Prepared by the:
Department of City Planning

In Cooperation with:
Office of the Mayor
Chief Administrative Officer's Waterfront Transportation Project Office
Department of Parking and Traffic
Department of Public Works
Municipal Railway

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TERMINAL SEPARATOR STRUCTURE/TRANSBAY TERMINAL
PRELIMINARY REPORT TO THE MAYOR

MARCH 16, 1993

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EXECUTIVE SUMMARY

This report has been prepared for the Office of the Mayor by a Task Force of City agencies requested to study the Terminal Separator Structure and Transbay Terminal issues.

Background

The Terminal Separator Structure (TSS) is the remnant of an obsolete freeway system that was intended to link the Bay Bridge and Highway 101 with the Golden Gate Bridge, but was never completed. The 1989 Loma Prieta Earthquake, which caused the subsequent demolition of these structures, now affords the city an unprecedented opportunity to reconsider regional traffic access to San Francisco and major destinations such as downtown, Fisherman's Wharf, Chinatown, South of Market, and Mission Bay.

Demolition of the Terminal Separator Structure is currently underway and expected to be completed by September of this year. Caltrans proposes to advertise for the reconstruction contract in June 1993, but has expressed willingness to delay advertisement until September 1993 and work with the city in an analysis of alternatives.

The Transbay Terminal and its adjoining ramp system were completed in 1939 as part of the construction of the Bay Bridge. Its purpose was to serve as the San Francisco terminus of East Bay streetcar service provided by the Key System Rail Network. Caltrans is currently undertaking seismic and safety upgrades to meet current code requirements. The possibility of a replacement facility is being considered.

In December of 1992, Mayor Jordan requested that the Board of Supervisors to endorse a resolution calling for a stop to the construction of the proposed Caltrans Terminal Separator Structure replacement facility and requesting that Caltrans work with the city to consider alternatives to the Terminal Separator Structure and the Transbay Terminal.

Financial and Regulatory Framework

The bulk of funding for the replacement of the Terminal Separator Structure comes from Federal Emergency Relief (ER) Funds administered by Federal Highway Administration (FHWA). Other federal and state funds administered by the California Transportation Commission (CTC) will also be used. Caltrans is requesting that the CTC authorize $91.4 million for replacement of the Terminal Separator Structure. To make funds available for an analysis of alternatives to the proposed Caltrans replacement project, the city and Caltrans must jointly agree to stop the reconstruction of the Terminal Separator Structure and pursue an alternative course. Caltrans must request from FHWA an extension of the current September, 1993 deadline for encumbrance of ER funds. An extension may be granted if progress on the project is shown and a plan of action is provided. Excessive delays in decision-making for the Terminal Separator Structure could jeopardize the amount of money ultimately available for its implementation as the total amount of Emergency Relief money for
the Loma Prieta earthquake in California is fixed at $1 billion, while the needs are estimated at $1.7 billion.

The Terminal Separator Structure is a Caltrans project and Caltrans would continue to serve as the lead agency unless state legislative action is taken to give lead responsibility to the city.

A replacement facility must be comparable in capacity and character to the previously existing facility to be eligible for funding. Some of the alternatives considered for the Terminal Separator Structure should include a direct connection to The Embarcadero from the Bay Bridge and Highway 101, as the CTC has interpreted federal funding requirements to stipulate this connection for the Mid-Embarcadero project.

Traffic and Circulation

Prior to the earthquake the ramps at Main and Beale Street and The Embarcadero ramps handled about 5,600 trips exiting from the Bay Bridge and Highway 101 in the morning peak hour and about 4,300 entering those facilities in the afternoon peak hour. Traffic rarely queued back onto the mainline freeways from the off-ramps in the AM peak. In the afternoon, access to the Bay Bridge and Highway 101 was and is limited by the capacity of the mainline freeways. The Main and Beale ramps and The Embarcadero Freeway provided queueing capacity on an elevated freeway structure and distributed freeway bound traffic across numerous access points.

The Department of Parking and Traffic estimates that the Average Daily Traffic (ADT) of 103,000 trips using The Embarcadero Freeway and Terminal Separator Structure before the earthquake have distributed themselves to surface city streets. Between The Embarcadero and 10th Street, traffic has increased on north/south streets by 115,000 ADT since the earthquake. Back-ups are most severe on First and Fremont Streets though Third, Fourth, Second, Main, and The Embarcadero surface roadway have all seen increases.

Range of Transportation Solutions

Three alternative approaches to replacement of the Terminal Separator Structure have been outlined. These alternatives are intended to provide a framework for policy decisions regarding the replacement of the Terminal Separator Structure and would require significant refinement. They are also intended to address the intent of the federal funding requirements that permit the replacement of highway facilities of a comparable capacity and character. Some of the alternatives may replace only a portion of the capacity provided by the Terminal Separator Structure.

- Alternative 1A and 1B - These alternatives result in minimal changes to the Caltrans proposed replacement project. Main and Beale ramps are pulled south 1 1/2 to 2 blocks and full access is provided to the Bay Bridge and Highway 101. Alternative 1A would not provide a direct ramp to The Embarcadero, while Alternative 1B would. A
portion of the queueing capacity on elevated structure would be lost under these alternatives.

- Alternative 2A and 2B - These alternatives rely more heavily on surface streets for traffic distribution and collection functions that the proposed Caltrans replacement proposal. Modifications are made to existing ramps to serve access to and from the Bay Bridge, while access to Highway 101 is provided with a new set of ramps. Touch down points for the new 101 ramps are closer to the freeway mainline requiring less total structure than the Caltrans proposal. Alternative 2A would not provide a direct ramp to The Embarcadero, while Alternative 2B would. A portion of the queueing capacity, as well as off-ramp capacity, would be lost under these alternatives.

- Alternative 3 - The Terminal Separator Structure is not replaced. Use of surface streets for traffic distribution and collection is emphasized. Existing operational ramps are modified to better serve access to and from the Bay Bridge. Traffic bound for Highway 101 would rely on existing ramps at 3rd and 4th Streets. It is also assumed that the opening of a new set of I-280 ramps on King Boulevard at 5th Street would alleviate some congestion experienced on corridors heavily used by southbound commuters.

Transit Issues Associated with the Transbay Terminal

The Transbay Terminal currently serves about 24,900 to 26,000 passengers (total boardings and alightings) a day. AC Transit is the most significant tenant with about half of the total ridership.

