AC Transit Berkeley/Oakland/ San Leandro Corridor MIS

Summary Report

prepared for

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1.0 Executive Summary

Over a two-year period from 1999 to 2001, the Alameda-Contra Costa Transit District (AC Transit) conducted a Major Investment Study (MIS) to examine the feasibility of providing a new or improved transit service in the Berkeley/Oakland/San Leandro corridor. This MIS had three main purposes:

1. To understand the transit needs and market opportunities for improved service in the corridor;

2. To identify and evaluate a range of potential transit improvements in the corridor that address these needs and opportunities; and

3. To build broad public, community and agency support for a recommended alternative, with the eventual goal of implementing a major upgrade to transit service in the corridor.

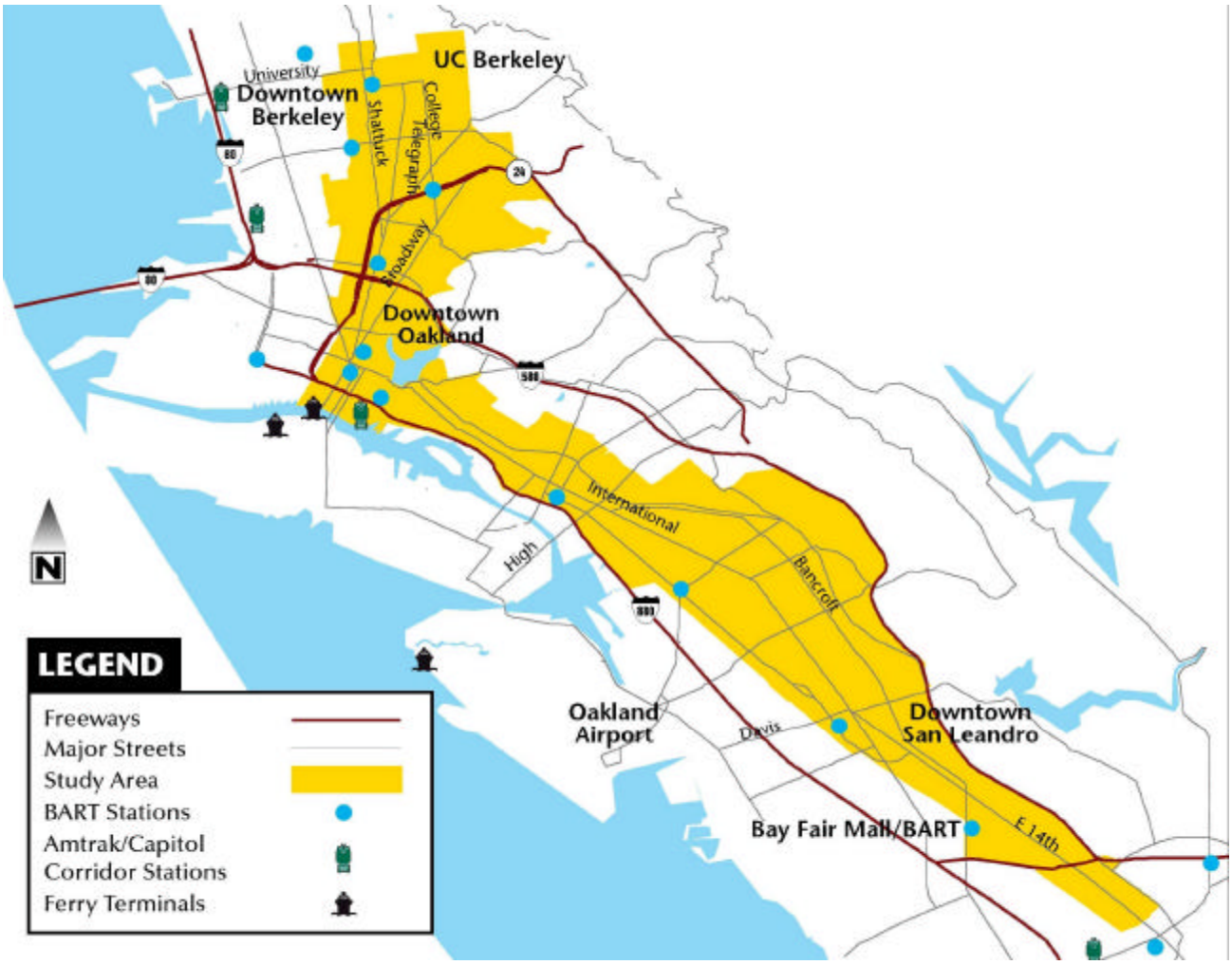
This summary report highlights the key information and recommendations developed during this study.

The Berkeley/Oakland/San Leandro corridor stretches approximately 18 miles from downtown Berkeley and the University of California at Berkeley at the northern end through much of Oakland including downtown Oakland to San Leandro at the southern end (see Figure 1.1). Buses in this corridor currently carry 40,000 riders a day[1] – nearly 20 percent of AC Transit's total ridership and roughly the number of passengers carried by many light rail systems in California.

The corridor is home to 320,000 people and consists of the dense urban core of cities ringing the eastern shore of San Francisco Bay. The corridor is centered on downtown Oakland, the East Bay's largest city. Downtown Oakland provides work to 70,000 people and is continually adding new jobs and residences. The corridor is anchored in the north by the University of California at Berkeley, host to 31,000 students and 19,000 employees. An additional 13,000 employees work in downtown Berkeley and in areas near the university. South of downtown Oakland, one-third of the corridor passes through some of the densest residential neighborhoods in the entire San Francisco Bay Area, often exceeding 25,000 persons per square mile. The southern end of the corridor is anchored at the Bay Fair Bay Area Rapid Transit (BART) station, a major transfer station for three BART lines and seven local bus routes. This station also serves the Bay Fair Mall, a regional shopping mall.

[1] Routes 40, 40L, 43, 51, 51A and 51M between downtown Berkeley and downtown Oakland plus routes 82 and 82L between downtown Oakland and Bay Fair BART. Figures based on AC Transit September 1998 driver counts and fall 1997 - winter 1998 boarding and alighting surveys.

Figure 1.1 Corridor Study Area



The four major accomplishments of the study were:

1. Defining the service objectives for the potential new transit service in the corridor;

2. Identifying the best alternatives to evaluate for the corridor;

3. Evaluating the relative benefits and costs of the selected alternatives; and

4. Selecting a recommended alternative for the corridor.

Each of these accomplishments was achieved with substantial input and guidance from technical staff from key stakeholder agencies, leaders of community-based organizations, the general public and elected officials.[2]

[2] The project's Technical Advisory Committee included technical staff from the Cities of Berkeley, Oakland and San Leandro, the County of Alameda, the Alameda County Congestion Management Agency, the Metropolitan Transportation Commission, the California Department of Transportation

1.1 Service Objectives

The rank-ordered service objectives for the project were developed during the early part of 2000 and recommended by the project's Policy Steering Committee in March 2000 (see Table 1.1). These objectives describe what AC Transit and its partner cities of Berkeley, Oakland and San Leandro are trying to accomplish with the project.

Table 1.1 Service Objectives[3]

1. Improve access to major employment and educational centers and enhance connections to other AC Transit services, BART, ferry services and other transit providers;
2. Improve transit service reliability;
3. Provide frequent transit service;
4. Ensure security, cleanliness and comfort waiting for and riding on transit;
5. Support transit-oriented residential and commercial development;
6. Increase the percentage of trips made by transit, and reduce the percentage by automobile;
7. Identify a set of transit improvements that has a high probability of being funded;
8. Improve ease of entry and exit on vehicles for all transit riders, including persons with disabilities; and
9. Provide an environmentally friendly transit service that contributes to air quality improvement.

1.2 Alternatives

The six best alternatives for meeting the service objectives were developed during the summer of 2000, reviewed and recommended by the Policy Steering Committee in September 2000, and approved by the AC Transit Board of Directors in October 2000.

The six alternatives result from combining three vehicle/operations technology options with two alignment options (see Table 1.2). Under all six alternatives, the alignment extends from downtown Berkeley to Bay Fair Mall/BART and uses International Boulevard/East 14th Street in the southern portion of the corridor (see Figure 5.4 for a map of the southern alignment).

(Caltrans), the Federal Highway Administration, the Federal Transit Administration, the Bay Area Rapid Transit District (BART) and the University of California. The project's Policy Steering Committee included elected officials from the Cities of Berkeley, Oakland and San Leandro, the County of Alameda, the Metropolitan Transportation Commission and selected AC Transit Board members.

[3] For more details on the development of the service objectives, see Section 4.0 of *Final Report Volume 2: Development of Alternatives*.

In addition, including new service to the Jack London District and the Oakland Amtrak/Capitol Corridor Station was considered.[4]

These six alternatives were developed by examining a wide range of potential alignment and vehicle/operations technology options and then screening these based on an analysis of market potential and the ability to meet the service objectives.

Table 1.2 Transportation Alternatives[5]

	Vehicle and Operations Technology	Northern Alignment	Southern Alignment
1	Light Rail Transit (LRT)	Telegraph	International/E 14th
2	Bus Rapid Transit (BRT)	Telegraph	International/E 14th
3	Enhanced Bus	Telegraph	International/E 14th
4	Light Rail Transit (LRT)	College/Broadway	International/E 14th
5	Bus Rapid Transit (BRT)	College/Broadway	International/E 14th
6	Enhanced Bus	College/Broadway	International/E 14th

[4] During the development of alternatives portion of the study, two alignment options were identified for the downtown Oakland portion of the corridor. These were called Jack London Service and North-South Through Service. Early in the evaluation of alternatives portion of the study, AC Transit and its partner cities determined that the operational details for getting through downtown Oakland, such as which exact streets to use and how the transfers should work, should be dealt with in a future Phase II study. The key question to answer in the Phase I MIS with respect to this option is whether the proposed new corridor transit service should include the Jack London District and the Oakland Amtrak/Capitol Corridor Station.

[5] For more details on the development of the alternatives, see Sections 4.0 and 5.0 and *Final Report Volume 2: Development of Alternatives*.

1.3 Evaluation

A detailed engineering, environmental, ridership and financial evaluation was performed on the six selected alternatives during late 2000 and presented to technical staff, community leaders, the general public and elected officials. A summary of this evaluation is shown in Tables 1.3 and 1.4.[6]

Table 1.3 Enhanced Bus Vs. BRT Vs. LRT

	3rd Best	2nd Best	Best
Travel Time	**Enhanced Bus**		**BRT/LRT**
Service Reliability	**Enhanced Bus**		**BRT/LRT**
Security, Comfort	**Enhanced Bus**		**BRT/LRT**
Intensified Land Use	**Enhanced Bus**	**BRT**	**LRT**
Ridership	**Enhanced Bus**	**BRT**	**LRT**
Capital Cost	**LRT**	**BRT**	**Enhanced Bus**
Operating Cost	**LRT**	**BRT**	**Enhanced Bus**
Parking	**LRT**	**BRT**	**Enhanced Bus**
Traffic	**LRT**	**BRT**	**Enhanced Bus**
Construction	**LRT**	**BRT**	**Enhanced Bus**

Table 1.4 Telegraph Vs. College/Broadway

	2nd Best	Best
Travel Time	**College/Broadway**	**Telegraph**
Service Reliability	**College/Broadway**	**Telegraph**
Ridership	**Telegraph**	**College/Broadway**
Capital Cost	**College/Broadway**	**Telegraph**
Traffic	**College/Broadway**	**Telegraph**
Construction	**College/Broadway**	**Telegraph**

[6] For more details on the evaluation of the alternatives, see Section 6.0 and *Final Report Volume 3: Evaluation of Alternatives*.

