

9. OTHER ALTERNATIVES CONSIDERED

9.1 BART WARM SPRINGS EXTENSION PLANNING HISTORY

In January 1956, Parsons, Brinckerhoff, Hall and MacDonald engineering consultants completed *Regional Rapid Transit: A Report to the San Francisco Bay Area Rapid Transit Commission*, in which an extensive network of rapid rail transit was proposed to connect the growing Bay Area population and employment centers. Although more extensive than the current adopted BART Extensions Plan, this earlier analysis basically identified all of today's proposed BART extensions.

In May 1962, General Engineering Consultants Parsons Brinckerhoff-Tudor-Bechtel completed *The Composite Report: Bay Area Rapid Transit* for the San Francisco Bay Area Rapid Transit District. This document once again presented proposed rapid rail transit lines for the Bay Area, although it did not cover as extensive an area as the 1956 report. The eventual 71.5-mile BART system that began operating in 1974 was identified at this time as the "First Stage Program", with "Possible Future Extensions" delineating the currently proposed extensions to Antioch, Livermore, Warm Springs (Fremont), San Mateo County (including San Francisco Airport), and Santa Clara County.

In February 1979, as part of the *BART/Metropolitan Transportation Commission (MTC) Long Range Transit Development Project*, the BART Board of Directors endorsed preparation of the *Warm Springs Extension Study* to investigate a possible future BART extension south of the existing Fremont Station. The purpose of this study was to identify acceptable alignments and potential station locations. The study was conducted by BART and coordinated with the City of Fremont, MTC, and affected public and private utilities including the San Francisco Water Department, Southern Pacific Transportation Company (SPTCo) and Union Pacific (Western Pacific) Railroad (UPRR), and the Alameda County Flood Control and Water Conservation District.

The Warm Springs Extension Study focused on four basic issues as a means of identifying potentially acceptable route alignments and station sites:

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- The relationship of a BART line to Fremont Central Park
- Local roadway grade-separation plans
- Potential station sites and local planning goals
- The relationship of a BART line to the existing Southern Pacific/Union Pacific Railroad corridor

Several potential alternative route alignments and station locations were identified and evaluated based on the above four issues, planning and engineering assessments, impact criteria and local planning objectives.

In November 1980, at the conclusion of the Warm Springs Study and after two public meetings discussing the results, the City of Fremont endorsed the concept of a possible future BART extension to Warm Springs. At that time the City Council passed Resolution No. 4958, establishing the City's preference on certain issues relating to the future extension. Among the various provisions of the Council resolution, the City established that only the "subway direct" alignment through Central Park was in conformance with the General Plan, that the "minimum and extended" depressed rail corridor plans were in conformance with the General Plan, and that all three proposed station locations (Washington, Grimmer, and Mission Boulevards) were in conformance with the General Plan. The Washington and Grimmer station locations are the same as the proposed Irvington and Warm Springs station sites in the Proposed Project.

In February 1981, after considering the complete findings of the City of Fremont concerning the Warm Springs Extension, the BART Board of Directors, in passing Resolution No. 2850, "In the matter of Adopting a Preferred Route Alignment for the Warm Springs Extension," identified a proposed project by adopting a preferred route alignment for a two-station BART extension along a subway direct alignment through Fremont Central Park and then proceeding along the existing railroad corridor within an extended depressed alignment through the Irvington District. The BART Board also selected Washington Boulevard and Mission Boulevard as the preferred locations for future extension stations.

Since BART Board identification of a proposed project for the Warm Springs Extension, corridor evaluations have continued in the mid-to-late 1980s during Phase I and Phase II of the Fremont-South Bay Corridor Study. The purpose of these studies was to investigate transportation alternatives which would have the potential to improve transportation connections

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between southern Alameda County and Santa Clara County. Led by MTC in this effort, representatives of BART, the SCCTD and the cities of Fremont, Milpitas, San Jose, Santa Clara, Sunnyvale and Mountain View investigated several potential highway and transit improvements that could be included in a federal Urban Mass Transportation Administration (UMTA) Alternatives Analysis/Environmental Impact Statement (AA/EIS) for detailed evaluation. A primary list of recommended improvements involving a BART extension from Fremont to downtown San Jose and Santa Clara, extensions of the Guadalupe LRT system west to Sunnyvale and Mountain View and east to Milpitas, and potential Express Bus/HOV lanes were presented to UMTA for consideration.