Caltrans is undertaking a two phase upgrade to the Transbay Terminal. By the end of 1993, the structure will be brought up to current seismic codes for a cost of $6.5 million. Additional life/safety and American Disabilities Act (ADA) upgrades are proposed at an estimated cost of $34 million. Caltrans is interested in working with the city to assess the feasibility of a replacement facility rather than spending additional money on the current facility which may not best serve the transit operators current and future needs.

The key issues for the Transbay Terminal are: what are the existing and future needs of the transit operators currently using the facility, how could the Caltrain extension be accommodated, what would the city's development parameters be for the properties currently zoned for public uses, should the potential for rail connections be considered in a study on the Transbay Terminal, and should the Transbay Terminal and Terminal Separator Structure studies be linked.

Environmental Review Considerations

The demolition and replacement of the Terminal Separator Structure as currently proposed by Caltrans has been determined to be a Categorical Exemption and Exclusion under California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), respectively. A change to the Caltrans proposal would require an Environmental Assessment
which could lead to a Finding of No Significant Impact (FONSI)/Negative Declaration or a full EIS/EIR depending on the significance of changes from the pre-earthquake and current traffic conditions. This could delay the project from 6 months to 2 1/2 years. If a decision regarding the future of the Transbay Terminal is linked to the Terminal Separator Structure, significant up front delays could occur to the TSS and Mid-Embarcadero projects. If the Terminal Separator Structure is not replaced, no additional environmental review would be required. The demolition of the Terminal Separator Structure has been declared categorically exempt and there would be no additional action requiring environmental review.

Legislative relief (both state and federal) may be one approach for reducing delays inherent in the environmental review process.

**Potential Land Use Opportunities**

The Terminal Separator Structure occupies approximately 12.5 acres and the Transbay Terminal and its ramp facilities occupy approximately 11.5 acres. Currently the land occupied by the transportation facilities is zoned P - Public Use District and would require rezoning before these lands can be used for private purposes.

The surrounding properties north of Folsom Street have C-3 - Downtown Commercial Zoning designations. South of Folsom Street there is a mix of residential (RC-4), light industrial (M-1), and service and secondary office (SSO), in addition to Public (P) zones. Height restrictions range from 200' to 450' north of Folsom and 105' to 250' south of Folsom Street.

Current land uses are a mix of office, retail, and parking. There is some scattered residential and industrial between First and Second Streets. Potential land uses include office, retail, housing, entertainment, and biotech or institutional at a moderate to high density.

**Impacts on the Mid-Embarcadero Project**

Environmental review of the Mid-Embarcadero is expected to be completed by the end of 1994 with construction completed in 1998 for a surface alternative or 2000 for a partial underground alternative.

If no replacement facility for the Terminal Separator Structure were built, no environmental review would be required and there would be no impact on the Mid-Embarcadero schedule. This choice could, however, jeopardize federal funding for the Mid-Embarcadero project if the California Transportation Commission (CTC) assessment that a freeway ramp connection to The Embarcadero must be provided to maintain eligibility for emergency relief funding prevails.

If changes are made to the Caltrans project, the future transportation circulation patterns would change and an environmental review process would be required. This could potentially delay the Mid-Embarcadero project from 6 months to 2 1/2 years because it would require new analysis of cumulative transportation impacts as a result of new circulation patterns.
Interim Traffic Improvements

The following interim traffic measures are proposed to alleviate current traffic congestion: full signalization of Harrison Street intersections between First and The Embarcadero, installation of improved directional signing for major destinations and the freeway, reinstitution of the "Don't Block the Box" program, retiming and interconnection of signals in North and South of Market areas and along Market Street, creation of a 5th and 6th one-way couplet, institution of video camera congestion monitoring, and stepped up enforcement of parking violations.

Next Steps

The following steps are necessary to proceed with the Terminal Separator Structure and Transbay Terminal projects should the Board of Supervisors endorse the Mayor's proposal: obtain Caltrans concurrence to stop the reconstruction of the Terminal Separator Structure, work with the city to consider alternatives, and request an extension to the September, 1993 deadline from FHWA; secure funding for and undertake a 6 month study of transportation and land use alternatives for the Terminal Separator Structure to carry forward into environmental review; determine what remedies may be available to earmark funds for transportation improvements that would functionally replace the Terminal Separator Structure; and work with Caltrans to establish a process for resolving the Transbay Terminal issues, including a 6 month assessment of transit parameters and land use development potential.
PURPOSE OF REPORT

The damage to freeways within San Francisco caused by the 1989 Loma Prieta Earthquake has afforded the city an unprecedented opportunity to take a new look at the regional transportation network serving the downtown core. Action has already been taken by the city to consider alternatives to the demolished Embarcadero Freeway and environmental review is currently underway on that project. In December 1992, Mayor Jordan created a departmental Task Force to further study the issues associated with alternatives to the replacement of the Terminal Separator Structure and the proposed seismic and code upgrades to the Transbay Terminal. The purpose of this report is to provide information to the public and to assist decision makers in developing a city position on these issues.

BACKGROUND

Transportation and Land Use History

The Transbay Terminal and its adjoining ramp system were completed in 1939 as part of the construction of the Bay Bridge. Its purpose was to serve as the San Francisco terminus of East Bay streetcar service provided by the Key System Rail Network and it therefore was designed to accommodate streetcar access.

Construction of the Embarcadero Freeway, which included the Terminal Separator Structure, and the now demolished section along the city’s waterfront was completed in 1958. It was the first link in a freeway system that was intended to connect the Bay Bridge with the Golden Gate Bridge along the city’s waterfront. Freeways were planned throughout the city as noted in Figure 1, the 1951 Trafficways Plan for San Francisco. The Embarcadero Freeway and the Terminal Separator Structure sections were constructed in spite of initial public opposition based on the potential impacts on adjacent land uses, the potential detrimental impacts on the park to be created at the foot of Market Street (Justin Herman Plaza), and aesthetic concerns about the design.

Growing public opposition to the many freeways planned throughout the city, was fueled by resident’s reaction to the intrusiveness of the completed double-decked Central and Embarcadero freeway structures. In 1959, the San Francisco Board of Supervisors passed a resolution confirming its opposition to most of the proposed freeways, including the remaining sections of The Embarcadero and Golden Gate freeways that would have provided a link to the Golden Gate Bridge.

