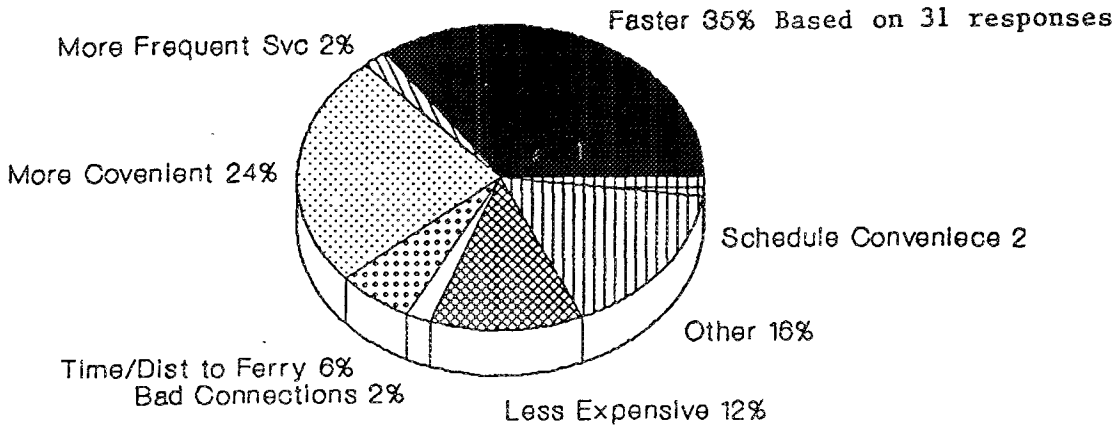
Mode Used Most Frequently For Commute



Follow-Up Survey #2 (March, 1990)

Figure 6

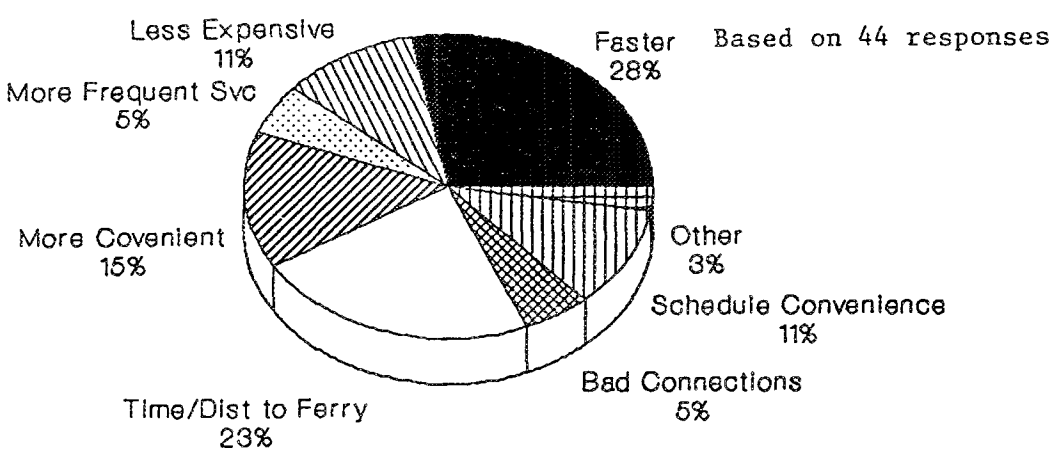
If You Use Another Commute Mode More Than The Ferry, What is the Reason?



Follow-Up Survey #1 (December, 1989)

Figure 7

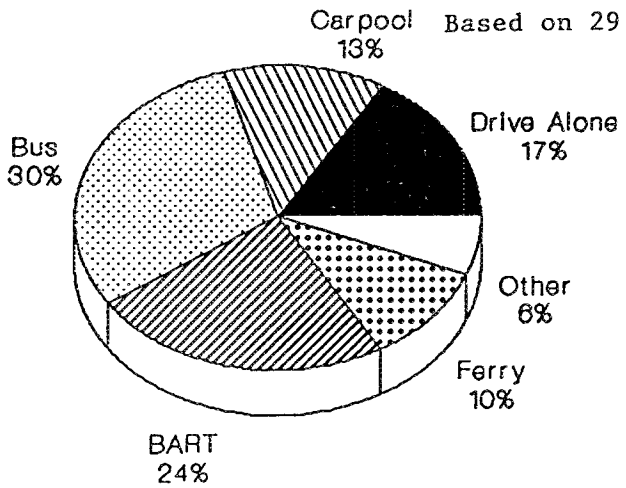
If You Use Another Commute Mode More Than The Ferry, What is the Reason?