1.4 Recommended Alternative

Based on this evaluation and extensive input from leaders of community-based organizations, the general public and elected officials, a recommended alternative was selected by the Policy Steering Committee on 11 July 2001 and approved by the AC Transit Board of Directors on 2 August 2001.[7]

RECOMMENDED TECHNOLOGY

Bus Rapid Transit was recommended as the preferred vehicle and operations technology for the corridor, with the understanding that LRT should be considered as a long-term goal. The BRT system would be designed to maximize the ease of potentially upgrading to LRT in the future. The BRT system would include the following features:

- Special transit lanes dedicated to BRT along most of the corridor;
- Traffic signal priority and coordination throughout the corridor;
- Frequent BRT service with a background local service (5 to 7.5 minutes between BRT buses);
- Wider BRT station spacing than existing bus service (1/3 to 1/2 mile between BRT stations);
- Well-developed BRT stations including shelters, boarding platforms, benches, security features, fare machines, real-time bus arrival information and other amenities;
- Proof-of-payment ticket validation; and
- Low-floor, multi-door, level-boarding, low-emission BRT buses.

Recognizing that implementing the full BRT program would take several years and several regional funding cycles to complete, the Policy Steering Committee recommended and the AC Transit Board of Directors agreed to implement selected elements of the Enhanced Bus alternative quickly. Features such as bus priority at traffic signals, bus stop improvements and redesigned bus routes would benefit corridor riders sooner while putting in place many of the elements needed in the eventual BRT system.

RECOMMENDED ALIGNMENT

The recommended alignment would primarily use Telegraph Avenue in the northern portion of the corridor and International Boulevard/East 14th Street in the southern portion (see Figure 1.2).

The recommended alignment would begin in the north near the downtown Berkeley BART station. From there, it would proceed south along Shattuck Avenue, then east using the Bancroft Way/Durant Avenue one-way couplet. At Telegraph Avenue, the alignment would turn south and follow Telegraph Avenue until reaching downtown Oakland. The alignment would include a deviation into the MacArthur BART station. In downtown Oakland, the

[7] For a copy of the resolution passed by the AC Transit Board of Directors, see Section 9.0 of *Final Report Volume 3: Evaluation of Alternatives*.

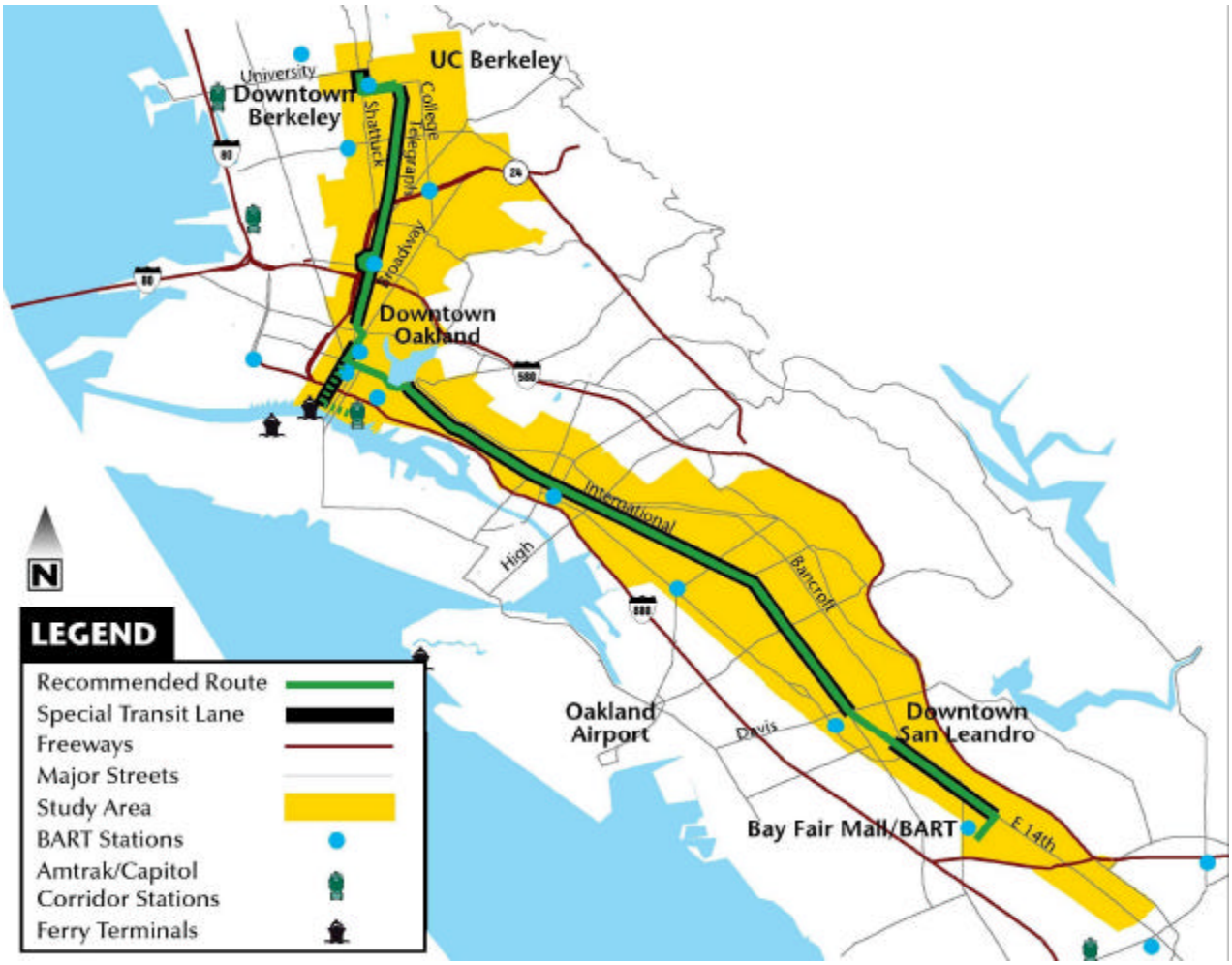
alignment would switch to Broadway between Grand Avenue and 15th Street, and then follow Broadway to Oakland's City Center. Heading southeast, the alignment would leave downtown Oakland using a subset of streets between 10th and 14th Streets. The alignment would proceed southeast along International Boulevard and East 14th Street through Oakland and San Leandro. The alignment could include a deviation into the San Leandro BART station. The alignment would proceed through the Bay Fair Mall area and terminate at the Bay Fair BART station.

The recommended alignment would include service to the Jack London District and the Oakland Amtrak/Capitol Corridor Station. The details of how to provide this service will be considered in preliminary engineering and environmental review.

To provide fast, reliable BRT service, a special transit lane would be provided along most of the alignment. This includes the portions of the alignment on Shattuck Avenue; Telegraph Avenue; Broadway; International Boulevard; East 14th Street between the Oakland/San Leandro border and Davis Street; and East 14th Street between San Leandro Boulevard and Bay Fair Drive. To make this possible, the segment of Telegraph Avenue between Dwight Way and Bancroft Way near the University of California could be converted to a transit and pedestrian mall, permitting deliveries but with limited auto access.

Many details of the recommended alignment will be determined in the course of preliminary engineering and environmental review. These include, but are not limited to, the precise alignment in the downtown areas of Berkeley, Oakland and San Leandro and how to reconfigure automobile traffic patterns and maintain auto access in the portion of Telegraph Avenue near the University of California at Berkeley.

Figure 1.2 Recommended Alignment



2.0 Purpose and Need

BETTER ACCOMMODATE HIGH EXISTING BUS RIDERSHIP

The corridor under study encompasses some of AC Transit's most heavily used bus routes and some of the highest employment and residential densities in the East Bay. Today, there are over 40,000 boardings per day in the corridor – more than the Santa Clara County or Sacramento LRT systems. Bus Route 82/82L on International Boulevard/East 14th Street carries 22,600 riders a day and is one of the most heavily used bus routes in the entire Bay Area. The bus routes in the corridor frequently operate with standing loads during both peak and off-peak periods. This occurs despite six-minute headways and the use of the largest buses in AC Transit's fleet.

IMPROVE SPEED AND RELIABILITY OF LOCAL TRANSIT SERVICE

The average speed of buses in the AC Transit service area has declined at a rate of 1 percent per year for the last two decades. Buses currently average only 11 miles per hour in revenue service. In the study corridor, it currently takes up to 100 minutes to travel the 18 miles from Berkeley to San Leandro. Heavy passenger loading combined with steadily worsening traffic conditions has eroded schedule reliability, reduced travel speeds and increased operating costs on many of the corridor trunk lines.

BETTER SERVE MAJOR TRAVEL MARKETS

A key objective of the project is to improve access to important employment and educational centers in the East Bay. A large travel market of 255,000 daily trips is projected in 2020 trying to reach major employment centers and educational institutions in the East Bay, including downtown Oakland, the University of California at Berkeley, downtown Berkeley, downtown San Leandro and others. Of these 255,000 total weekday trips, 115,000 could be better served by a new AC Transit corridor service when compared to existing BART or AC Transit service. With an investment in improved corridor service, these trips would experience more direct, faster transit service than they do today. Key employment centers in the East Bay are projected to have 140,000 jobs in 2020. In addition, there are over 70,000 students enrolled at the University of California at Berkeley, Laney College, and the public high schools, junior high schools and middle schools in the corridor. All these institutions are located in dense, built-up urban areas where the public and private costs of expanding roadways or parking are prohibitive. Investment in transit service to these locations helps improve the efficiency of the roadway and transit networks and reduces the need for parking.

REDUCE AUTO USE AND CONGESTION

The project is intended to provide a viable alternative to driving in the East Bay. To succeed in attracting those who currently drive, transit service must be reliable and time-competitive. Current mixed-flow bus operation compromises both speed and reliability, thus limiting the attractiveness of transit as an alternative for people that drive or have other choices. Improving transit service reliability and speed—as well as improving passenger comfort and security while riding on and waiting for transit, providing real-time vehicle arrival information, and offering proof-of-payment ticket validation—would help make transit a viable and competitive alternative to the private car for travel in the corridor.

CONTRIBUTE TO TRANSIT-ORIENTED DEVELOPMENT

The project is intended to take advantage of existing transit-supportive land use patterns and also help spur new development and redevelopment efforts. Downtown Oakland, in the center of the corridor, has around 70,000 jobs. The neighborhood of East Oakland, which accounts for about one-third of the corridor, has a population density greater than 25,000 persons per square mile. The remaining two-thirds of the corridor in the north and south has population densities between 11,000 and 18,000 persons per square mile. The corridor is already a strong market for transit, both for AC Transit's local bus service and for the regional rail service provided by the Bay Area Rapid Transit District (BART). Building upon strong existing transit-supportive land use patterns, the cities of Berkeley, Oakland and San Leandro are attempting to redevelop these areas using the transit-supportive model. The improved service is intended to focus and catalyze redevelopment efforts along Telegraph Avenue, International Boulevard/East 14th Street, and in each of the downtowns. Providing quality transit service could assist this development by providing nodes for concentrated activity, better access for those seeking local jobs or services and, for those living in these areas, better access to regional job, education, and service markets.

FURTHER ENVIRONMENTAL JUSTICE

The corridor under study is primarily an inner city route that serves densely-populated neighborhoods. The local residents rely more heavily on public transit and make shorter trips than their suburban neighbors. This makes them attractive transit customers. They ride transit frequently and can be served relatively efficiently.