The Terminal Separator structure remains as an obsolete set of downtown ramps intended to serve a freeway system that was never constructed. It has served over the years as an elevated structure which accommodates queueing to and exits from the Bay Bridge and Highway 101. The downtown core area that it serves today is very different from the one it served upon its completion. Significant high-rise office development has occurred along the waterfront and in the South of Market area. Moderate to high density residential uses have developed in Golden Gateway to the north of Embarcadero Center, at Rincon Annex
Figure 1
SAN FRANCISCO - 1951
TRAFFICWAYS PLAN
near the previous touchdown for the Terminal Separator Structure, and in South Beach along the waterfront. The Downtown Plan, adopted in 1985, calls for the refocusing of high-rise development in the South of Market immediately around the Transbay Terminal and moderate to high density residential uses between the Terminal Separator Structure and the Bay Bridge.

Post Earthquake Response to the Terminal Separator Structure

The 1989 Loma Prieta earthquake rendered The Embarcadero Freeway and the Terminal Separator Structure inoperable. In 1991, The Embarcadero Freeway was demolished along the waterfront and west to approximately Beale Street. In 1992, Caltrans began the demolition of the Terminal Separator Structure as shown on Figure 2. Demolition is expected to be completed by mid-1993. Caltrans proposes to advertise the contract for reconstruction of the Terminal Separator Structure in June of this year.

Caltrans has proceeded with the design of a replacement facility for the Terminal Separator Structure over the past three years, in cooperation with the city. The now completed design for replacement proposes stacked single deck construction. Figures 3 and 4 show how the proposed structure would fit into the context of the city fabric. The new freeway would be built within the existing right-of-way and would replace the traffic functions provided by the demolished structure.

Immediately following the earthquake, the city’s inclination was to resurrect our transportation facilities as quickly as possible. Cost estimates for rehabilitation of damaged structures ballooned, resulting in decisions to demolish and rebuild rather than retrofit freeway structures and the debate over removal of The Embarcadero Freeway resurfaced. This set of developments caused the city and its residents to question initial decisions to retain the freeway facilities. In 1990 the Board of Supervisors passed a resolution endorsing the demolition of The Embarcadero Freeway and called for the evaluation of alternatives to an elevated structure.

In 1991 public support emerged for the removal of the Central Freeway in Hayes Valley. After experiencing a neighborhood reawakening subsequent to the freeway removal, the local citizens became adamant against its replacement. In mid-1992, the Board of Supervisors passed a resolution opposing replacement of the demolished section of the Central Freeway and calling for an exploration of alternative surface street improvements.

In late 1992, citizens participating in the Mid-Embarcadero replacement project, began calling for a reconsideration of the replacement of the Terminal Separator Structure. Coincidentally, the state was completing a seismic and code upgrade assessment for the Transbay Terminal. Estimates for upgrades to this facility to meet current seismic and safety code requirements ranged from $30 - 60 million, raising the question of whether the current Transbay Terminal should be retrofitted or replaced.

In December of 1992, Mayor Jordan requested that the Board of Supervisors endorse a resolution calling for the exploration of alternatives to the currently proposed Caltrans replacement facility for the Terminal Separator Structure and requesting Caltrans cooperation
Figure 2
TERMINAL SEPARATOR STRUCTURE TO BE DEMOLISHED

- Black: Bay Bridge
- Gray: Existing Bay Bridge Ramps
- Dark Gray: Transbay Terminal and Ramp System
- Light Gray: Terminal Separator Structure
Figure 3
Caltrans Proposed TSS Replacement Facility Looking South at First and Folsom Streets.

Figure 4
Caltrans Proposed TSS Replacement Facility Looking East Along Folsom Street.
Transportation project funds for recovery from the Loma Prieta Earthquake will come predominantly from the Federal Emergency Relief (ER) Fund. Other federal and state funding will also be available. The Federal Emergency Relief (ER) Fund is administered by the Federal Highway Administration (FHWA). State funds are administered by the California Transportation Commission (CTC) and are potentially available to provide the required local match to the federal funds.

The Federal Emergency Relief funds are made available to repair or reconstruct seriously damaged highway elements as necessary to restore the facility to pre-disaster conditions. Relocation and replacement of facilities are allowed when it is not technically or economically feasible to repair or restore a damaged facility. The cost of ER reimbursement is limited to the cost of repair or reconstruction of a comparable facility to current design standards. A total of $1.0 billion in ER funds has been authorized by the federal government to cover repair costs for facilities damaged during the Loma Prieta earthquake for the entire state of California. Current estimate of the total need is $1.7 billion.

The current Caltrans estimate for replacement of The Terminal Separator Structure is approximately $91.4 million, including right-of-way acquisition costs. On March 31, 1993, Caltrans will request the CTC to authorize $91.4 million of federal and state funds for use on the reconstruction of the Terminal Separator Structure.

To make these funds available for an analysis of transportation alternatives, the city and Caltrans must jointly agree to stop the reconstruction of the Terminal Separator and pursue an alternative course. This will require a formal request by Caltrans to FHWA to change the scope of the project and to request an extension of the current September 30, 1993 deadline for obligation of funds to earthquake recovery projects. The Secretary of Transportation has expressed willingness to entertain an extension request by Caltrans. Extensions have previously been granted for the Mid-Embarcadero and Central Freeway projects. A request for extension must be accompanied by a plan of action which indicates progress in a project.

With a set amount of money available for all emergency relief funds in the Bay Area, excessive delays could pose the risk of having inadequate monies available by the time of construction. If a selected replacement alternative requires substantially less structure, however, it will be much cheaper to construct thereby ameliorating some concern. In addition, the city should explore opportunities for legislative relief, either through the federal government to earmark ER funds for a more cost effective solution to the Terminal Separator Structure than currently proposed or the state level to earmark funds received from the sale of vacated properties to cover costs for the replacement of transportation functions provided by the Terminal Separator Structure. This later approach was used for The Embarcadero project.

Regulatory Considerations
The Terminal Separator Structure is currently a Caltrans project. As a result, Caltrans will remain the lead agency in the development of alternatives and design and construction of a replacement facility.

Senate Bill 181, sponsored by Senator Kopp, dedesignated The Embarcadero Freeway (SR-480) from the State Highway System thereby taking it out of Caltrans’ jurisdiction. The city has taken responsibility for the development of alternatives and will ultimately select the project. Caltrans and FHWA, as the primary funding agencies, play a key role in programming decisions and are integral to the environmental review process. A similar approach could be taken for the Terminal Separator Structure. If the ultimate project includes significant freeway structure, the city’s Department of Public Works may wish to defer to Caltrans for final design and construction.