Ultimately, UMTA determined that the proposed BART and LRT alternatives did not satisfy the necessary federal cost-effectiveness threshold requirements for final analysis. Only the Milpitas to Lockheed portion of the LRT extension would have qualified for federal evaluation in an UMTA-sponsored Alternatives Analysis/DEIS/DEIR.

In December 1988, the Fremont-South Bay Corridor Study Policy Committee composed of representatives from MTC, BART, SCCTD and Caltrans, agreed that the Santa Clara County Transit District (SCCTD) and MTC would continue with preparation of an UMTA-sponsored Alternatives Analysis/DEIS/DEIR on the LRT extension east of Milpitas and west to Lockheed. An EIR, under California law, would be prepared for a BART Warm Springs Extension.

In May 1990, BART issued a Draft Environmental Impact Report with a two station proposed project and a three station alternative. Several comments on the Draft EIR suggested that additional alternatives should be considered; consequently the proposed project was redefined. Eleven alternatives were identified along with a number of design options encompassing a number of station configurations and alignment alternatives. This Draft EIR evaluates the three-station Proposed Project and eleven alternatives.

Table 9-1 identifies the studies and major planning milestones which led to the definition of the proposed Warm Springs Extension project and the alternatives considered in this Draft Environmental Impact Report. Alternatives previously considered are discussed below.

9. Other Alternatives Considered

**Table 9-1
Chronology of Alternatives Studies and Planning Milestones**

1956	Regional Rapid Transit: A Report to the San Francisco Bay Area Rapid Transit Commission
1956	BART Commission Report to Legislature
1962	The Composite Report: Bay Area Rapid Transit for the San Francisco Bay Area Rapid Transit District
1978	BART/Metropolitan Transportation Commission (MTC) Long Range Transit Development Project
1979	BART Warm Springs Extension Study
1980	BART Board adopts first Extension Staging Policy
1980	City of Fremont establishes the City's preference on issues pertaining to the Warm Springs Extension (Resolution No. 4958)
1981	BART Board adopts a preferred alignment and station locations for the Warm Springs Extension (Resolution No. 2850)
1984	MTC establishes a New Rail Transit Starts and Extensions Program for the region (Resolution No. 1367)
1985	Fremont-South Bay Corridor Study - Phase I
1985	BART Warm Springs Station Traffic Analyses
1986	Fremont-South Bay Corridor Study - Phase II
1988	State law requires BART to begin construction of the Warm Springs Extension by December 31, 1991 (SB 1715 Boatwright/Chapter 1259 of 1988)
1989	BART Board gives formal direction to proceed with the Warm Springs Extension EIR.
1990	Initial Warm Springs Extension Draft EIR and Preliminary Engineering
1991	Expanded list of alternatives and completion of Warm Springs Extension Draft EIR.

9.2 ALTERNATIVES CONSIDERED

9.2.1 MODE AND ALIGNMENT ALTERNATIVES

In 1984-85, Phase I of the Fremont-South Bay Corridor Study was undertaken. This study under the auspices of the MTC was conducted as a joint study by MTC, BART and SCCTD. A policy committee composed of elected representatives from each participating organization and Caltrans directed the study.

The purpose of the Phase I, Systems Planning Study was to investigate a wide range of potential alternatives for providing public transportation connectivity between Fremont and Santa Clara county. The study conformed to the basic procedures outlined for a UMTA-sponsored Alternatives Analysis/Environmental Impact Statement (AA/EIS) process.

A total of 35 transportation alternatives were originally considered from the following list of mode choices:

- No Action (existing and programmed improvements)
- TSM (Transportation Systems Management)
- Express Bus
- Busway
- LRT (Light Rail Transit)
- BART
- Mixed Modes
- CalTrain
- Highway

Each of the proposed transportation alternatives were initially screened by the Corridor Study Technical Advisory Committee to determine infeasible or clearly inferior alternatives. This screening process eliminated 15 of the original 35 alternatives.