The population in the corridor has a 50 percent greater proportion of non-white residents and twice the proportion of persons living in poverty compared to the AC Transit service district as a whole. Transit investment in this corridor would contribute to improved mobility for area residents and greater access to jobs.

3.0 Corridor Description

The Berkeley/Oakland/San Leandro corridor stretches approximately 18 miles from downtown Berkeley to the University of California at Berkeley to downtown Oakland to San Leandro (see Figure 1.1). The corridor under study encompasses large portions of Berkeley, Oakland and San Leandro as well as portions of the unincorporated area of Ashland between San Leandro and Hayward.

Of the 14 major employment centers in the cities of Berkeley, Oakland and San Leandro, 12 are in this corridor (see Table 3.1). These 12 are projected to have 140,000 jobs in the year 2020.

Table 3.1 Major Employment Centers in Berkeley, Oakland, San Leandro[8]

Major Employment Center	In Corridor	2020 Jobs	Jobs per Acre
Oakland City Center	✓	31,000	230
Kaiser Center, Uptown District	✓	23,100	140
San Leandro Industrial		22,300	8
UC Berkeley	✓	19,000	43
Oakland Airport Area		18,400	10
West Berkeley		14,600	27
Alameda Point (proposed)		14,600	14
Downtown Berkeley	✓	13,600	38
Chinatown, Old Oakland	✓	9,500	89
Jack London District	✓	9,400	39
County Bldgs, MetroCenter, Laney College	✓	9,200	49
Summit Medical, S Auto Row	✓	8,900	35
Downtown Hayward		7,000	23
Downtown San Leandro	✓	4,200	26
Elmwood, Alta Bates	✓	3,800	29
Telegraph Ave Strip	✓	3,500	34
Bay Fair Mall Area	✓	2,500	40
Highland Medical Area		2,000	31

[8] This table ranks all 14 major employment centers in Berkeley, Oakland and San Leandro with at least 25 jobs per acre. For comparision, the table also shows San Leandro Industrial, the Oakland Airport Area, downtown Hayward and the proposed development in Alameda Point. Alameda Point employment is based on a square footage per employee estimate from Hausrath Economics Group and proposed square footage information from the Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Alameda and the Fleet and Industrial Supply Center, Alameda Annex and Facility, Engineering Field Activity, West Naval Facilities Engineering Command. Employment for other employment centers is based on ABAG Projections 1998, adjusted by Hausrath Economics Group.

This corridor also includes several major institutions of higher learning. Two of these, the University of California and Laney College, have a combined enrollment of 42,000 students. In addition, the corridor is home to numerous primary and secondary schools. The average weekday enrollment at the nine public high schools, six public junior high schools and six public middle schools in the corridor is about 20,000 students.[9]

Of AC Transit's five largest bus routes, four (82/82L, 51/51A/51M, 40/40L and 43) operate in the Berkeley/Oakland/San Leandro corridor (see Table 3.2). These four routes carry approximately 66,000 riders per day, including 40,000 boardings within the corridor.[10] This is nearly 20 percent of AC Transit's total daily ridership of about 220,000 and is comparable to many light rail systems in California.[11] A single bus line in the corridor, the 82/82L, is one of the most heavily used bus routes in the San Francisco Bay Area. It carries 22,600 riders per day, of which 20,500 are within this corridor.

Table 3.2 Highest Ridership AC Transit Bus Routes

Route	Daily Riders	In Corridor	Major Streets
82/82L	22,600	✓	7th/International/East 14th
51/51A/51M	17,300	✓	University/College/Broadway/Webster/Santa Clara
72/72L/73	15,700		San Pablo
40/40L	11,350	✓	Telegraph/Foothill/Bancroft
43	10,200	✓	Shattuck/Telegraph/Foothill
57	9,200		Powell/San Pablo/40th/MacArthur
58	8,900		Broadway/Grand/MacArthur/73rd/Hegenberger

AC Transit 1998.

[9] Elementary school students were not counted as potential transit patrons.

[10] Routes 40, 40L, 43, 51, 51A and 51M between downtown Berkeley and downtown Oakland plus routes 82 and 82L between downtown Oakland and Bay Fair BART. Figures based on AC Transit September 1998 driver counts and fall 1997 - winter 1998 boarding and alighting surveys.

[11] Santa Clara County's light rail system carried 30,500 riders on an average weekday in May 2000. Sacramento's light rail system carried 29,000 riders on an average weekday in 2000.

4.0 Development of Alternatives

AC Transit and its partner cities of Berkeley, Oakland and San Leandro followed a multi-step process to develop the transportation alternatives shown in Table 1.2 and described in the following section. Key steps in the process included:

1. Assessing the market for travel in the corridor by identifying all trips into and out of the corridor, and categorizing them by trip destination, trip origin and trip purpose.[12]

2. Sorting through these travel markets to identify those that represent an opportunity for a new AC Transit corridor service. This was done by determining which travel markets a) correspond to the service objectives established for the project, and b) could be competitively served by a new AC Transit corridor service when compared with existing BART or AC Transit service.

3. Understanding what matters most to these travelers in their travel experience (i.e., travel time, reliability, comfort, security, etc.).

4. Identifying the alignments and technologies that would best serve these travelers.

Several insights were developed during the process of designing the alternatives:

- A large travel market of 255,000 daily trips is projected in 2020 trying to reach major employment centers and educational institutions in the East Bay, including downtown Oakland, the University of California at Berkeley, downtown Berkeley, downtown San Leandro and others. Of these 255,000 total weekday trips, 115,000 could be better served by a new AC Transit corridor service when compared to existing BART or AC Transit service.[13] These trips would experience more direct, faster transit service and constitute the market opportunity for the new AC Transit corridor service.

- Studies indicate that 60 to 70 percent of the travelers in the opportunity markets targeted by the project consider travel time and reliability as very important in their travel experience.[14] The key to satisfying these travelers is to provide fast, reliable service in the corridor. Providing service with these critical characteristics would require the use of special transit lanes, traffic signal priority and coordination, and pre-paid ticketing.

- Of the total potential travel market, 75 percent would be to major employment centers and 25 percent to major educational centers.[13]

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[12] Trip purposes include work, school, shopping, recreation and others.

[13] For each origin-destination market, an assessment was made of whether a new AC Transit corridor service would provide more direct and faster total travel time service (including walking time) than existing BART or AC Transit services. The number of trips is based on results from the October 1999 version of the Alameda Countywide Travel Demand Model with market analysis by Cambridge Systematics.

[14] Based on market analysis by Cambridge Systematics and customer preference research by Nelson Nygaard. For further information, see Section 7.0 of *Final Report Volume 2: Development of Alternatives.*

- Half of the total market opportunity to major employment centers is comprised of 15 employment trip markets[15] (see Table 4.1 and Figure 4.1). These 15 largest travel markets include seven large centers of employment in the corridor: Oakland City Center, the University of California at Berkeley, Kaiser Center in downtown Oakland, Jack London District, the County Buildings/MetroCenter/Laney College area of downtown Oakland, downtown Berkeley and downtown San Leandro.

Table 4.1 Market Opportunity – Largest Employment Trip Markets[16]

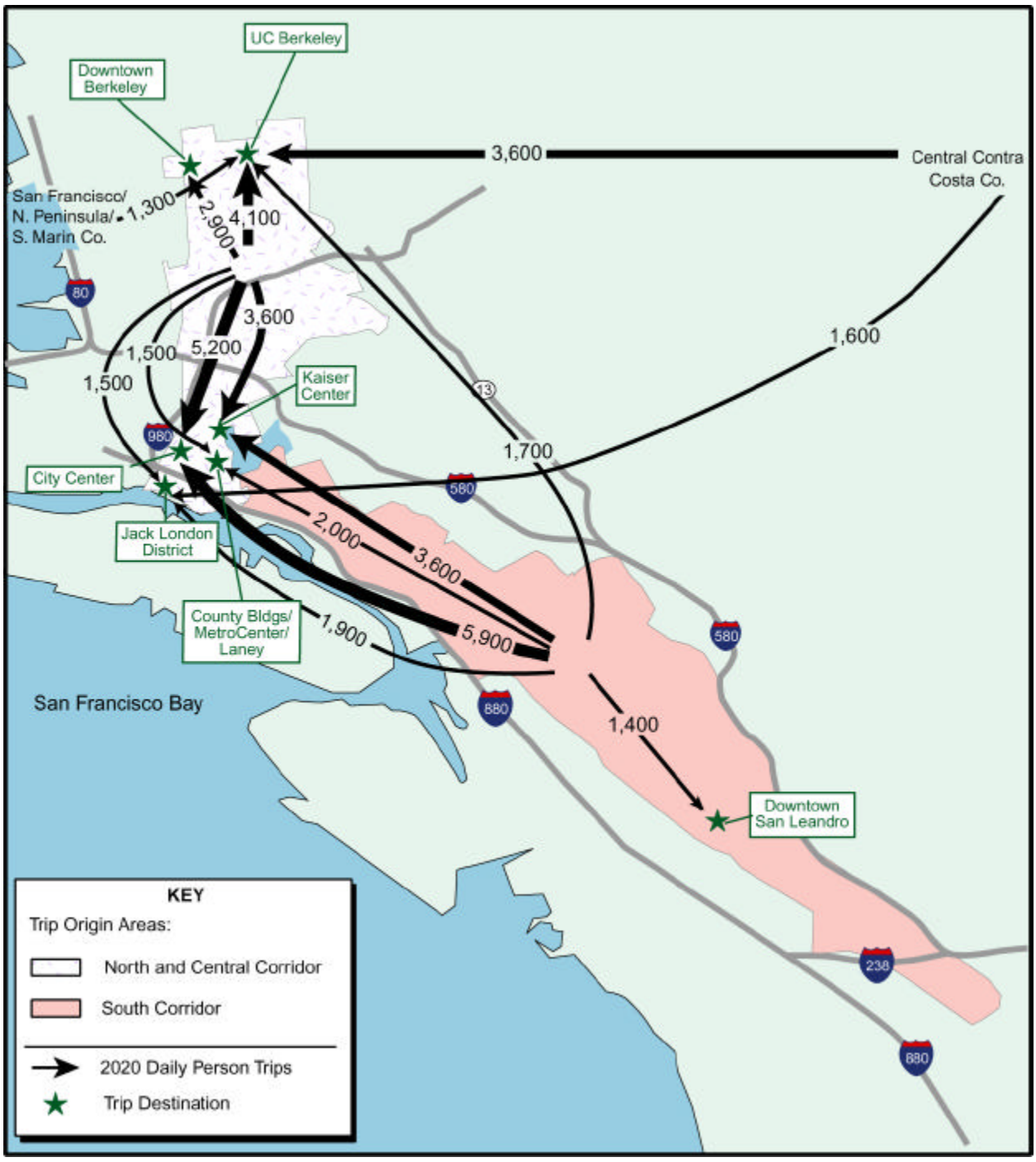
Trip Origin Area	Trip Destination	2020 Daily Person Trips
South Corridor	City Center	5,900
North + Central Corridor	City Center	5,200
North + Central Corridor	UC Berkeley	4,100
Central Contra Costa Co	UC Berkeley	3,600
South Corridor	UC Berkeley	1,700
San Francisco + N Peninsula + S Marin	UC Berkeley	1,300
South Corridor	Kaiser Center	3,600
North + Central Corridor	Kaiser Center	3,600
South Corridor	Jack London District	1,900
Central Contra Costa Co	Jack London District	1,600
North + Central Corridor	Jack London District	1,500
South Corridor	County Bldgs/MetroCenter/Laney	2,000
North + Central Corridor	County Bldgs/MetroCenter/Laney	1,500
North + Central Corridor	Downtown Berkeley	2,900
South Corridor	Downtown San Leandro	1,400
	TOTAL	41,800

Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model with market analysis by Cambridge Systematics.