Both federal regulations governing use of ER funds and SB 181 indicate that a replacement transportation facility must be comparable in capacity and character to the previously existing facility. The CTC, in a letter to the city dated October 9, 1992, reaffirmed that Federal ER and State funds would be available for a Mid-Embarcadero project only if that facility connect to I-80 and the Bay Bridge. A decision to forego an Embarcadero ramp could jeopardize funding for the Mid-Embarcadero project.

TRAFFIC AND CIRCULATION

Circulation Patterns

Prior to the 1989 earthquake, the Embarcadero Freeway and the Terminal Separator Structure carried about 5,600 trips exiting from the Bay Bridge and Highway 101 during the AM peak hour. Approximately 1,800 of these trips exited at Main Street, the remainder continued on The Embarcadero Freeway exiting at Washington or Broadway Streets. Traffic was distributed along the Fremont, Main, and Washington corridors to get to downtown or Chinatown. Traffic destined for Fisherman’s Wharf, North Beach, or the northern part of the city would exit at Broadway. The Embarcadero surface roadway south of Broadway did not serve as an important regional connection for traffic to and from the East Bay or southern San Francisco and the Peninsula. The traffic distribution system was very oriented toward destinations north of Market Street. Opportunities for direct access into the South of Market were limited. Back-ups on to the freeway of exiting traffic from the Bay Bridge or Highway 101 were rare.

In the afternoon or PM peak hour, it is estimated that before the earthquake, about 4,300 vehicles entered the mainline freeways. The on-ramp capacity has always been limited to the maximum capacity of lanes leading to the Bay Bridge and Highway 101. In other words, no matter how great the capacity of the on-ramps themselves there is a limited ability for the mainline freeways to absorb the entering traffic. The function provided by The Embarcadero Freeway and the Terminal Separator Structure in the PM peak was to allow for queueing of on-ramp traffic on an elevated structure. With a greater number of on-ramp opportunities than today, traffic was more dispersed on city surface streets, primarily at Broadway, Clay, Beale, and First Streets.
When the ramps at Broadway, Clay/Washington, and Main/Beale and I-280 became inoperable after the earthquake, traffic became more concentrated at the immediate access and egress points to the Bay Bridge and Highway 101, relying on the city surface streets for distribution. Figure 4A shows post-earthquake access and egress to and from the Bay Bridge, Highway 101, and I-280.

Traffic Diversions

The Department of Parking and Traffic has prepared a summary of the average daily trips (ADT) using The Embarcadero Freeway and the Terminal Separator Structure before the earthquake and how that has translated to post-quake conditions. Their analysis is based on two-way trips, combining both inbound and outbound trips.

Before the earthquake, approximately 103,000 vehicles per day used The Embarcadero and the Terminal Separator Structure. The Main Street off-ramp accommodated 13,100 trips and the Beale Street on-ramp approximately 10,900 trips. A recent cordon count taken in the South of Market area from The Embarcadero to 10th Street showed an approximate increase of 115,000 ADT on north/south streets since the earthquake. The additional traffic on the surface streets is presumed to come from traffic diverted from The Embarcadero and Terminal Separator Structure and the Central Freeway. Table 1 summarizes the traffic increases in the vicinity of the Terminal Separator Structure.

Traffic impacts have been the greatest on First and Fremont Streets where traffic to and from the Bay Bridge have concentrated. Main Street and The Embarcadero have also seen increases in traffic, but only a portion of what was previously carried on the elevated freeway.

<table>
<thead>
<tr>
<th>Street</th>
<th>Pre-Quake ADT</th>
<th>Post-Quake ADT</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th, north of Harrison</td>
<td>18,500</td>
<td>29,700</td>
<td>61%</td>
</tr>
<tr>
<td>3rd, south of Howard</td>
<td>25,800</td>
<td>28,800</td>
<td>12%</td>
</tr>
<tr>
<td>2nd, south of Howard</td>
<td>10,300</td>
<td>16,000</td>
<td>55%</td>
</tr>
<tr>
<td>1st, south of Howard</td>
<td>9,500</td>
<td>23,000</td>
<td>142%</td>
</tr>
<tr>
<td>Fremont, south of Howard</td>
<td>12,700</td>
<td>35,400</td>
<td>179%</td>
</tr>
<tr>
<td>Main, south of Howard</td>
<td>7,700</td>
<td>12,200</td>
<td>58%</td>
</tr>
<tr>
<td>Embarcadero, south of Market</td>
<td>28,200</td>
<td>43,800</td>
<td>55%</td>
</tr>
</tbody>
</table>

Source: San Francisco Department of Parking and Traffic
Figure 4A
Current Circulation Patterns To and From Downtown, Fisherman's Wharf, Chinatown, and South of Market

- - - - - Access to Bay Bridge, Hwy 101, I-280

- - - - - Egress from Bay Bridge, Hwy 101, I-280
structure. Third and Fourth are handling overflow from the loss of ramp connections to Highway 101.

Critical Problems

The diversion of traffic from a former elevated freeway structure to surface city streets does not inherently create a conflict. It is only critical where traffic congestion reaches severe levels or traffic conflicts significantly with transit operations or pedestrian movements. The problem areas can be pinpointed for the morning and afternoon conditions.

AM Peak

- Significant conflicts between traffic and transit exist on Fremont Street, north of the Transbay Terminal as a result of concentration of Bay Bridge exiting traffic on Fremont Street. This can also occur in the PM peak hour.

- Casual carpool drop-offs at the Fremont/Howard intersection creates congestion which at times backs up onto the Bay Bridge.

- Increased traffic on The Embarcadero potentially conflicts with pedestrians in the vicinity of the Ferry Building.

- There has been an increase in congestion on Third Street as it has become the last exit for Highway 101 northbound traffic.

PM Peak

- The concentration of traffic on Battery and First Streets as the key access corridor to the Bay Bridge from downtown and northern portions of the city, creates conflicts for transit travelling to the Transbay Terminal on First Street. The queue of traffic often extends north of Market Street.

- The Sterling Street ramp which currently serves as a high occupancy vehicle (HOV) lane is underutilized.

- The increase in traffic on 4th Street creates conflicts with transit service and with the growing number of pedestrians, many of whom are elderly or disabled, in this area.

- Traffic regularly queues along Harrison Street, often extending east to The Embarcadero.

RANGE OF TRANSPORTATION SOLUTIONS FOR TERMINAL SEPARATOR STRUCTURE
After identifying the most critical transportation problems associated with the loss of freeway operations, city staff outlined a range of possible solutions. This range is intended to provide a framework for policy discussions related to the fundamental decision of whether to pursue freeway replacement alternatives and to assist in the refinement of alternatives. It is not intended to be a specific recommendation for action as it does not cover many of the detailed issues that will have to be addressed in developing specific alternatives. City staff invited key representatives from citizen's groups and transportation consultants from the Mid-Embarcadero project to assist in this effort.