Follow-Up Survey #2 (March, 1990)

Figure 8

How Would You Commute if Svc from Your Terminal were Terminated

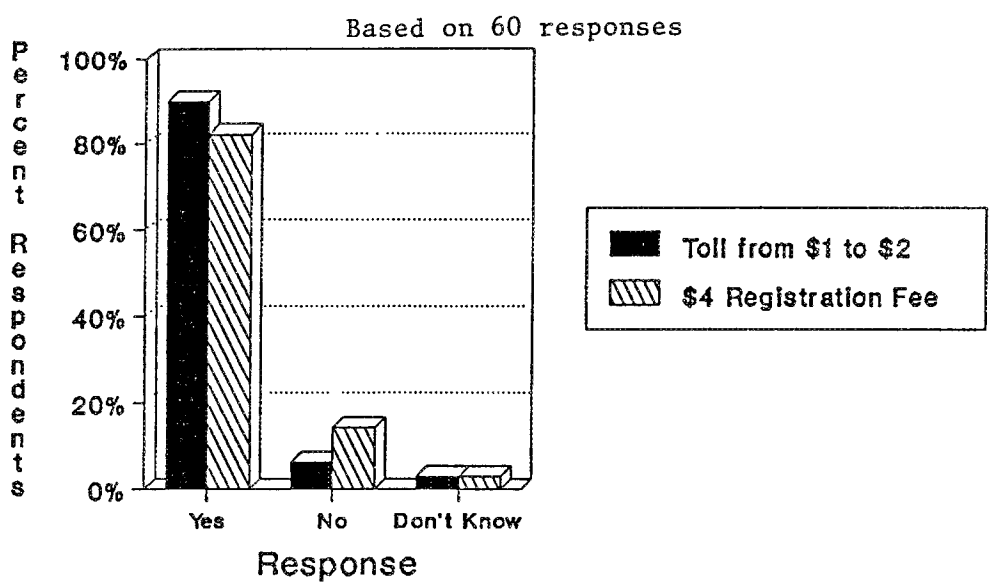


Weighted by No. of Ferry Trips per Week

Follow-Up Survey #1 (December, 1989)

Figure 9

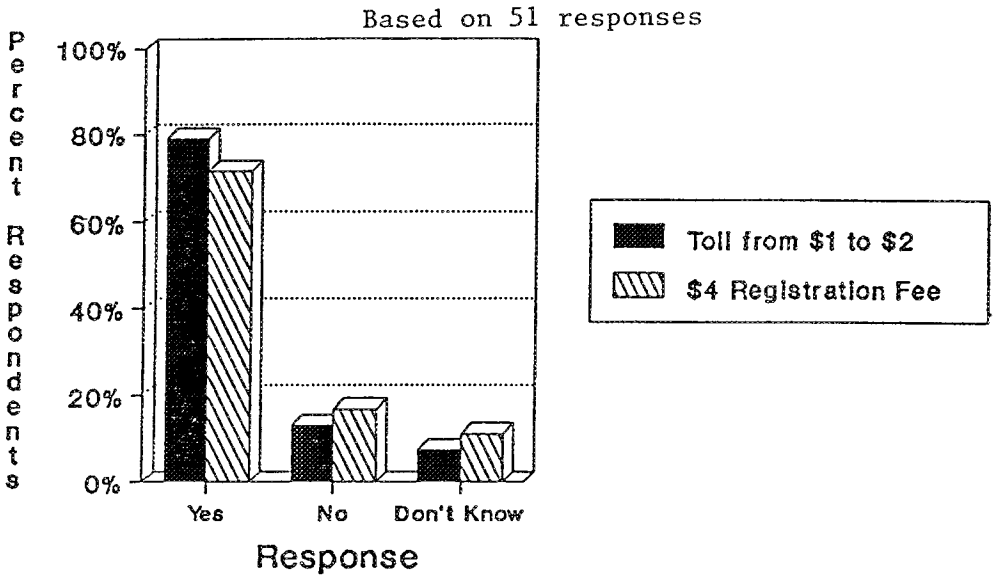
Would You Support an Increase in Peak Period Tolls or an Increase in the M.V. Reg. Fee to Subsidize the EB Ferry?