[15] The travel market consists of trips for a specific purpose from origin areas of the corridor to major destinations.

[16] "North Corridor" refers to the segment from downtown Berkeley/UC Berkeley to the northern edge of downtown Oakland. "South Corridor" refers to the segment from the eastern edge of downtown Oakland to the southern end of the corridor. "Central Corridor" refers to the segment of the corridor in downtown Oakland.

Figure 4.1 Market Opportunity – Largest Employment Trip Markets



Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model with market analysis by Cambridge Systematics.

- Eighty-five percent of the market opportunity to major educational centers is comprised of 10 educational trip markets (see Table 4.2 and Figure 4.2). These 10 largest markets include travel to seven large educational centers in the corridor: the University of California at Berkeley, Laney College, Berkeley High, Oakland Tech High, Fremont High, Castlemont High and San Leandro High.

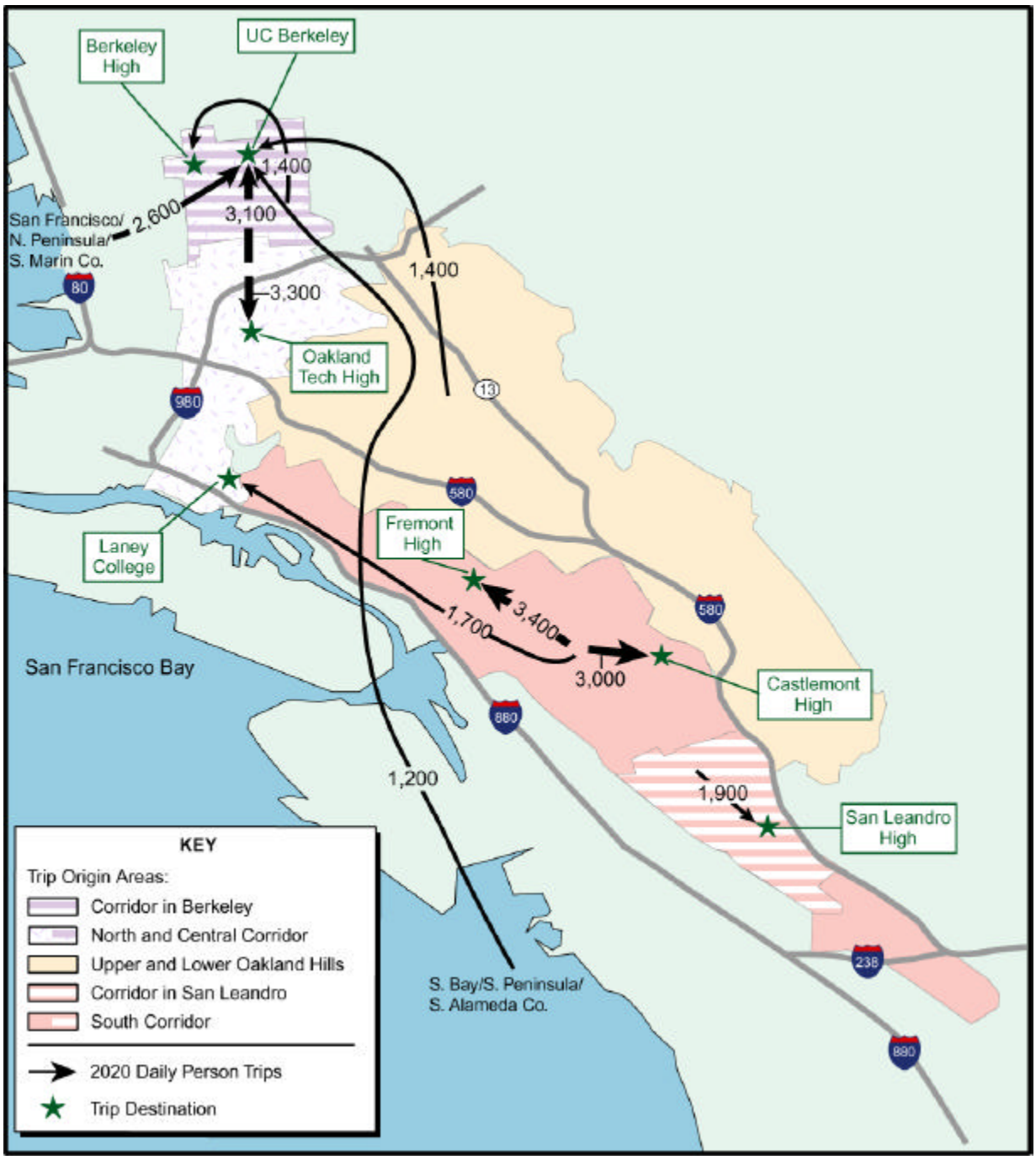
Table 4.2 Market Opportunity – Largest Educational Trip Markets[16]

Trip Origin Area	Destination	Daily Person Trips*
North + Central Corridor	UC Berkeley	3,100
San Francisco + N Peninsula + S Marin	UC Berkeley	2,600
Lower + Upper Oakland Hills	UC Berkeley	1,400
S Bay + S Peninsula + S Alameda Co	UC Berkeley	1,200
South Corridor	Fremont High	3,400
North + Central Corridor	Oakland Tech High	3,300
South Corridor	Castlemont High	3,000
Corridor in San Leandro	San Leandro High	1,900
South Corridor	Laney College	1,700
Corridor in Berkeley	Berkeley High	1,400
	TOTAL	14,700

* 2020 for Laney College, 2000 for others

Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model with market analysis by Cambridge Systematics.

Figure 4.2 Market Opportunity – Largest Educational Trip Markets



Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model with market analysis by Cambridge Systematics.

- The total travel market opportunity is larger in the northern portion of the corridor than in the southern portion (see Table 4.3). There would be a market opportunity of 51,900 weekday trips in the portion of the corridor between the University of California at Berkeley and North Oakland, but only 9,700 trips between downtown San Leandro and the southern end of the corridor.

Table 4.3 Market Opportunity – North Versus the South

	Size of Market Opportunity for This Segment (daily trips in 2020)
UC Berkeley to MacArthur/Rockridge BART	**51,900**
MacArthur/Rockridge BART to Jack London District	**44,000**
City Center to Mid Central E Oakland	**33,900**
Mid Central E Oakland to Downtown San Leandro	**18,400**
Downtown San Leandro to Bay Fair	**9,700**

Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model with market analysis by Cambridge Systematics.

- The overall travel market can be enlarged by improving connecting bus service to large employment and educational centers just outside the corridor (see Table 4.4). These places should have connecting service to the corridor and may be candidates for possible future extensions of the corridor.

Table 4.4 Market Opportunities Just Outside the Corridor[17]

Downtown Hayward	**7,000 Jobs in 2020**	**~23 Jobs per Acre**
CS Hayward	**10,600 Current Enrollment**	
West Berkeley	**14,600 Jobs in 2020**	**~27 Jobs per Acre**
Oakland Airport Area	**18,400 Jobs in 2020**	**~10 Jobs per Acre**
San Leandro Industrial	**22,300 Jobs in 2020**	**~8 Jobs per Acre**
Alameda Point (proposed)	**14,600 Jobs in 2020**	**~14 Jobs per Acre**

[17] California State University Hayward enrollment information is derived from the October 1999 version of the Alameda Countywide Travel Demand Model. Alameda Point employment is based on a square footage per employee estimate from Hausrath Economics Group and proposed square footage information from the Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Alameda and the Fleet and Industrial Supply Center, Alameda Annex and Facility, Engineering Field Activity, West Naval Facilities Engineering Command. Employment at other employment centers is based on ABAG Projections 1998, adjusted by Hausrath Economics Group.

5.0 Description of Alternatives

The development of alternatives process described at the beginning of Section 4.0 identified three vehicle and operations technology options that could best meet the service objectives[18] while satisfying the needs of the market: Light Rail Transit (LRT), Bus Rapid Transit (BRT) and Enhanced Bus. Several other technologies were ruled out for this corridor because of their high cost, unproven nature, or lack of suitability for operations in a dense urban environment.

The **Light Rail Transit** technology option would be similar to the systems in use today in San Francisco, San Jose and Sacramento. Stations would all be significant structures, each with a boarding platform, shelter, proof-of-payment ticket validation, ticket vending machines, security features and real-time vehicle arrival information. Low-floor light rail vehicles would travel between these stations with traffic signal priority and coordination along the entire alignment. A special lane reserved for transit vehicles, separating other traffic from the tracks, would be provided along most of the alignment. The transit vehicles could be standard or narrow width. Station spacing would be greater than current bus stop spacing. To provide service to stops without LRT service, a local background bus service would be included.

The **Bus Rapid Transit** technology option would be similar to the LRT option except it would use low-floor, low or zero-emission, self-propelled buses instead of light rail vehicles. A system like this is in use today in Orlando; the suburbs south of Miami; parts of Vancouver, Canada; and Curitiba, Brazil. Compared to LRT, BRT has substantially lower construction costs because it does not require laying rails or installing overhead electric wires. BRT would offer greater operating flexibility compared to rail because the vehicles are not constrained to stay within a guideway over their entire route. Station spacing would be greater than current bus stop spacing. To provide service to stops without BRT service, a local background bus service would be included.

The **Enhanced Bus** technology option would be a lower-cost option than either the LRT or BRT options. This service would be similar to the Los Angeles Metro Rapid. Like BRT, it uses low-floor, low or zero-emission buses and has signal priority and coordination along the entire alignment. To reduce costs, the Enhanced Bus service would operate in mixed-flow traffic except in a few congested segments where peak period transit lanes or “queue jump” lanes would be provided. For study purposes, this option would have limited amenities at stops, with no boarding platforms or proof-of-payment ticket validation,[19] and shelter and real-time bus arrival information only at selected stops. Enhanced Bus stop spacing would be greater than existing bus service. To provide service to stops without Enhanced Bus service, a local background bus service would be included.

[18] See Table 1.1 for a list of service objectives.

[19] The Enhanced Bus option studied did not include proof-of-payment ticket validation. Subsequent to the MIS, AC Transit began planning for a proof-of-payment pilot demonstration in the San Pablo Avenue Enhanced Bus corridor. The BRT system adopted as the MIS locally preferred alternative would be implemented in phases, with elements of the Enhanced Bus program implemented first, including new vehicles, traffic signal priority and proof-of-payment ticket validation.