Objectives

To formulate a range of possible alternatives for public discussion, it was necessary to establish objectives to guide our discussions. The objectives listed below are based on the City's Master Plan and concerns being expressed by the public and elected officials.

- Minimize traffic on the waterfront and congestion in the heart of the downtown.
- Separate traffic from transit when possible.
- Maintain or improve transit service in the downtown and improve HOV connections to the Bay Bridge.
- Optimize use of east/west and north/south surface streets available capacity for traffic distribution and collection from the regional freeway network.
- While providing for necessary traffic service, minimize the amount of elevated freeway replacement structure to free up land for alternative uses and minimize the cost of freeway replacement.

All of the alternatives outlined assume that the Transbay Terminal and the traffic and transit ramps serving that facility stay in place. If the Transbay Terminal and the ramp system serving it are removed and/or reconstructed, new opportunities would arise.

Three alternative approaches to replacement of the Terminal Separator Structure functions are outlined below. Two variations are provided for Alternatives 1 and 2, however, there are many possible variations on each theme. Ramps could potentially be shortened or lengthened under each alternative to reduce the amount of structure or provide more queueing capacity. The three alternatives are intended to present different strategic approaches to consider in replacing the transportation functions and respond to the federal requirements of providing a replacement facility of comparable character and capacity in different ways. The actual alternatives would be developed and refined within the context of a policy framework as more detailed information on surface street circulation patterns and geometric constraints becomes available.

An estimation of the potential amount of land available for new opportunities has been identified under each alternative. These estimates are based on the amount of land that was occupied by the transportation facility and include adjacent parcels, publicly or privately...
owned, that are currently vacant or occupied with surface parking facilities. The total therefore exceeds the amount of land occupied by just the Terminal Separator Structure.

• Alternative 1A and 1B - These alternatives result in minimal changes to the Caltrans proposed replacement project. Main and Beale ramps are pulled south 1 1/2 to 2 blocks and full access is provided to the Bay Bridge and Highway 101. Alternative 1A would not provide a direct ramp to The Embarcadero, while Alternative 1B would. A portion of the queueing capacity on elevated structure would be lost under these alternatives.

• Alternative 2A and 2B - These alternatives rely more heavily on surface streets for traffic distribution and collection functions than the proposed Caltrans replacement proposal. Modifications are made to existing ramps to serve access to and from the Bay Bridge, while access to Highway 101 is provided with a new set of ramps. Touch down points for the new 101 ramps are closer to the freeway mainline requiring less total structure than the Caltrans proposal. Alternative 2A would not provide a direct ramp to The Embarcadero, while Alternative 2B would. A portion of the queueing capacity, as well as off-ramp capacity, would be lost under these alternatives.

• Alternative 3 - The Terminal Separator Structure is not replaced. Use of surface streets for traffic distribution and collection is emphasized. Existing operational ramps are modified to better serve access to and from the Bay Bridge. Traffic bound for Highway 101 would rely on existing ramps at 3rd and 4th Streets. It is also assumed that the opening of a new set of I-280 ramps on King Boulevard at 5th Street would alleviate some congestion experienced on corridors heavily used by southbound commuters.

The alternatives are outlined in greater detail below and a map of each is provided.

Alternative 1A - (Figure 5) This alternative would replace a full set of ramps to the Bay Bridge and Highway 101 as proposed by Caltrans. Rather than touching down to ground at Mission Street on Main and Beale, the ramps would be pulled south. The Main Street off-ramp could touch down at Folsom Street, allowing exiting traffic to proceed north on Main or east on Folsom. The Beale Street on-ramp could begin at Beale Street, just north of Folsom Street and the Main off-ramp. No direct ramp would be provided to The Embarcadero.

By pulling the ramps south and allowing an option for eastbound Folsom Street, this alternative relieves the traffic/transit/pedestrian conflicts that existed at Mission Street. The new set of ramps also provide traffic relief from the heavily congested Fremont and First corridors. The Department of Public Works has completed a preliminary assessment of this ramp configuration and notes that an off-ramp touching down at Folsom and Main Street could be provided only with an 8.75 to 9 percent grade. This does not meet current Caltrans gradient standards of 6% for freeway ramps. Providing a ramp with a 6% grade that touches down at Main Street would require closing Beale Street to through traffic or depression of Beale Street under the freeway. Another alternative could be to touch down at Beale Street, which would necessitate the closure of Fremont Street. This option could have fewer overall circulation impacts, though it would still disrupt transit routing.
Figure 5

Alternative 1A
Off-Ramp at Folsom and Main Only
On-Ramp at Beale, South of Howard

On-Ramps
Off-Ramps
Existing to Remain
Land Opportunity Sites
This alternative would provide less capacity than was provided by the Terminal Separator Structure pre-earthquake. The shortening of structure along Main and Beale Streets and the non-replacement of ramps to The Embarcadero would provide less queueing capacity on elevated structure. The non-replacement of direct Embarcadero ramps could jeopardize federal funding eligibility.

This alternative would still require an extensive amount of elevated freeway structure. Approximately 11 acres would be freed up for alternative uses.

Alternative 1B - (Figure 6) This alternative differs from Alternative 1A in that it provides a set of replacement ramps to The Embarcadero in addition to those described above. Rather than providing the circulation and queueing functions on surface streets via Howard and Folsom, these functions would be provided on an elevated structure. Afternoon queueing would occur on The Embarcadero in addition to Howard and Beale Streets.

Under this scenario, traffic congestion and traffic/transit conflicts would be relieved on First and Fremont and the conflicts on Mission at Main and Beale would be reduced. Afternoon queueing would be further disbursed among surface streets, alleviating critical queueing congestion. This alternative has the same geometric limitations for ramp touch downs as noted in Alternative 1A.

This alternative would free up approximately 9.5 acres for alternative land uses.

Alternative 2A - (Figure 7) This alternative modifies the existing freeway ramps serving the Bay Bridge to address AM and PM congestion problems. The Terminal Separator Structure would be partially replaced to serve the Highway 101 connection.