The reasons for rejection of alternatives were based on the following criteria:

- An inability to create an effective transportation linkage (connectivity) due to the presence of a physical constraint

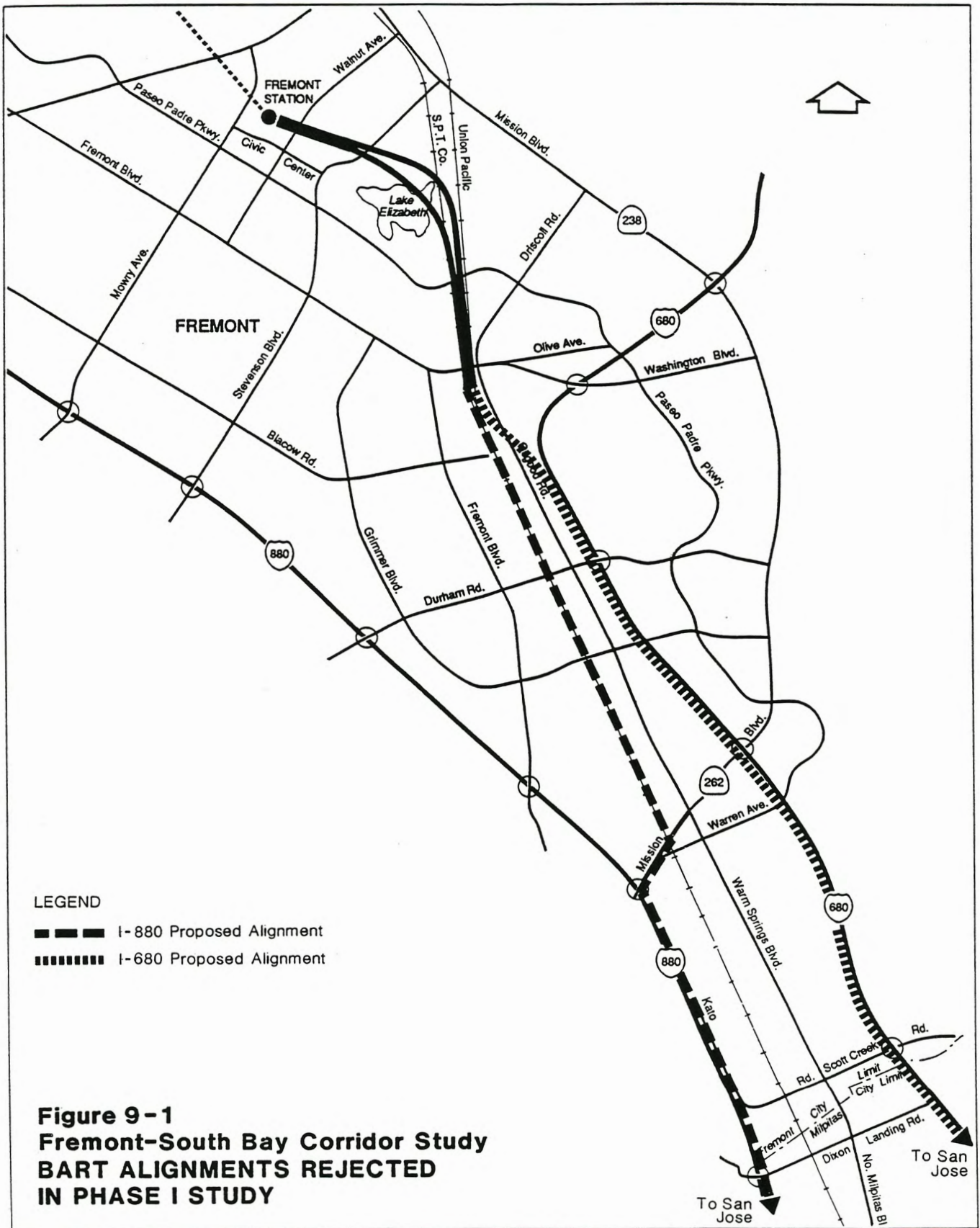
9. Other Alternatives Considered

- A cost associated with either an element of an alternative, or the alternative as a whole, which makes it clearly more costly than a similar alternative
- Very low patronage projections compared to the other mode choices
- A major negative impact on current or planned land uses

Among alternatives that were rejected at this time were BART alignments on either I-680 or I-880 in preference to using the railroad corridor mid-way between the freeways due to right-of-way constraints along the freeways and patronage estimates that indicated that the more central alignment would draw more riders (see Figure 9-1). This decision by the Technical Advisory Committee was reviewed and accepted by the Policy Committee.