Figure 5.1 Simulations of Light Rail Transit

On Broadway near Oakland City Center

On Telegraph Avenue near Alcatraz Avenue

Figure 5.2 Simulations of Bus Rapid Transit

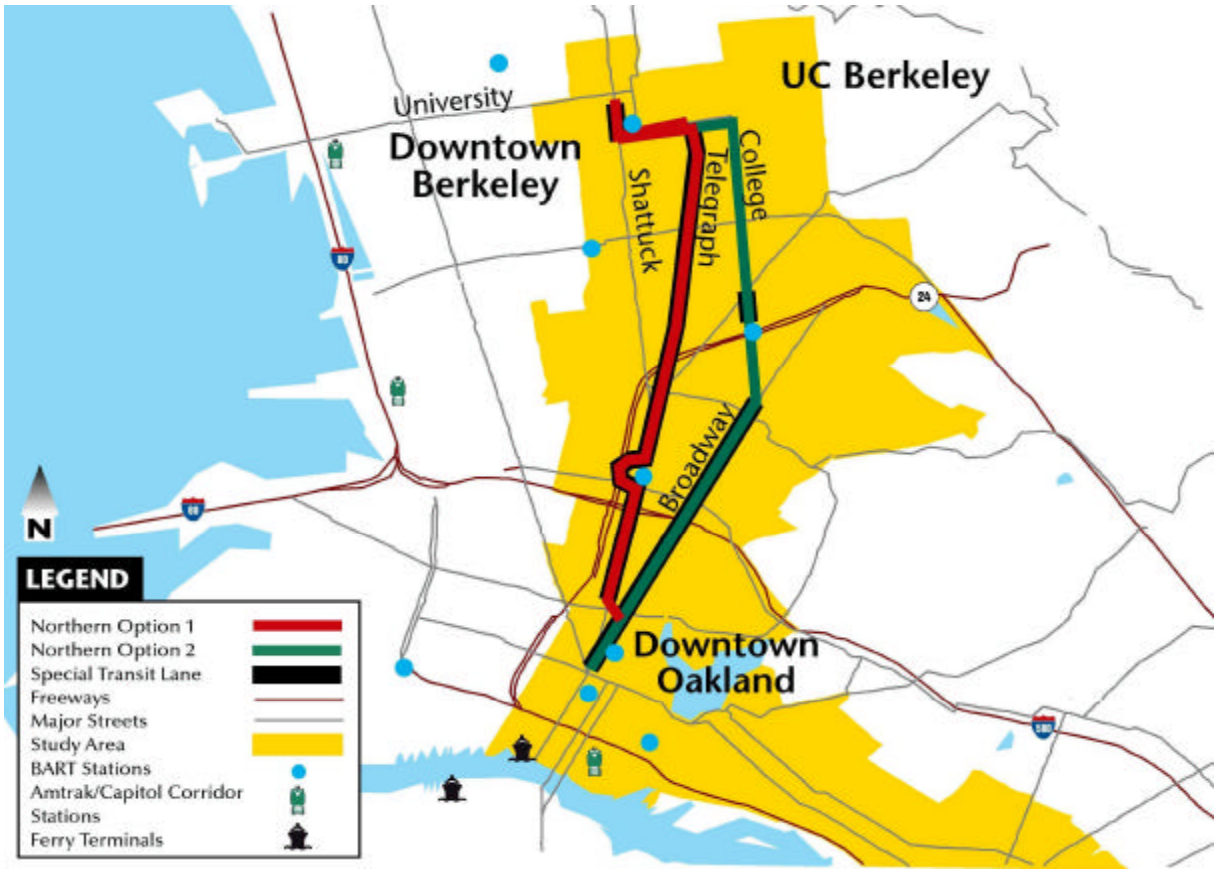
On Broadway near 7th Street in downtown Oakland

On East 14th Street near Estudillo Avenue in downtown San Leandro

For each of the vehicle/technology options, two alignment options were analyzed for the northern portion of the corridor. Each alignment option was selected for its ability to meet the service objectives established for this project while satisfying the needs of the travel market. These options are Telegraph Avenue and College Avenue/Broadway (see Figure 5.3). College Avenue/Broadway would provide the best service to major employment and educational centers. However, providing fast, reliable transit service on this alignment would likely create major environmental impacts.[20] Telegraph Avenue also meets the project's service objectives, but with fewer environmental and neighborhood impacts than College Avenue/Broadway.

The study also considered other northern alignment options, but these did not perform as well as either Telegraph Avenue or College Avenue/Broadway. For example, an alignment on Shattuck Avenue does a relatively poor job of meeting the service objectives since it closely parallels existing BART service and thus connects places that are already well-served by transit.

Figure 5.3 Northern Corridor Alignment Options



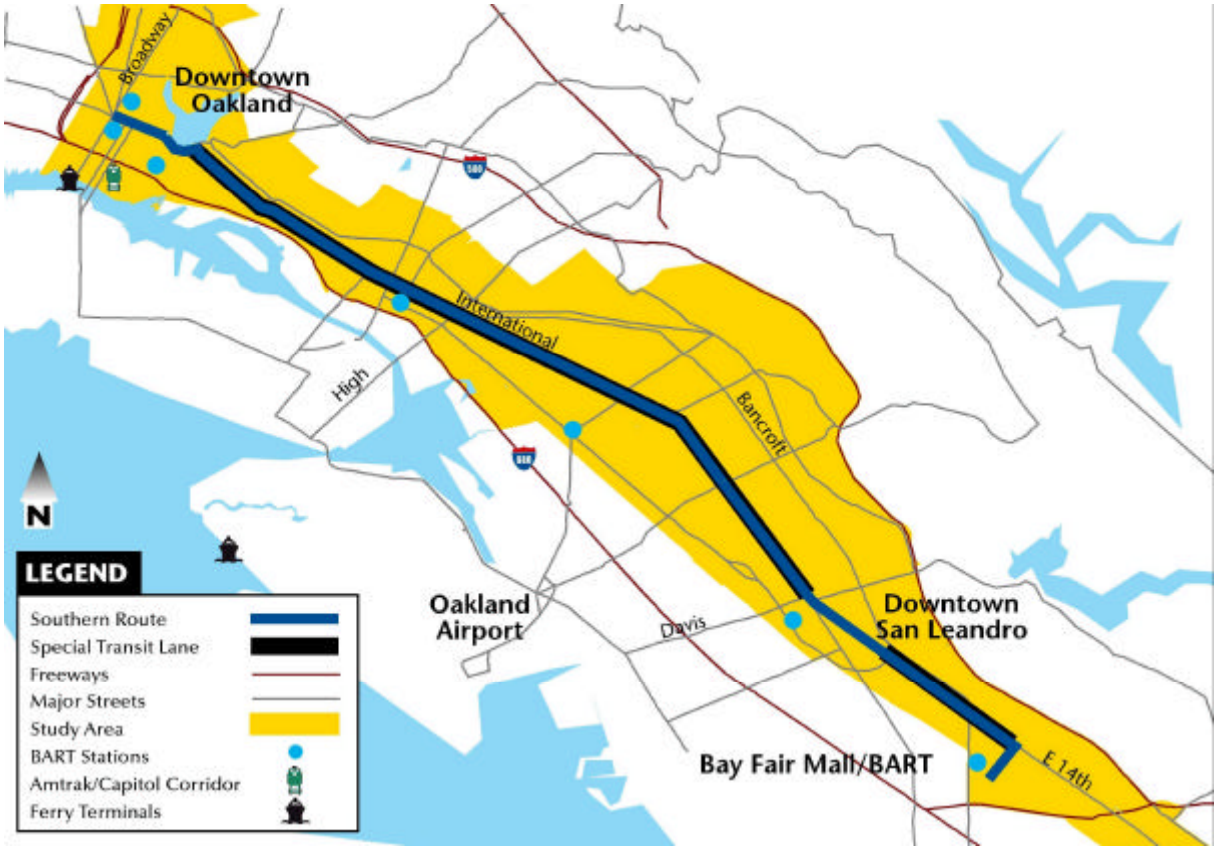
In the southern portion of the corridor, International Boulevard/East 14th Street performs best in meeting the service objectives (see Figure 5.4). Compared to alignments along Foothill

[20] For more information, see Section 6.0 and *Final Report Volume 3: Evaluation of Alternatives*.

Boulevard/Bancroft Avenue and San Leandro Boulevard, it would provide the best combination of access to major employment and educational centers, connections with other transit, and support for transit-oriented development. The fairly dense retail and commercial development along the International Boulevard/East 14th Street alignment makes it more supportive of transit service than the residential development along Foothill Boulevard/ Bancroft Avenue or the light industrial development along San Leandro Boulevard. Both Oakland and San Leandro consider International Boulevard/East 14th Street the best option for the southern portion of the corridor and are focusing their planning and economic development efforts on this street.

There are no major employment centers or educational institutions in the area between Bay Fair Mall and Hayward. Consequently, extension of a major corridor service beyond Bay Fair Mall/BART into the unincorporated areas of Alameda County does not appear warranted at this time unless it is extended to Hayward or beyond to serve the large travel markets in that city.

Figure 5.4 Southern Corridor Alignment



6.0 Evaluation of Alternatives

The six alternatives selected for detailed analysis (see Table 1.2) were evaluated across several evaluation criteria. The overall evaluation is summarized in Tables 1.3 and 1.4. Key insights from the detailed evaluation follow.

6.1 Service Characteristics

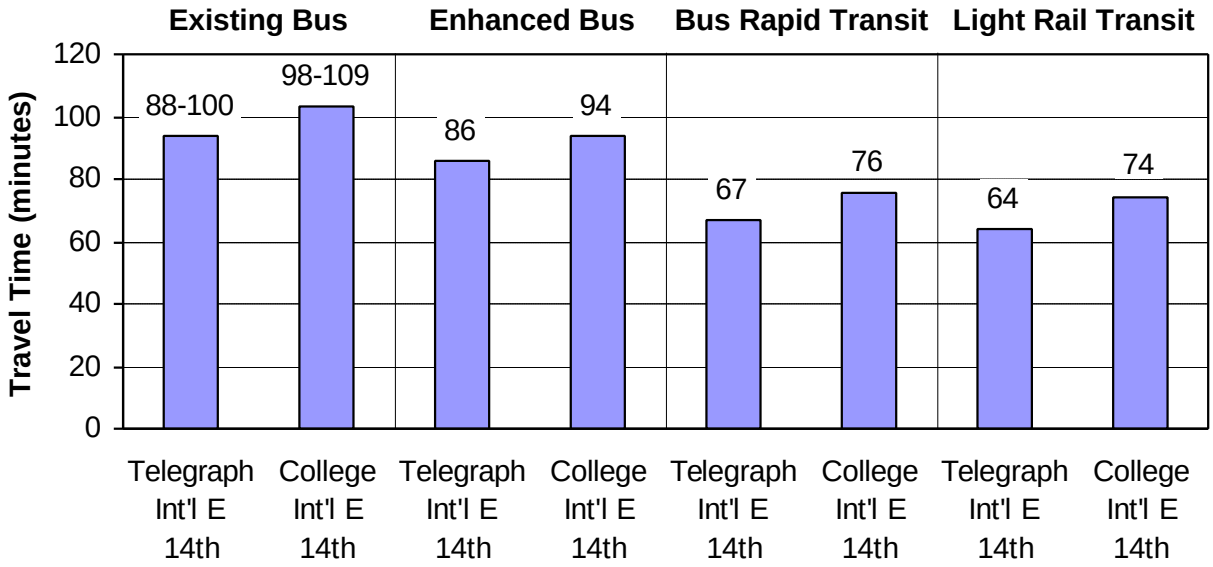
Service characteristics are those aspects of transit directly experienced by the passengers. They include travel time, service frequency, service reliability, security, cleanliness and comfort.

- BRT and LRT would offer more reliable service than Enhanced Bus. This is primarily due to the use of special transit lanes and proof-of-payment ticket validation under the LRT and BRT options.

- BRT/LRT service on College Avenue would be less reliable than BRT/LRT on Telegraph Avenue. Because College Avenue has a narrow cross-section, special transit lanes on this street are not feasible without significant building displacements.

- Enhanced Bus would provide 10 to 15 percent better travel time than existing AC Transit bus services (see Figure 6.1). BRT would provide an additional 15 to 25 percent travel time improvement over Enhanced Bus. LRT would provide only a 2 to 10 percent improvement over BRT.

Figure 6.1 Estimated Travel Times (minutes from downtown Berkeley to Bay Fair BART)



Existing bus based on 2000 AC Transit midday-PM peak schedules. Others based on operational analysis by Parsons Transportation Group.