The Fremont Street right exit off the Bay Bridge would allow exiting on Fremont as currently provided, but would additionally provide the option of travelling eastbound on Folsom Street. The Department of Public Works has done a preliminary assessment of the geometries for this alternative. The have determined that the current Fremont Street off-ramp was constructed at 10% grade. A new ramp touching down near Fremont and Folsom would have to be of a similar grade. Again, this does not meet current Caltrans standards of 6 percent grade for freeway ramps. Variations of an off-ramp that connects directly to Folsom Street would have to be considered.

The Fremont Street left exit off the Bay Bridge would be modified to encourage right turns at Harrison Street easing access to the waterfront. To better accommodate afternoon queueing, the Sterling Street high occupancy vehicle (HOV) ramp would be modified to provide better access to the Bay Bridge and it would be turned into a full access ramp with queueing on Bryant and Beale Streets. Essex Street would be turned into an HOV lane to provide easier access for carpools. These modification would likely require restriping of Bay Bridge traffic lanes, returning to pre-quake conditions. The new on-ramp to Highway 101 would begin at Second Street, south of Folsom. The new off-ramp from Highway 101 would touch down at Folsom in the Essex corridor. The potential queueing conflicts between traffic bound for the Bay Bridge and Highway 101 along Folsom Street near Essex would need to be explored.
Figure 6

Alternative 1B
Off-Ramp at Folsom and Main Only
On-Ramp at Beale, South of Howard and Embarcadero

- - On-Ramps
--- Off-Ramps
- - - - - Existing to Remain
- - - - - Land Opportunity Sites
Figure 7

TERMINAL
SEPPARATOR
STRUCTURE
STUDY

Alternative 2A
Modified Ramp Configurations
Without Direct Waterfront Off-Ramp

- Land Opportunity Sites
- On-Ramps
- Off-Ramps

21
By providing an additional exit point directly to Fremont Street, this alternative relieves the queueing that currently occurs at the Fremont and Howard Streets intersection in the mornings. In the afternoon, the concept for relieving the Battery/First corridor is to provide an additional ramp in the South of Market at Sterling Street that is easily accessible from The Embarcadero. At present, much of that traffic is still funneled through First or Harrison Streets. By shifting the HOV lane to Essex Street, the carpool access to the Bay Bridge becomes much more direct.

The access to Highway 101 is replaced in this alternative, but a much shorter structure than previously existed serves the purpose. The replacement of the 101 ramps would relieve traffic on 3rd and 4th Streets, but would exacerbate the problems that have always existed on the freeway near the Hall of Justice where the mainline freeway has inadequate capacity to accept additional on-ramp traffic without adding to congestion. This alternative relies more heavily on the city's surface streets to provide distribution and collection functions from the regional network, yet still provides new opportunities to distribute afternoon queueing along the city grid.

Under this option, new freeway ramp and queueing options are provided, but it is accomplished with significantly less structure than proposed under the Caltrans alternative of full replacement. While this approach may functionally replace the Terminal Separator Structure it would not provide the same queueing capacity on elevated structure nor does it provide the direct ramp connection to The Embarcadero stipulated by the CTC for the Mid-Embarcadero project.

Approximately 13.5 acres would be freed up for new land use opportunities under this alternative.

Alternative 2B - (Figure 8) This alternative differs from Alternative 2A by providing an additional off-ramp to The Embarcadero touching down between Howard and Folsom, but does not provide a direct on-ramp from The Embarcadero. Like in Alternative 1A, the traffic distribution function is taken off Folsom Street and put on an elevated structure. This alternative would have the same geometric limitations as Alternative 2A.

This alternative would free up approximately 12 acres for alternative land uses.

Alternative 3 - (Figure 9) Under this alternative, the Terminal Separator Structure is not replaced and the emphasis is on the use of surface streets to collect and distribute traffic to and from the mainline freeways. As in Alternative 2A, the existing Fremont Street off-ramps would be modified to permit eastbound travel on Folsom from the right hand exit and to facilitate right turns on Harrison at the left hand exit. The Sterling Street HOV ramp would become a full service access ramp and be modified to improve the Bay Bridge access. Essex Street would become the HOV ramp for the downtown and South of Market areas. The ramp modifications proposed at Fremont Street, being comparable to those proposed under Alternative 2A, carry the same constraints of requiring a 10 percent gradient.

There would be no ramp access to or from Highway 101 east of 4th Street under this alternative. Improvements to the existing 101 ramps at 3rd and 4th Streets have not yet been explored.
Figure 8

Alternative 2B
Modified Ramp Configurations
Direct Waterfront Off-Ramp only to Steuart

- Land Opportunity Sites
- On-Ramps
- Off-Ramps
Figure 9

Alternative 3
No Ramps, Existing Ramps Modified

TERMINAL
SEPARATOR
STRUCTURE
STUDY

- - -
Land Opportunity Sites

- - -
On-Ramps

- - -
Off-Ramps
Given the capacity constraints on the Bay Bridge and Highway 101, this alternative would accept afternoon queueing on surface streets as a trade-off to building a replacement elevated freeway structure. It also relies heavily on expected improvements to traffic circulation owing to the completion of the I-280 ramps at King Boulevard and assumes that southbound commuters will increasingly use I-280 rather than Highway 101. This alternative focuses on minimizing the amount of elevated structure and thereby the costs of replacing the transportation services provided by the Terminal Separator Structure. It would require a more liberal interpretation of the federal funding requirements if options for federal funding were to be retained.

This alternative maximizes the land potentially available for other uses. Approximately 17 acres would be freed up for alternative land uses if the elevated freeway is not replaced.

**TRANSIT ISSUES ASSOCIATED WITH THE TRANSBAY TERMINAL**

The Transbay Terminal and its accompanying ramp system occupies approximately 11.5 acres in the South of Market area. The Transbay Terminal was originally designed as the terminus for the Key System Rail Network that provided streetcar service from the East Bay across the Bay Bridge to San Francisco. Transit ridership to the terminal has declined substantially over the years as regional transit services and the commuting patterns have changed. Today the Transbay Terminal serves as a hub for regional and intercity bus service and provides a connection between these services and the Muni. It accommodates an average daily ridership of 24,900 to 26,000 boardings and alightings (See Table 2). The Transbay Terminal is particularly critical for AC Transit operations as AC enjoys direct access to and from the Bay Bridge on an exclusive set of ramps. The other regional transit carriers, SamTrans and Golden Gate, rely predominantly on surface streets for their operations and pick up and drop off passengers all along their city routes.