The remaining "long list" of 20 mode alternatives was further screened, based on significant differences among alternatives and trade-offs involved in choosing one alternative over another. The Policy Committee rejected an LRT alignment adjacent to I-680 from the Irvington District to Milpitas in favor of the rail corridor based on several evaluation criteria including limitation of right-of-way, cost and directness of travel. This screening resulted in the following "short list" of nine alternatives which was the product of the Phase I Fremont-South Bay Corridor Study:

- No Action (existing and programmed improvements)
- TSM (general low-cost highway and transit improvements)
- Express Bus (Fremont to the San Jose Region)
- LRT (Fremont south to Milpitas, then west along Tasman to Sunnyvale/Mountain View or via the Lawrence Expressway)
- BART (Fremont south to downtown San Jose via the Southern Pacific or Union Pacific Railroad corridors)
- BART (Fremont south to Milpitas at Tasman or Route 237, then west to Sunnyvale/Mountain View)



SOURCE: DKS Associates, 1991

Not to Scale

9. Other Alternatives Considered

- BART/LRT (BART south to Warm Springs at Mission; LRT south from Warm Springs to Milpitas at Tasman, then west to Sunnyvale/Mountain View)
- BART/LRT (BART south to the Alameda County Line; LRT south from the County Line to Milpitas at Tasman, then west to Sunnyvale/Mountain View)
- BART/LRT (BART south to Milpitas at Tasman; LRT east to Milpitas and west to Sunnyvale/Mountain View)

After Policy Committee concurrence, a Fremont South-Bay Corridor Study - Phase I Final Report was prepared and sent to the Urban Mass Transportation Administration (UMTA) for review and approval. In mid-1985, after acceptance of the Phase I Final Report, UMTA granted permission to begin Phase II of the Fremont South-Bay Corridor Study. During this phase of the alternatives analysis, more detailed evaluation and public participation helped technical staff and the Policy Committee to reduce the number to five primary alternatives for final analysis which included BART and the Tasman LRT in a major dual mode alternative.

Following the preliminary evaluation process, the remaining five alternatives utilizing the rail corridor and either LRT or BART modes were evaluated as to a variety of factors including: connectivity (mode linkage), right-of-way impacts, patron access, ridership potential, capital costs, operating costs and revenues, travel time, and overall implementation issues.

As the detailed analysis progressed on these five primary alternatives, UMTA determined that alternatives including BART were too expensive and did not satisfy the necessary federal cost-effectiveness threshold requirements for final analysis. Only a segment of the proposed LRT extension (Milpitas to Lockheed) qualified for continued federal analysis.

During 1987-1988, as a result of UMTA's decision to terminate further federal involvement in the corridor study as the alternatives were currently structured, the Policy Committee reached consensus about how to proceed with the corridor study. The Committee determined that LRT should continue to be studied in the Milpitas-to-Lockheed and Sunnyvale/Mountain View corridor (Tasman Corridor) under the federal Alternatives Analysis/EIS process, and BART should continue to be studied in the Fremont-to-San Jose/Santa Clara corridor. In late 1988 the Policy Committee formally restructured the overall corridor study to provide for continued analysis of BART and LRT alternatives in three specific project elements:

9. Other Alternatives Considered

- BART Warm Springs Extension EIR - a BART extension project within the BART District and consistent with the MTC regional New Rail Transit Starts and Extensions Program
- Tasman Corridor Alternatives Analysis/DEIS/DEIR - a multimodal corridor analysis considering TSM, Express Bus/HOV Lanes, and Light Rail Transit between Milpitas and Mountain View/Sunnyvale under Federal UMTA guidelines and participation. The lead agency for the study is MTC, the sponsoring agency is Santa Clara County Transportation Agency.
- Santa Clara BART Extension Alignment Study - a corridor identification project for a possible future, out of the BART District, BART extension within Santa Clara County. This Study effort is far more preliminary and conceptual than the other two projects with a time horizon for implementation after the turn of the century.