6.2 Ridership

Ridership measures the number of passengers using a transit service. There are three ways to measure the ridership impacts of the new service: 1) Total Corridor Boardings, 2) New Service Boardings, and 3) Net New AC Transit Boardings. New Service Boardings shows how many passengers would ride the new Enhanced Bus, BRT or LRT service. Total Corridor Boardings shows the total number of passengers riding AC Transit in the corridor. It includes both riders on the new service as well as riders on any background local bus service.[21] Net New AC Transit Boardings shows the ridership increase on AC Transit's system as a whole as a result of the new service. It is lower than the other two ridership measures because it does not include riders who switch from other AC Transit services.

- Total Corridor Boardings is currently about 40,200 daily passengers.[22] If no improvements are made to transit service in the corridor, AC Transit projects that this figure will grow to about 44,500 daily passengers in 2020.

- All of the alternatives would increase the speed and reliability of transit service and as a result increase the number of trips made by transit in the corridor. The benefits of the improvements would accrue to both new and existing transit riders.

- With Enhanced Bus service, Total Corridor Boardings would increase to about 54,000 in 2020 (see Figure 6.2). Of these, about 22,000 would be New Service Boardings (see Figure 6.3). Providing Enhanced Bus service would also generate about 8,000 Net New AC Transit Boardings in 2020 (see Figure 6.4).

- BRT would attract about 30 to 40 percent more daily boardings than Enhanced Bus (60,000 Total Corridor Boardings, 30,000 New Service Boardings, 12,000 Net New AC Transit Boardings).

- LRT would attract 15 to 20 percent more daily boardings than BRT (66,000 Total Corridor Boardings, 35,000 New Service Boardings, 16,000 Net New AC Transit Boardings). By comparison, neighboring Santa Clara County's much longer LRT system had 30,500 boardings on an average weekday in May 2000.

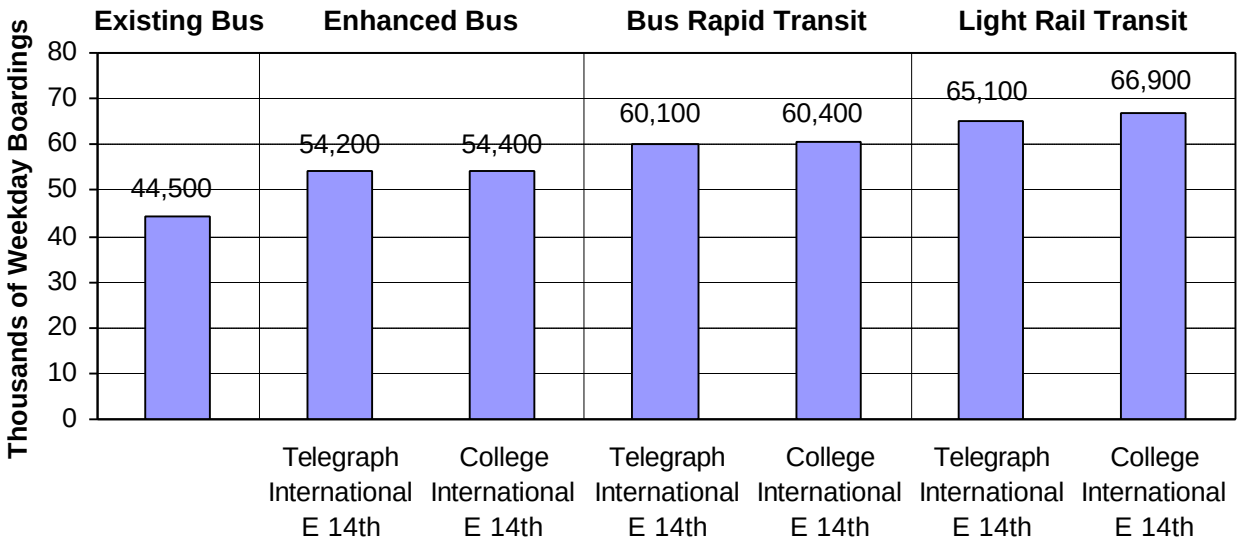
- Using a College Avenue/Broadway alignment would generate somewhat more boardings than a Telegraph Avenue alignment.

[21] Background local service = 40, 40L, 43, 51, 51A and 51M between downtown Berkeley and downtown Oakland plus 82 and 82L between downtown Oakland and Bay Fair BART.

[22] The figures shown here for Corridor Boardings include riders on route 43 as well as routes 40, 40L, 51, 51A and 51M between downtown Berkeley and downtown Oakland. They also include riders on routes 82 and 82L between downtown Oakland and Bay Fair BART. In contrast, the operating cost figures shown in Section 6.15 do *not* include the cost of operating route 43 between downtown Berkeley and downtown Oakland. The average weekday Corridor Boardings in the year 2020 with route 43 removed are:

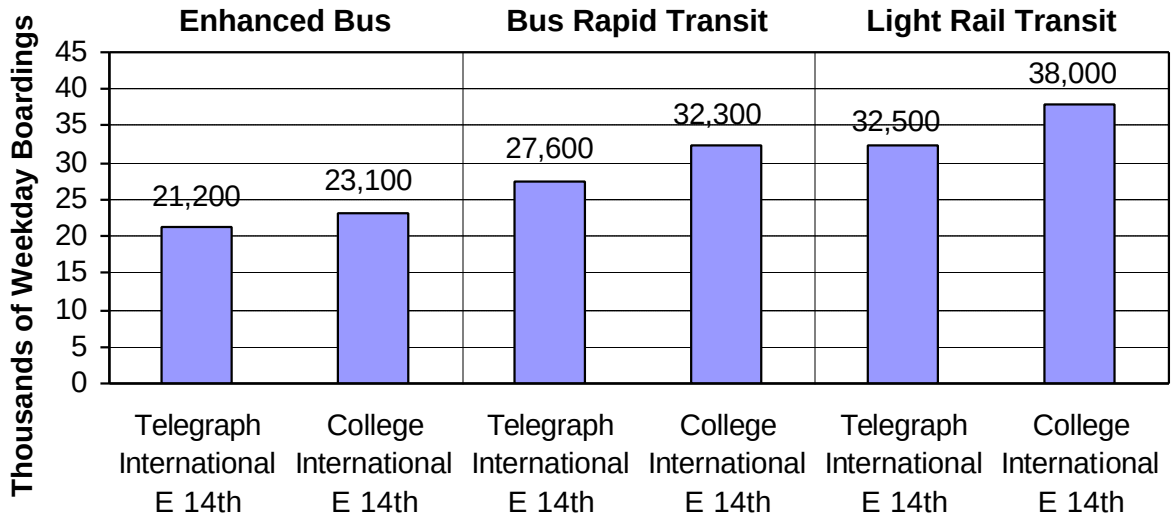
Existing Bus	Enhanced Bus		Bus Rapid Transit		Light Rail Transit	
	Telegraph/ Int'l/E 14th	College/ Int'l/E 14th	Telegraph/ Int'l/E 14th	College/ Int'l/E 14th	Telegraph/ Int'l/E 14th	College/ Int'l/E 14th
39,500	49,400	49,400	55,500	55,500	60,500	62,500

Figure 6.2 Year 2020 Total Corridor Boardings[22]



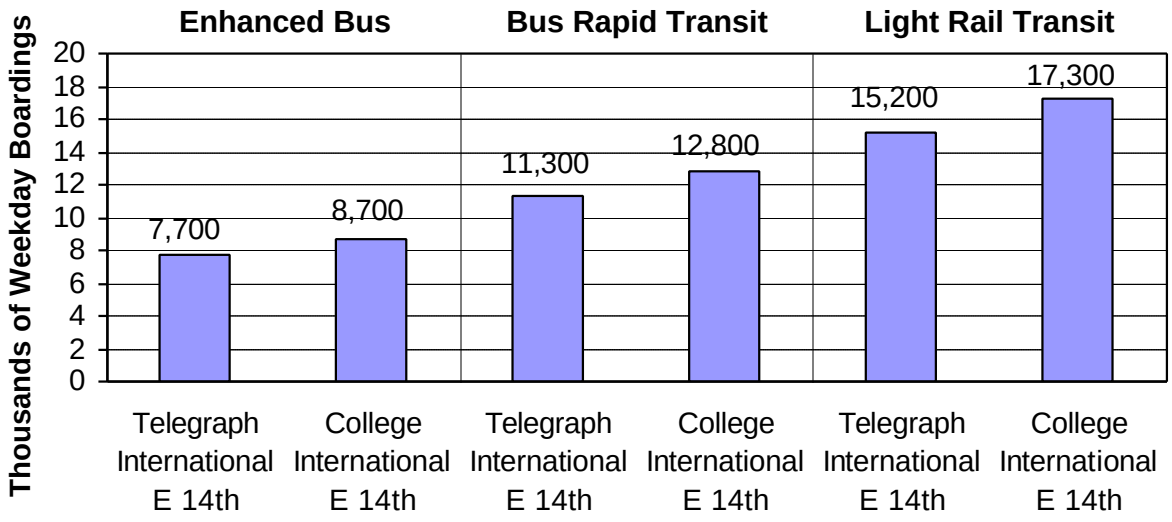
Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model.

Figure 6.3 Year 2020 New Service Boardings



Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model.

Figure 6.4 Year 2020 Net New AC Transit Boardings[23]



Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model.

[23] Only includes new boardings to the AC Transit system as a whole. Does not include riders who switch from other AC Transit services.

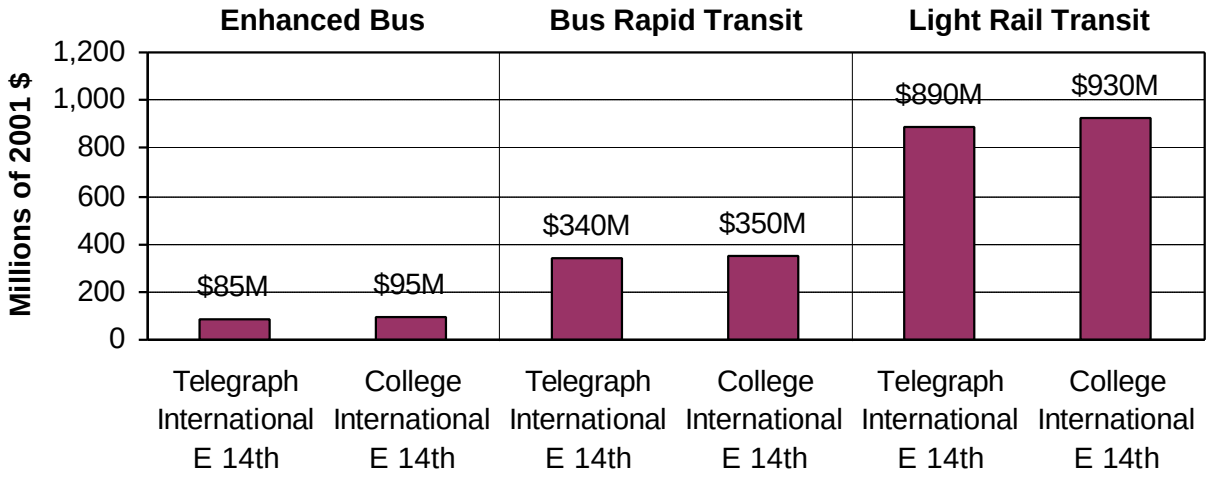
6.3 Costs, Subsidy and Cost Effectiveness

The alternatives were compared for the cost to build, operate and maintain the system. In addition, comparisons were made for farebox recovery, a measure of the subsidy the project would require, and for cost per new rider, a measure of cost effectiveness.