Studies conducted by the Office of the State Architecture (OSA) for Caltrans in 1992 suggested that the Transbay Terminal needed substantial upgrades to meet current seismic and other fire/life/safety codes. It was estimated that the cost of basic upgrades would be in the range of $30-65 million. This upgrades would not, however, address long term transit goals or needs at the Terminal. The OSA advocated a long range planning effort to develop a regional transit plan for the Bay Area and, if funding were available, replacement of the existing Transbay Terminal with a new facility.

Caltrans is currently undertaking a two phase improvement program for the Transbay Terminal. The first phase will complete removal of the concrete roof and replace it with a temporary tin structure and do seismic bracing and shear walls by the end of 1993 at a cost of $6.5 million. At the same time, an approximately $2 million upgrade of the Fremont Street ramps will be proceeding.

The second phase calls for additional life/safety and American Disabilities Act (ADA) code upgrades and permanent roof replacement for a currently estimated cost of $34 million. Caltrans has proposed to defer the second phase improvements for a limited period of time.
to work with the city to explore joint development opportunities for a new replacement facility. Issues surrounding the desirability of a significant investment in a facility that may not best serve current or future transit needs have been raised.

### TABLE 2
1992 WEEKDAY TRANSIT RIDERSHIP AT THE TRANSBAY TERMINAL

<table>
<thead>
<tr>
<th>Transit Carrier</th>
<th>Number of Bus Lines</th>
<th>Number of Buses</th>
<th>Number of Passengers*</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC Transit</td>
<td>33</td>
<td>618</td>
<td>12,200</td>
</tr>
<tr>
<td>Golden Gate Transit</td>
<td>4</td>
<td>290</td>
<td>NA</td>
</tr>
<tr>
<td>SamTrans</td>
<td>3</td>
<td>331</td>
<td>1,250**</td>
</tr>
<tr>
<td>SF Muni</td>
<td>4</td>
<td>1,003</td>
<td>5,850</td>
</tr>
<tr>
<td>Amtrak</td>
<td>1</td>
<td>24</td>
<td>1,000</td>
</tr>
<tr>
<td>Greyhound</td>
<td>NA</td>
<td>86</td>
<td>2,500</td>
</tr>
<tr>
<td>Other (Tours/Regional)</td>
<td>NA</td>
<td>60</td>
<td>2,050</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>--</td>
<td>2,412</td>
<td>24,850</td>
</tr>
</tbody>
</table>

Source: Caltrans District 4 Office

* Boardings and Alightings.
** Caltrans staff estimated Golden Gate Transit Ridership at about 1,200 or equivalent to SamTrans ridership. This would put the total ridership estimate at approximately 26,000 boardings and alightings.

A consideration of alternatives to the Transbay Terminal appears to be timely. The key issues that should frame further city discussions of the Transbay Terminal with Caltrans are outlined below:

- What are the existing and future needs of the transit operators currently using the Transbay Terminal?
- How could the Caltrain extension be accommodated?
• What are the city’s development parameters for properties currently zoned for public uses?

• Should the potential for future regional and intercity rail connections be considered at the Transbay Terminal? This would significantly increase the scope of the project and therefore the time required.

• Should the Transbay Terminal Study be linked to the Terminal Separator Structure study?

ENVIRONMENTAL REVIEW CONSIDERATIONS

The demolition and the replacement of the Terminal Separator Structure within the existing right-of-way as proposed by Caltrans was determined to be a Class 1c9 Categorical Exemption under CEQA and a Categorical Exclusion in accordance with 23 CFR 771 under NEPA. Any variation to the Caltrans in-kind replacement facility that alters traffic circulation or requires additional right-of-way would require environmental review. The type and extent of the environmental review would depend upon the significance of the changes when compared to the pre-earthquake conditions, as well as current conditions. If right-of-way acquisition is required for an alternative, the socio-economic impact assessment under NEPA would be more complex. In addition, right-of-way acquisition could delay the project construction by 1 to 1 1/2 years.

Based on discussions with the city’s Environmental Review Officer and the City Attorney’s Office, a modest two block pull back of the Main and Beale ramps to Folsom Street as proposed in Alternatives 1A and 1B could potentially be accommodated by an amendment to the Mid-Embarcadero EIR/EIS workscope or could be analyzed through a separate Environmental Assessment resulting in an estimated minimal delay of 6 months. Alternatives 2A, 2B, and 3, which look at new configurations for access ramps to and from the Bay Bridge and Highway 101 may require a more elaborate environmental review process of up to 2 1/2 years due to the more significant changes in traffic circulation patterns. If a decision is made not to rebuild the Terminal Separator Structure no additional environmental review process would be required. The demolition of the structure was determined to be categorically exempt and there would be no further action requiring environmental review.

Legislative relief (both state and federal) may be one approach for reducing delay inherent in the environmental review process.

If the questions related to the future of the Transbay Terminal are kept independent of the Terminal Separator Structure and focused on the existing transit providers, there should be no direct impact on the TSS environmental process. The schedule for the Transbay Terminal study and environmental review would depend on the scope of the project. A regional transit study which considers the overall future role of rail in San Francisco within the context of the Transbay Terminal would require a significantly longer period of time to complete.
If the decisions regarding the future of the Transbay Terminal are linked to the Terminal Separator Structure and the larger issue of how regional transit service should be accommodated in this area is engaged, significant additional up-front delays to the Terminal Separator Structure and Mid-Embarcadero projects could result.

**POTENTIAL LAND USE OPPORTUNITIES**

The potential removal or downsizing of major transportation facilities in the South of Market area creates significant redevelopment opportunities. The Terminal Separator Structure alone occupies approximately 12.5 acres of property. The Transbay Terminal and its adjacent access ramps occupy approximately 11.5 acres. If all, or a portion of these transportation facilities is removed, there would potentially be up to 24.0 acres of property available for alternative development uses. The amount of land potentially available under each Alternative is shown in Figures 5-9 in very general terms.

Figure 10 shows the current zoning in the vicinity of the two transportation facilities. All properties currently occupied by the Terminal Separator Structure and the Transbay Terminal are zoned P - Public Use Districts. Generally the properties in the area north of Folsom Street have C-3 - Downtown Commercial District zoning designations. The C-3-O or Downtown Office District extends as far south as Clementina Street. The area within the ring of the Transbay Terminal ramps is C-3-O(SD) or Downtown Office Special Development District which allows for transfer of development rights from parcels with buildings subject to Article 11 preservation requirements in addition to the other provisions of the C-3-O District. There are also some clusters of C-3-S - Downtown Support District zoning immediately north of Folsom Street.