Follow-Up #1 (December, 1989)

Figure 10

Would You Support an Increase in Peak Period Tolls or an Increase in the M.V. Reg. Fee to Subsidize the EB Ferry?



Follow-Up #2 (March, 1990)

Figure 11

EAST BAY FERRY RIDERSHIP

TOTAL DAILY PASSENGERS

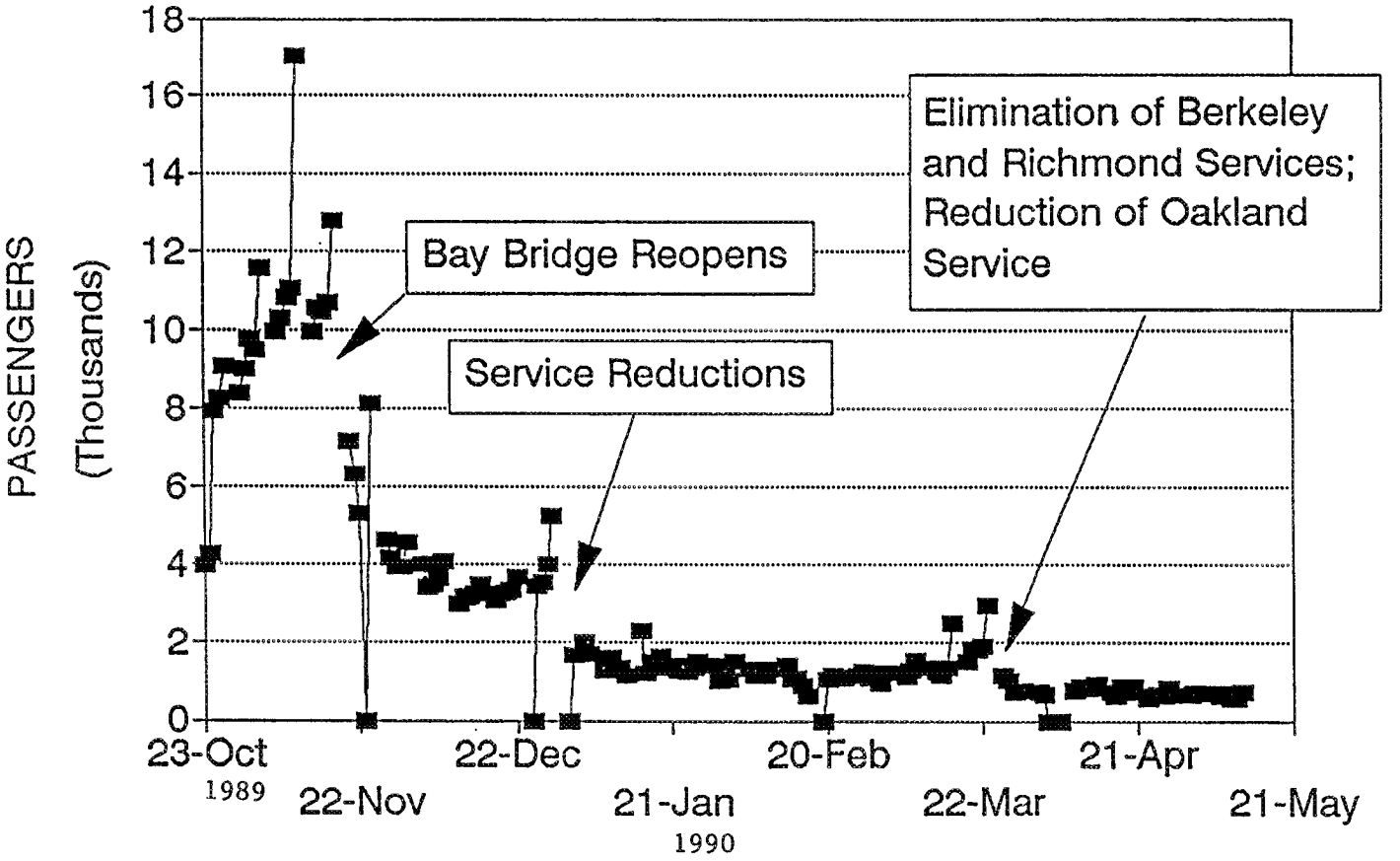


Figure 12