Capital cost consists of those items needed to put the system in place. These include engineering and design work, construction, right-of-way acquisition, vehicle purchase and project management.

- The capital cost for Enhanced Bus would be about $90 million (see Figure 6.5).[24] BRT would cost three to four times more than Enhanced Bus (about $350 million). LRT would cost two to three times more than BRT (about $900 million). The capital cost to build on College Avenue/Broadway would be somewhat higher than on Telegraph Avenue. Compared to other projects, the capital cost for LRT in the Berkeley/Oakland/San Leandro corridor would be about a quarter of the cost of the proposed BART extension to San Jose ($3.8 billion) or somewhat more than half the cost of the BART extension to San Francisco International Airport ($1.51 billion).

Figure 6.5 Capital Cost (2001 $)[24]



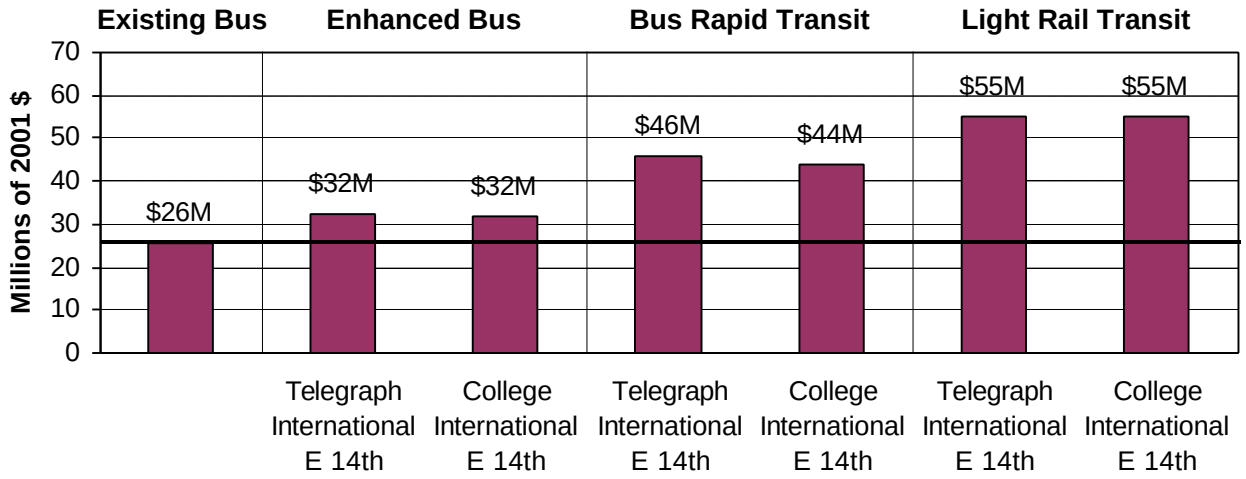
Based on engineering analysis by Parsons Transportation Group.

[24] In constant year 2001 dollars. Due to inflation, the cost in actual dollars at the time of construction would be higher.

Operating cost consists of those items needed to keep the system running. These include labor, fuel and lubricants, general administration, and the maintenance of vehicles, stations and right-of-way. The operating cost figures shown here include the cost to operate the new corridor service as well as a background local service.[25]

- The cost to operate the existing level of bus service in the corridor would be about $26 million in 2020.[26] Operating costs would increase by $6 million if the service is upgraded to Enhanced Bus (from $26 million to $32 million, see Figure 6.6). BRT would increase operating costs by about $20 million and LRT by $30 million. Operating costs for using College Avenue/Broadway and Telegraph Avenue are similar.

Figure 6.6 Year 2020 Operating Cost (2001 $)[26]



Based on operational analysis by Parsons Transportation Group.

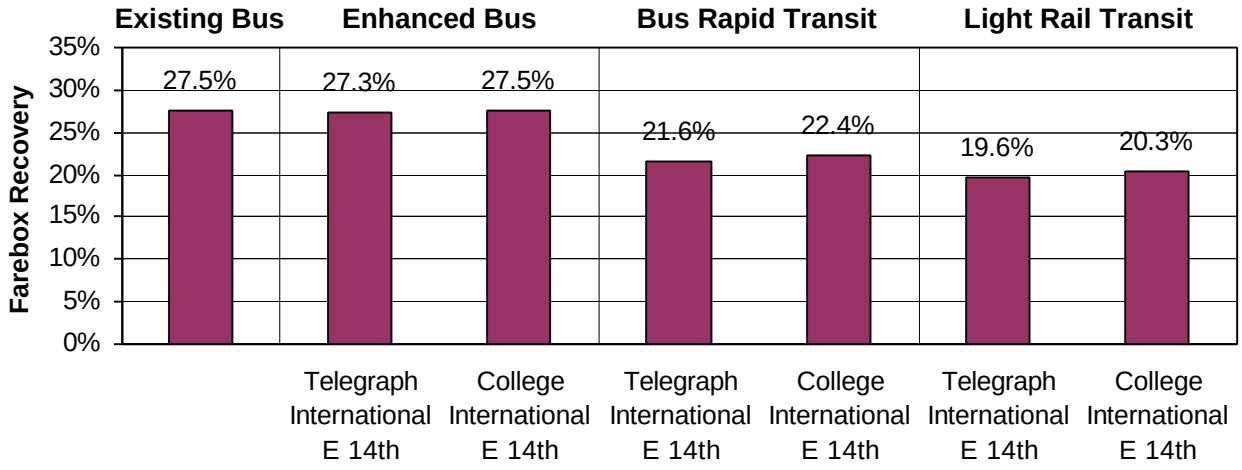
[25] Background local service = 40, 40L, 51, 51A and 51M between downtown Berkeley and downtown Oakland plus 82 and 82L between downtown Oakland and Bay Fair BART.

[26] In constant year 2001 dollars. Due to inflation, the cost in 2020 dollars would be higher. These figures do *not* include the cost to operate route 43 between downtown Berkeley and downtown Oakland.

Farebox recovery is the ratio of annual passenger fare revenue to annual operating cost. It indicates what percentage of operating costs are covered by passenger fares.

- The farebox recovery ratio in 2020 for Enhanced Bus is expected to be about the same as AC Transit's existing bus service in the corridor – about 27 percent (see Figure 6.7). The farebox recovery ratio would decrease to about 22 percent for BRT and 20 percent for LRT.

Figure 6.7 Year 2020 Farebox Recovery[27]



[27] The calculation of farebox recovery assumed that fares increase at the rate of inflation and no faster. New information from a 2001 AC Transit fare study indicates that the farebox recovery ratios on trunk lines such as those operating in the Berkeley/Oakland/San Leandro corridor are higher than the systemwide average used in this study. This is the result of possibly higher average fares, combined with high levels of passenger boardings per service hour. For purposes of comparing alternatives, the relative differences in farebox recovery would remain unchanged. The results of this fare study will be used to revise the calculation of farebox recovery in the future Phase II study.

Cost per new boarding measures the total cost expended to attract one new boarding to AC Transit. It is calculated as annualized capital cost + annualized replacement cost + incremental annual operating cost divided by net new annual AC Transit boardings.

- The cost per new boarding in 2020 would be about $6 for Enhanced Bus, about $15 for BRT and about $23 for LRT (see Figure 6.8). These compare favorably with other transit projects seeking funding in the Bay Area (see Table 6.1).

Figure 6.8 Year 2020 Cost per New Boarding (2001 $)[26]

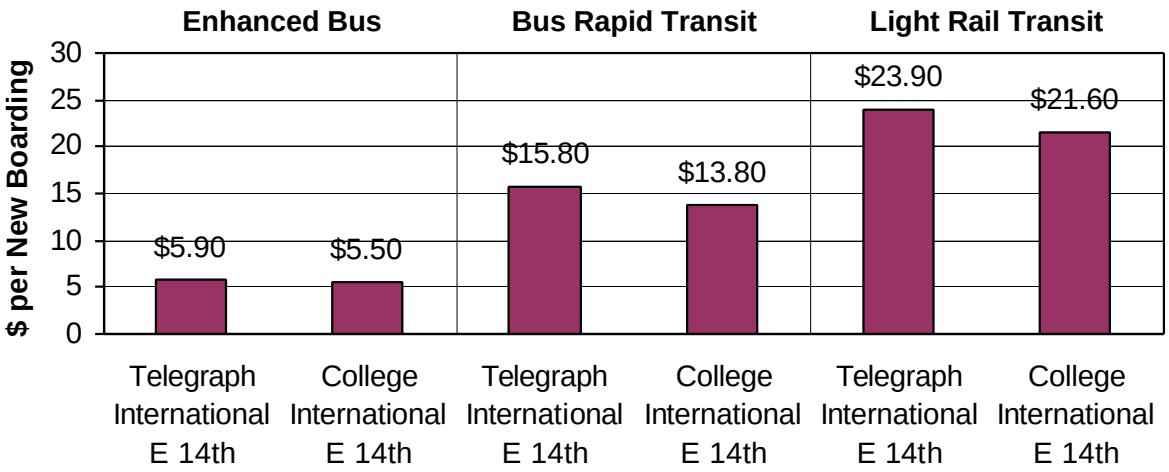


Table 6.1 Cost per New Boarding[28]

Berkeley/Oakland/San Leandro Enhanced Bus	***$6***
ACE Upgrade	**$11**
Oakland Airport Rail Connector	**$12**
Berkeley/Oakland/San Leandro BRT	***$15***
Berkeley/Oakland/San Leandro LRT	***$23***
BART to Livermore plus West Dublin Infill	**$26**
Caltrain Electrification, Grade Separation and Downtown Extension	**$26**
Capitol Corridor Upgrade	**$28**
MUNI Metro Chinatown Extension	**$29**
Dumbarton Rail	**$49**
San Jose Airport Rail Connector	**$65**
BART to San Jose	**$100**

MTC Blueprint for the 21st Century Evaluation Report for non-AC Transit projects.

[28] In 2001 dollars for Berkeley/Oakland/San Leandro corridor projects. Other projects in 1999 dollars.

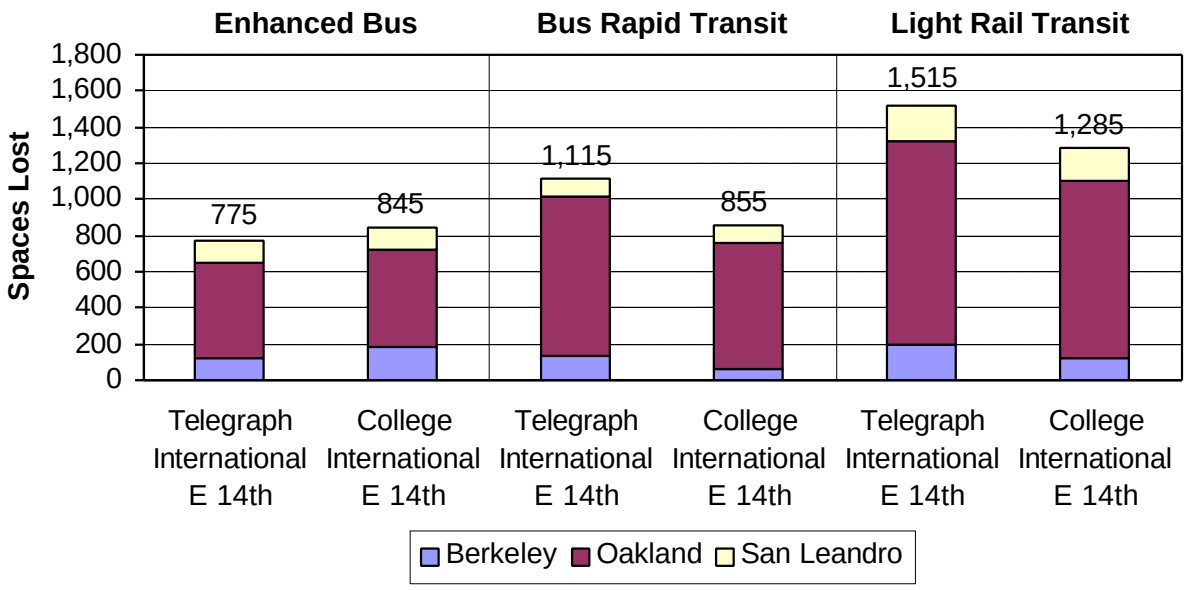
6.4 Traffic and Parking Impacts

- Providing fast, reliable BRT or LRT service on Telegraph Avenue or International Boulevard/East 14th Street would require the conversion of two of the four existing traffic lanes into special transit lanes. This approach is designed to retain as much on-street parking as possible. While there would be adverse impacts to auto travel on these streets, the overall person throughput capacity remains largely unchanged because the lower auto capacity would be offset by increased transit service.