The area bordered by the Terminal Separator Structure and the Bay Bridge is a combination of residential zones, RC-4, with special use district provisions for site coverage and sidewalk treatments; public use districts, P; and light industrial, M-1 Districts. The area immediately to the west of the Terminal Separator Structure is zoned SSO - Service/Secondary Office District.

The height designations as shown on Figure 11 range from 200' to 450' north of Folsom Street and from 105' to 250' between the Bay Bridge and Folsom Street. There are height limitations of 80-84' adjacent to the elevated transportation corridors intended to preserve views from those facilities.

The current land uses in this area are predominately office and retail uses and parking facilities, many of which are surface parking lots. There are some scattered industrial and residential uses between First and Second Streets. In addition, the freeway demolition has already left a significant portion of five blocks vacant.

The area in question is an area of changing character and a confluence of the downtown office districts, the Rincon Hill residential area, and the mixed uses of the South of Market District. It is an area that could accommodate additional office and retail space, new housing opportunities, entertainment facilities, and possibly institutional or biotech uses of a moderate
Figure 10
ZONING CLASSIFICATIONS
Figure 11
HEIGHT DISTRICTS
to high density. Development of land use proposals and zoning recommendations should be pursued in conjunction with the development of transportation alternatives to ensure compatibility.

IMPACTS ON THE MID-EMBARCADERO PROJECT

The potential impacts on the schedule of the Mid-Embarcadero Replacement project are a key concern related to the Terminal Separator Structure decision. The current schedule for the Mid-Embarcadero project is summarized below:

<table>
<thead>
<tr>
<th>Event</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of EIR/EIS</td>
<td>1994</td>
</tr>
<tr>
<td>Completion of Design</td>
<td>1996</td>
</tr>
<tr>
<td>Completion of Construction</td>
<td>1998  (surface alternative)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000  (partial underground alternative)</td>
</tr>
</tbody>
</table>

The current Caltrans plans for the Terminal Separator Structure assume that demolition will be completed by September 1993. Reconstruction would begin immediately and be completed in 1996.

If the city and Caltrans jointly agree to stop reconstruction of the Terminal Separator Structure the following scenarios are likely:

- No Replacement Facility - No EIS would be required, no impact on Mid-Embarcadero schedule. This choice could jeopardize the ability for the city to obtain Federal and State ER monies for the Mid-Embarcadero project because of a lack of direct freeway connection to The Embarcadero as stipulated by the CTC for funding eligibility.

- Changes to Caltrans proposed replacement facility - An environmental assessment would be required leading to either a Finding of No Significant Impact (FONSI)/Negative Declaration or a full EIS/EIR, depending on the significance of the impacts created. This could take from 6 months to 2 1/2 years for the Terminal Separator Structure project and could delay the Mid-Embarcadero from 6 months to 2 1/2 years depending on how much additional information is needed from the TSS analysis to address cumulative transportation impacts.

If the questions related to the future of the Transbay Terminal are kept independent of the Terminal Separator Structure, there should be no impact on the Mid-Embarcadero schedule. If the decisions regarding the future of the Transbay Terminal are linked to the Terminal Separator Structure and the larger issue of how regional transit service should be accommodated in this area is engaged, significant additional up-front delays to the Mid-Embarcadero project could result.
The ability to provide some interim relief to current traffic congestion problems figures directly into the decision to forego an immediate replacement of the Terminal Separator Structure and consider potentially more desirable replacement alternatives. While the Department of Parking and Traffic have been adjusting traffic operations in response to problems since the earthquake, there are additional interim improvement measures that have been identified. A description of the projects, the associated costs, and the implementation schedules are listed below:

1. **Harrison Street Signalization** - To enhance north-south routes from the Bay Bridge to the northern waterfront, Chinatown, and North Beach via the Fremont/Harrison off-ramps, a new signal has been installed on Harrison at Main Street as part of the Terminal Separation Structure demolition project. A signal will be added at The Embarcadero as part of the South Embarcadero Roadway project. A new signal should be installed at Spear Street to complete the Harrison Street signalization.

   **Cost** - $150,000 for a new signal and upgrades at the temporary signal at Main Street.

   **Implementation** - Prior to completion of South Embarcadero Project in June, 1994. Funding must be secured.

2. **Improve Destination Guide Signs** - Install enhanced destination and guide signs to and from the freeways.

   **Cost** - $50,000.

   **Implementation** - By December 1993, if funds are available.

3. **"Don't Block the Box" Program** - Re-institute the "Don't Block the Box" program at key downtown intersections to free up gridlock.

   **Cost** - Negligible.

   **Implementation** - In effect now.

4. **Retime Signals** - Signal retiming and interconnection (through time-base coordination) of North of Market, Market Street, and South of Market signal systems to facilitate north-south and east-west traffic flows.

   **Cost** - Negligible, in-house project.

   **Implementation** - Fall of 1993.

5. **5th and 6th Street one-way Couplet** - Implement this one-way couplet to increase north-south traffic capacity.

   **Cost** - Negligible, in-house project.

   **Implementation** - Prior to full reopening of I-280 in 1994.
6. Video Camera Congestion Monitoring - Install video cameras at key intersections to monitor traffic buildup. Transmit images (1 frame/10 seconds) via telephone lines to central traffic control and dispatch parking control officers to move traffic when flow breaks down.

Cost - $50,000 per year including $30,000 for P.C.O.s.

Implementation - Funding application submitted to Transportation Authority for FY 93/94 ISTEA funds.

7. Aggressively enforce parking violations to improve traffic flow.

NEXT STEPS

The following steps are necessary for the city to proceed with the Terminal Separator Structure and Transbay Terminal projects should the Board of Supervisors endorse the Mayor's proposal.

- Obtain Caltrans concurrence to stop the June advertisement for the Terminal Separator Structure replacement project and to proceed with an analysis of transportation alternatives working in conjunction with the city. Caltrans has expressed willingness to delay the advertisement until September 1993 to work with the city in analyzing alternatives. Caltrans must request an extension of the September 1993 deadline for encumbrance of ER funds from the Federal Highway Administration.

- Secure funding for an analysis of transportation and land use alternatives for the Terminal Separator Structure project.

- Undertake a six month study to refine transportation and land use alternatives to be carried forward into environmental review for the Terminal Separator Structure.

- Determine if legislative remedies are available or necessary to earmark ER (or other transportation funds) for a transportation project that would replace the functional connections between the regional transportation system and the local transportation network, but would not be limited to an in-kind replacement of the Terminal Separator Structure.

- Work with Caltrans to establish a process for resolving the Transbay Terminal issues, including a 6 month assessment of transit parameters and land use development potential.