9.2.2 WARM SPRINGS EXTENSION ALIGNMENT ALTERNATIVES

The 1979 BART Warm Springs Extension Study identified and evaluated three potential southeasterly route alignments through Fremont Central Park (similar to those discussed for the Proposed Project):

- An "aerial direct" alignment through Fremont Central Park and over Lake Elizabeth
- A "subway direct" alignment through Fremont Central Park and under Lake Elizabeth
- An "aerial indirect" alignment around all but one corner of Fremont Central Park

Alignment alternatives were also evaluated for a minimum depressed rail corridor (3,800 feet) and an extended depressed rail corridor (9,300 feet) between Washington Boulevard and Durham Road.

Before these alternative alignments were selected for evaluation, consideration was given to a southwesterly aerial alignment across the western edge of Central Park and along Paseo Padre Parkway before entering the railroad corridor. This preliminary alternative was eliminated from further consideration because the alignment would interfere with future planned park facilities, and because extensive residential displacement would be unavoidable between Paseo Padre Parkway and the railroad corridor. Since then, the Fremont Main Library complex has been constructed on the western edge of Central Park in the path of the potential south westerly

9. Other Alternatives Considered

aerial alignment, and the residential area between Paseo Padre Parkway and the railroad corridor has increased in housing density.

The alternative alignments were evaluated considering a number of criteria including land-use compatibility, community circulation, station access, construction disruption, displacement, noise, visual aesthetics, travel accommodation, air quality and energy use. As noted earlier in the planning history, both the Fremont City Council and BART Board of Directors adopted resolutions supporting the extension and their alignment preferences.

During the Fremont-South Bay Corridor Study (1984-1985), the aerial indirect alignment around Central Park was eliminated from further consideration by the Policy Committee because this alignment did not meet BART operational criteria which requires a minimum 50 mph turning radius. The alignment also would have interfered with the existing golf driving range in Central Park.

9.2.3 WARM SPRINGS EXTENSION STATION ALTERNATIVES

The 1979 BART Warm Springs Extension Study identified and evaluated four potential station sites (see Figure 9-2):

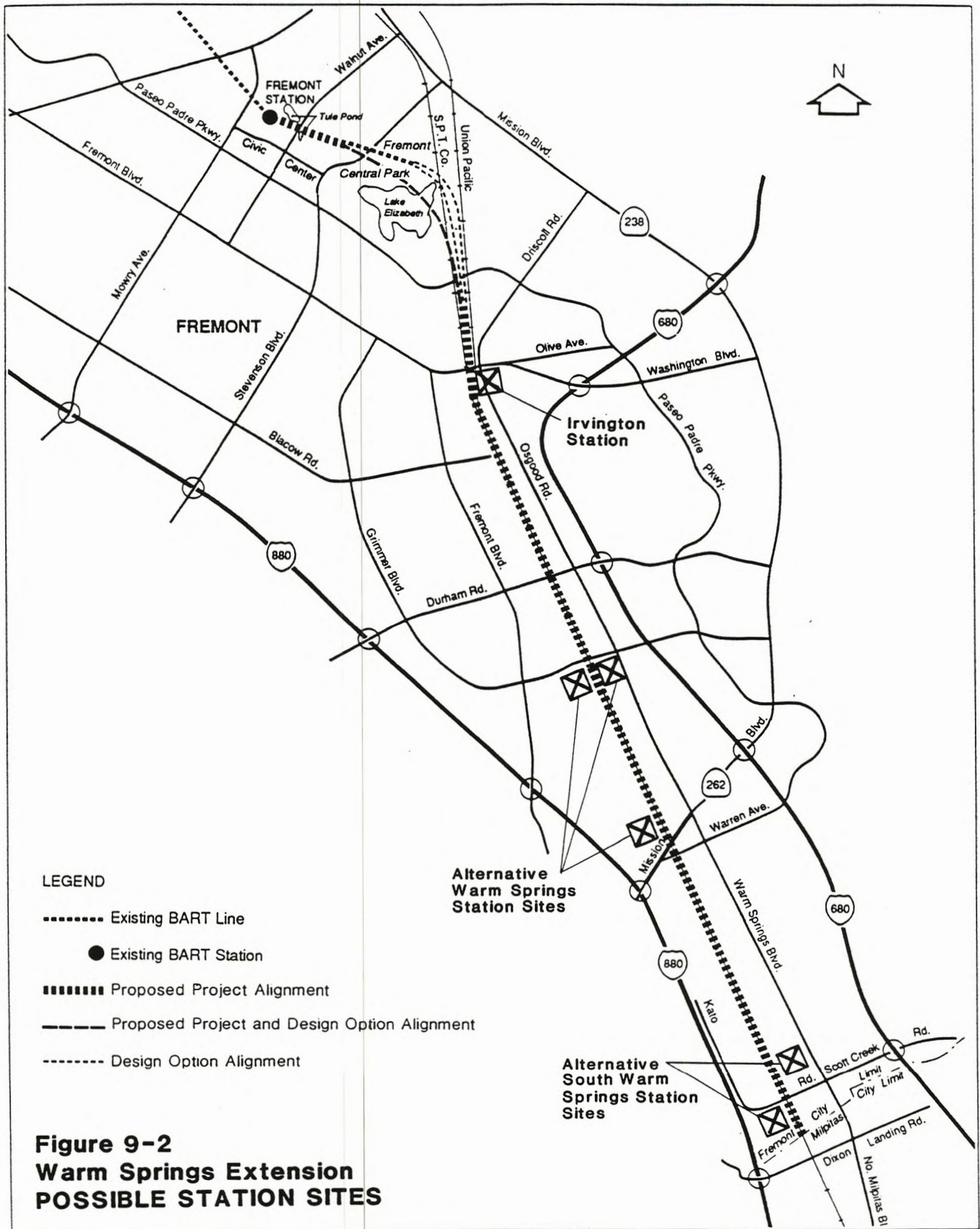
- Washington Boulevard (Irvington Station)
- Grimmer Boulevard (Warm Springs Station)
- Mission Boulevard (Warm Springs Station)
- Scott Creek/Kato Road (South Warm Springs Station)