- Due to the narrow width of College Avenue, providing special transit lanes on this street would not be possible without significant building displacements. As a result, BRT or LRT would have to operate in the regular traffic lanes. In addition, autos would not be able to pass BRT/LRT vehicles on College Avenue. This impact would be most severe when BRT/LRT vehicles stop at stations to pick up and drop off passengers.

- Implementing Enhanced Bus in the corridor requires the removal of about 800 parking spaces to accommodate bus "queue jump" lanes[29] at intersections and lengthened acceleration/deceleration lanes at bus stops (see Figure 6.9). BRT and LRT require parking removal to accommodate station boarding platforms and new left-turn pockets for auto traffic at intersections. The loss would be 855 to 1,115 spaces for BRT and 1,285 to 1,515 spaces for LRT, depending on the alignment. Parking loss would be less for a College Avenue/Broadway alignment than a Telegraph Avenue alignment because upper Broadway's wide cross-section accommodates BRT or LRT without much parking loss and College Avenue would be widened in a few selected places to retain parking under the LRT option.

Figure 6.9 Parking Impact



% Total Spaces	12%	13%	18%	14%	24%	20%

Based on parking analysis by Parsons Transportation Group.

[29] These are special bus-only lanes at intersections that allow buses to pull out of the regular traffic stream and "jump the queue" at intersections.

6.5 Construction Impacts

- There would be minimal construction disruption associated with Enhanced Bus.

- Both BRT and LRT would cause significant construction impacts, with LRT being worse. The total construction period for BRT would be about three years. It would be about four years for LRT. BRT or LRT would be built in a series of two to four block long segments. The construction period for each segment would be about 12 months, during which there would be traffic disruption for about six months.

- Building BRT or LRT on College Avenue causes greater construction impacts than on Telegraph Avenue. On Telegraph Avenue and International Boulevard/East 14th Street, two of four traffic lanes would be closed during construction with some parking disruption. On College Avenue, one of two traffic lanes and all parking would be closed.

6.6 Land Use Impacts

- Building BRT or LRT would be more likely to support intensified land use than building Enhanced Bus. BRT and LRT would offer an advantage because each concentrates riders at built-up station structures that could serve as the focal point for development. LRT would offer some advantage over BRT because of its ability to attract somewhat more riders.

- Both the College Avenue/Broadway and Telegraph Avenue alignments are equally supportive of encouraging intensified land use. College Avenue/Broadway has stronger underlying market strength. However, Telegraph Avenue has supportive zoning and greater capacity to support new development and redevelopment at higher density.

7.0 Evaluation of Serving Jack London District

The Jack London District is a dense, rapidly growing entertainment, residential and commercial area adjacent to downtown Oakland and skirting that city's waterfront. Providing new corridor service to this area would serve this growing development and provide connections to the ferry system, Capitol Corridor commuter rail service and Amtrak intercity rail service (see Figure 7.1).

Figure 7.1 Serving Jack London District

AC Transit and its partner cities examined several options to serve the Jack London District. For the purposes of evaluating the merits of serving the Jack London District and the Oakland Amtrak/Capitol Corridor Station, the alignment shown by the dotted line in Figure 7.1 was selected. To implement service, several operational details would need to be worked out in subsequent studies. For example, the frequency of service to the Jack London District, whether passengers originating in the southern or northern portions of the corridor would need to transfer, and the exact street alignments will all need to be evaluated as part of preliminary engineering and environmental review.

About 750 weekday passengers would use BRT corridor service to the Jack London District and the Amtrak/Capitol Corridor Station in the year 2020. About 890 would use LRT service (see Table 7.1). Providing this service would increase capital cost, by $18 million for BRT and $42 million[30] for LRT. It would also increase AC Transit's annual operating cost in 2020, by $1.3 million for BRT and $1.9 million[30] for LRT.

Table 7.1 Evaluation of Service to Jack London District

	BRT	LRT
2020 Weekday Boardings on New Service	750	890
Initial Capital Cost (millions of 2001 $)	$18	$42
2020 Operating Cost (millions of 2001 $)	$1.3	$1.9
2020 Farebox Recovery[31]	10.2%	8.2%
2020 Lifecycle Cost per Boarding (2001 $)	$14	$22
Parking Spaces Lost	45	75

Based on results from the October 1999 version of the Alameda Countywide Travel Demand Model and engineering, operational and parking analysis by Parsons Transportation Group.

[30] In constant year 2001 dollars. Due to inflation, the cost in actual dollars would be higher.

[31] New information from a 2001 AC Transit fare study indicates that the farebox recovery ratios on trunk lines such as those operating in the Berkeley/Oakland/San Leandro corridor are higher than the systemwide average used in this study. This is the result of possibly higher average fares, combined with high levels of passenger boardings per service hour. For purposes of comparing alternatives, the relative differences in farebox recovery would remain unchanged. The results of this fare study will be used to revise the calculation of farebox recovery in the future Phase II study.

8.0 Recommended Alternative

Based on the detailed engineering, environmental, ridership and financial evaluation discussed in Section 6.0 and extensive input from leaders of community-based organizations, the general public and elected officials, a Locally Preferred Alternative (LPA) was selected by the Policy Steering Committee on 11 July 2001 and approved by the AC Transit Board of Directors on 2 August 2001.[32]

8.1 Recommended Technology

Bus Rapid Transit was chosen as the recommended vehicle and operations technology for the corridor, with the understanding that LRT should be considered as a long-term goal. BRT was selected because it could provide many of the same features as LRT at a much lower cost and with fewer traffic, parking and construction impacts. Though BRT is a relatively new concept in North America, it has the potential to provide a rail-like service without the expense of rail. Because BRT is potentially upgradeable to LRT, conversion in the future is possible if ridership or land use goals warrant the change. To accommodate this possibility, the BRT system would be designed to maximize the ease of potentially upgrading to LRT in the future.

As shown in Table 1.3, BRT would perform as well as or almost as well as LRT in the areas of travel time, reliability, security, comfort and support for intensified land use. It also ranks close to LRT in ridership. However, it does so at a much lower capital and operating cost and with fewer parking, traffic and construction impacts than LRT. Thus, while BRT is not the top performer for the service objectives established for this project (see Table 1.1), it ranks near the top on most of them while performing reasonably well on all objectives.

The BRT system would include several features that improve the service characteristics and customer experience over AC Transit's existing bus service:

- Special transit lanes dedicated to BRT along most of the corridor;
- Traffic signal priority and coordination throughout the corridor;
- Frequent BRT service with a background local service (5 to 7.5 minutes between BRT buses);
- Wider BRT station spacing than existing bus service (1/3 to 1/2 mile between BRT stations);
- Well-developed BRT stations including shelters, boarding platforms, benches, security features, fare machines, real-time bus arrival information and other amenities;
- Proof-of-payment ticket validation; and
- Low-floor, multi-door, level-boarding, low-emission BRT buses.

[32] For a copy of the resolution passed by the AC Transit Board of Directors, see Section 9.0 of *Final Report Volume 3: Evaluation of Alternatives*.

Recognizing that implementing a full BRT system would take several years and several regional funding cycles to complete, the Policy Steering Committee and the AC Transit Board of Directors decided to implement selected elements of the Enhanced Bus alternative quickly. This would benefit corridor riders sooner while putting in place many of the elements needed in the eventual BRT system. Selected elements include traffic signal coordination and bus priority, providing new limited-stop express service, purchasing new vehicles and instituting proof-of-payment ticket validation.

8.2 Recommended Alignment

The recommended alignment would primarily use Telegraph Avenue in the northern portion of the corridor and International Boulevard/East 14th Street in the southern portion (see Figure 1.2). Although an alignment following College Avenue/Broadway in the northern portion would have attracted more riders, Telegraph Avenue was selected because this alignment would provide a more reliable and faster service with somewhat lower capital cost and fewer traffic and construction impacts (see Table 1.4). This alignment also has greater capacity for redevelopment. Thus, the Telegraph Avenue alignment comes closer to meeting the service objectives established for this project (see Table 1.1) while having fewer negative impacts than the College Avenue/Broadway alignment.

The recommended alignment would begin in the north near the downtown Berkeley BART station. From there, it would proceed south along Shattuck Avenue, then east using the Bancroft Way/Durant Avenue one-way couplet. At Telegraph Avenue, the alignment would turn south and follow Telegraph Avenue until reaching downtown Oakland. The alignment would include a deviation into the MacArthur BART station. In downtown Oakland, the alignment would switch to Broadway between Grand Avenue and 15th Street, and then follow Broadway to Oakland's City Center. Heading southeast, the alignment would leave downtown Oakland using a subset of streets between 10th and 14th Streets. The alignment would proceed southeast along International Boulevard and East 14th Street through Oakland and San Leandro. The alignment could include a deviation into the San Leandro BART station. The alignment would proceed through the Bay Fair Mall area and terminate at the Bay Fair BART station.

The system would include service to the Jack London District and the Oakland Amtrak/ Capitol Corridor Station. The reasons are to serve the growing residential, entertainment and office development in the Jack London District; provide connections with the ferry system, Capitol Corridor commuter rail service and Amtrak intercity rail service; and potentially attract more new riders to transit. Providing this service is consistent with the top service objective for this project of providing improved access to major employment centers and enhancing connections with other transit providers. The details of how to provide this service will be considered in preliminary engineering and environmental review.

To provide fast, reliable BRT service, a special transit lane would be provided along most of the alignment:

- Shattuck Avenue between Downtown Berkeley BART and Durant Avenue;
- Telegraph Avenue between Bancroft Way and downtown Oakland;
- Broadway through downtown Oakland;

- International Boulevard between 1st Avenue and the Oakland/San Leandro border;
- East 14th Street between the Oakland/San Leandro border and Davis Street; and
- East 14th Street between San Leandro Boulevard and Bay Fair Drive.

To make this possible, the segment of Telegraph Avenue between Dwight Way and Bancroft Way near the University of California could be converted to a transit and pedestrian mall, permitting deliveries but with limited auto access.

Many details of the recommended alignment will be determined in the course of preliminary engineering and environmental review. These include, but are not limited to, the precise alignment in the downtown areas of Berkeley, Oakland and San Leandro and how to reconfigure automobile traffic patterns and maintain auto access in the portion of Telegraph Avenue near the University of California at Berkeley.