The following discusses the process of identification of each proposed station location.

Irvington Station (Washington Boulevard)

The Irvington Station site was identified in the City of Fremont's General Plan in order to:

- Provide the residents of Irvington and Mission San Jose with better accessibility to the rapid transit system
- Provide a station location which could readily be served by a local public transit system



SOURCE: DKS Associates, 1991

Not to Scale

9. Other Alternatives Considered

- Provide an impetus for the redevelopment of the older commercial area of central Irvington.

The station was viewed as being consistent and compatible with the City's land use goals when the BART Warm Springs Extension Study was initiated in 1979. There has been no change in City of Fremont or BART policy concerning the location of the future Irvington Station. As discussed in Section 3.6 Land Uses and Economic Activity, an Irvington BART Station Concept Plan has been developed by the City of Fremont in March 1990 to guide the development of the Irvington BART station.

Warm Springs Station (Grimmer/Mission Boulevard)

The 1979 BART Warm Springs Extension Study identified sites at both Grimmer Boulevard and Mission Boulevard as possible locations for the Warm Springs Station.

In December 1985, BART prepared station traffic analyses on the proposed Mission Boulevard site and on two potential Grimmer Boulevard sites. The results of those studies indicated that either of the two potential Grimmer Boulevard sites would provide better vehicle access for a BART Warm Springs Station than the Mission Boulevard site, and that either of the Grimmer Boulevard sites were equally adequate in accessibility. A total of six evaluation criteria were considered, including: distance to freeways, railroad track crossing restrictions, interchanges likely to be used, overall accessibility, traffic congestion near site and cost of potential improvements. Based on the evaluation results, the Mission Boulevard site was rejected by the BART Board of Directors from further consideration due to severely restricted access, restrained by limited freeway access and by traffic congestion caused by railroad related closures of Warren Avenue and by increased traffic volumes on already congested highways.

South Warm Springs Station (Scott Creek/Kato Road)

A potential Scott Creek/Kato Road station location was evaluated in the 1979 Warm Springs Extension Study for a third extension station. During the Fremont-South Bay Corridor Study (1984-1988) a potential third station site also was identified in North Milpitas at Dixon Landing Road (see Figure 9-2). That station site was subsequently dropped from further consideration by the Policy Committee when the proposed station site was approved for residential development by the Milpitas City Council and the South Warm Springs Station site at Kato Road and Scott Creek Road was substituted. Subsequently, the proposed station site has been developed as a residential community and neighborhood park.